

## SITE ASSESSMENT

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

#### 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.

#### Description of Operation

Operation name: Bogaard Farms Ltd

Operation location (project site): NW 3-14-2E

Rural Municipality (RM) of Rockwood

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

NW 3-14-2E

Municipal tax roll number(s) 164500

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

For help with mapping, contact your [Community and Regional Planning Regional Office](#).

Location Map attached

For links to resources, click on the [highlighted underlined items](#).




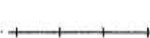
For definitions, click on the [Glossary of Terms](#).

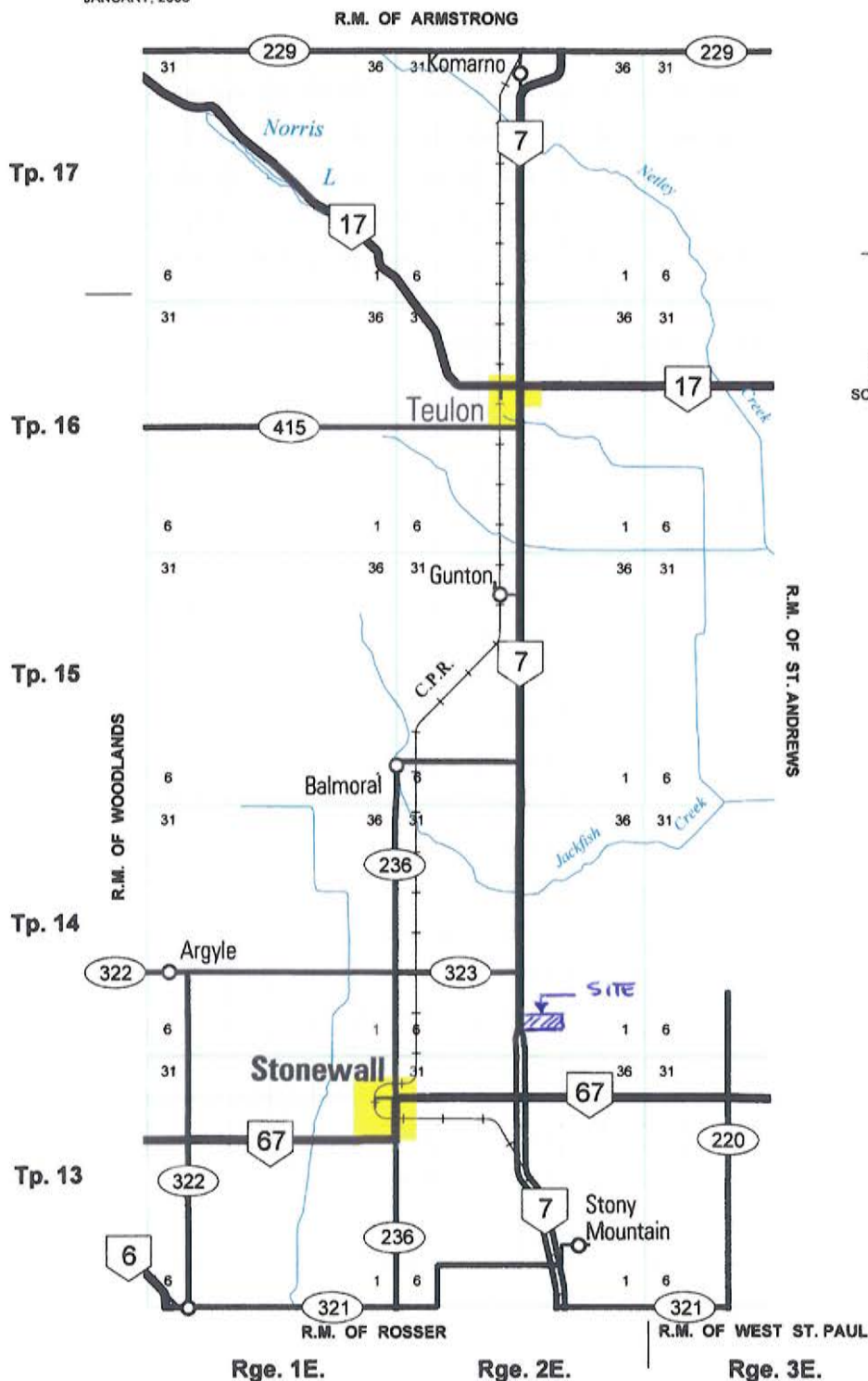
For additional help, contact the [Technical Review Coordination Unit](#).

# R.M. OF ROCKWOOD

MANITOBA  
TRANSPORTATION AND GOVERNMENT SERVICES  
HIGHWAY PLANNING AND DESIGN BRANCH  
DRAFTING SECTION  
WINNIPEG  
JANUARY, 2003

### LEGEND

- PROVINCIAL TRUNK HIGHWAYS ..... 
- PROVINCIAL ROADS ..... 
- ACCESS ROADS ..... 
- RAILWAYS ..... 

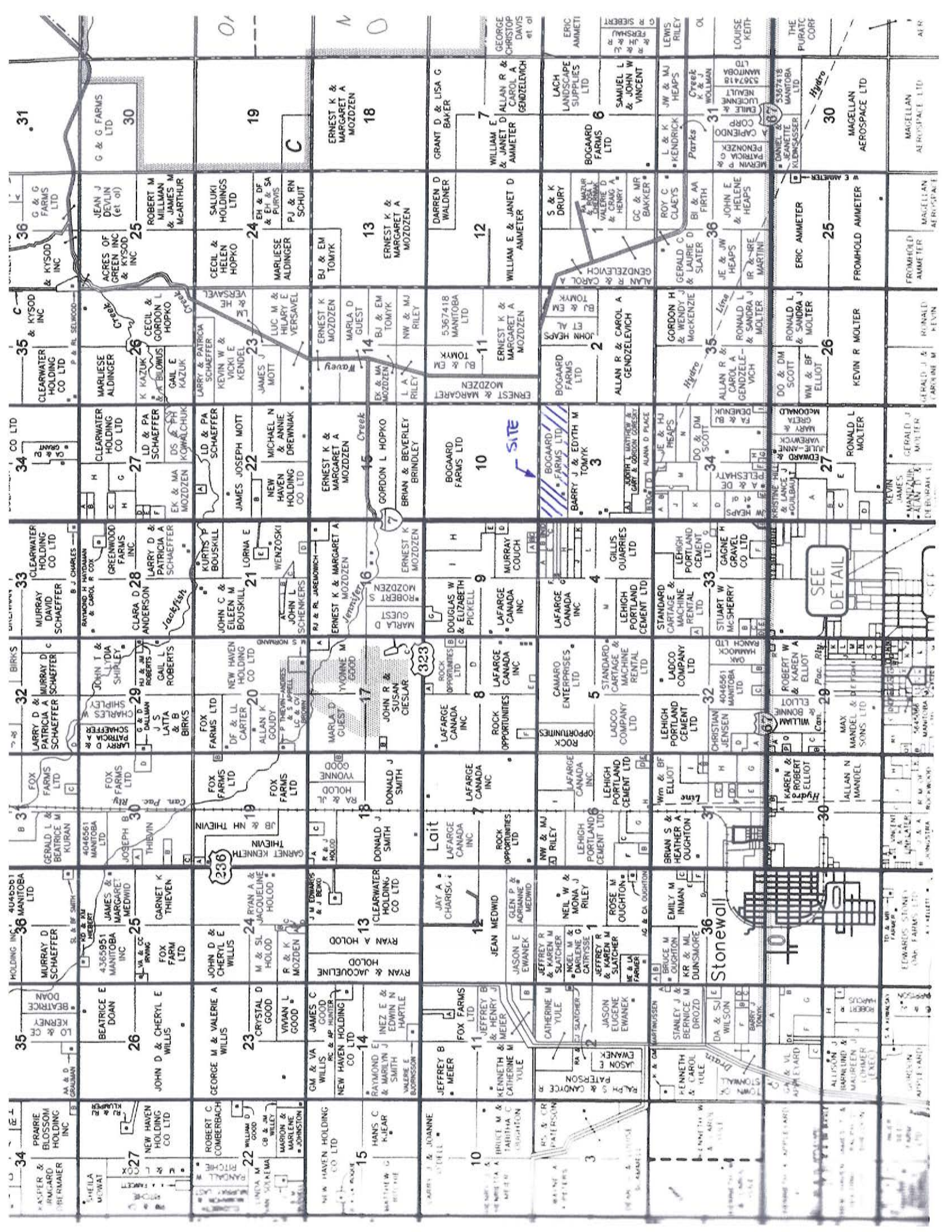


MAP REVISED:-



0 5  
SCALE IN KILOMETRES





31  
G & G FARMS LTD

36  
G & G FARMS LTD  
JEAN J DEVLIN GREEN INC (et al)  
ACRES OF GREEN INC & KYSOD & INC

35  
CLEARWATER HOLDING CO LTD  
MARLESE ALDINGER  
K KAZUK  
CECIL & GORDON L HOPKO

34  
CLEARWATER HOLDING CO LTD  
LD & PA SCHAEFFER  
LD & PA SCHAEFFER  
JAMES JOSEPH MOTT

33  
CLEARWATER HOLDING CO LTD  
MURRAY DAVID SCHAEFFER  
GREENWOOD FARMS  
CLARA D 28 ANDERSON

32  
MURRAY DAVID SCHAEFFER  
LARRY D & PATRICIA A SCHAEFFER  
JOHN T & LYDIA SHIPLEY  
GAIL L ROBERTS

31  
MURRAY D SCHAEFFER  
GARNET K THIEVEN  
JOHN D & CHERYL E WILLIS

34  
KASPER & INGARD BLOSSOM HOLDING CO LTD  
SHEILA M WAT  
NEW HAVEN HOLDING CO LTD

19  
SALUKI HOLDINGS LTD  
EH & DF PURVIS  
PJ & RN SCHUIT

24  
CECIL & HELEN HOPKO  
MARLESE ALDINGER  
LARRY & PATRICIA SCHAEFFER  
KEVIN W & VICKI E KENZEL

23  
LARRY & PATRICIA SCHAEFFER  
KEVIN W & VICKI E KENZEL  
JAMES J MOTT  
MICHAEL N NEW HAVEN HOLDING CO LTD

22  
LARRY & PATRICIA SCHAEFFER  
KEVIN W & VICKI E KENZEL  
JAMES J MOTT  
MICHAEL N NEW HAVEN HOLDING CO LTD

21  
LARRY & PATRICIA SCHAEFFER  
KEVIN W & VICKI E KENZEL  
JAMES J MOTT  
MICHAEL N NEW HAVEN HOLDING CO LTD

20  
LARRY & PATRICIA SCHAEFFER  
KEVIN W & VICKI E KENZEL  
JAMES J MOTT  
MICHAEL N NEW HAVEN HOLDING CO LTD

26  
JOHN D & CHERYL E WILLIS  
GEORGE M & VALERIE A WILLIS  
CRYSTAL D GOOD  
VIVIAN L GOOD

22  
LARRY & PATRICIA SCHAEFFER  
KEVIN W & VICKI E KENZEL  
JAMES J MOTT  
MICHAEL N NEW HAVEN HOLDING CO LTD

18  
ERNEST K & MARGARET A MOZDZEN

13  
ERNEST K & MARGARET A MOZDZEN  
DARREN D WALDNER  
WILLIAM E & JANET D AMMETER

14  
ERNEST K & MARGARET A MOZDZEN  
MARLA D GUEST  
BJ & EM TOMYK

15  
ERNEST K & MARGARET A MOZDZEN  
GORDON L HOPKO  
BRIAN & BEVERLEY BRINDLEY

17  
ERNEST K & MARGARET A MOZDZEN  
JOHN R & SUSAN CIESLAR  
DOUGLAS W & ELIZABETH PICKELL

13  
CLEARWATER HOLDING CO LTD  
RYAN & JACQUELINE  
RAYN & HOLOD

14  
RAYMOND E INEZ E & EDWIN N HARTLE  
VALERIE S BLOKISSON  
JEFFREY B MEIER  
KENNETH & HENRY YULE

15  
HANS C NEAR  
MATH W & WILHE  
NEW HAVEN HOLDING CO LTD

7  
GRANT D & LISA G BAKER  
WILLIAM E & JANET D AMMETER  
BOGAARD FARMS LTD

12  
WILLIAM E & JANET D AMMETER  
BOGAARD FARMS LTD  
ALLAN R & CAROL A GENDZELEVICH

11  
ERNEST K & MARGARET A MOZDZEN  
LAFARGE CANADA INC  
BARRY J & EDITH M TOMYK

8  
LAFARGE CANADA INC  
ROCK OPPORTUNITIES LTD  
CAMARO ENTERPRISES LTD

8  
LAFARGE CANADA INC  
ROCK OPPORTUNITIES LTD  
CAMARO ENTERPRISES LTD

12  
JEAN MEDWID  
JASON E EWANEK  
JEFFREY R & KAREN M SLATNER

11  
JEFFREY B MEIER  
KENNETH & HENRY YULE  
CATHERINE M YULE  
JASON PATRICKSON

10  
BRUCE M & TARISSA C OUGHTON  
CATHERINE M YULE  
JASON PATRICKSON

6  
BOGAARD FARMS LTD  
S & K DRURY  
VALERIE D & CRAIG A HENRY

6  
BOGAARD FARMS LTD  
S & K DRURY  
VALERIE D & CRAIG A HENRY

2  
BOGAARD FARMS LTD  
ALLAN R & CAROL A GENDZELEVICH  
GORDON H & WENDY MCKENZIE

4  
LAFARGE CANADA INC  
LEHIGH PORTLAND CEMENT LTD  
STANDARD CARTAGE & MACHINE RENTAL LTD

5  
LADCO COMPANY LTD  
LEHIGH PORTLAND CEMENT LTD  
STANDARD CARTAGE & MACHINE RENTAL LTD

1  
JEFFREY R & KAREN M SLATNER  
NEIL W & MONA J RILEY  
ROSE M OUGHTON

1  
JEFFREY R & KAREN M SLATNER  
NEIL W & MONA J RILEY  
ROSE M OUGHTON

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JEFFREY R & KAREN M SLATNER  
NEIL W & MONA J RILEY  
ROSE M OUGHTON

31  
L & K HEAPS  
KENDRICK  
BI & AA FIRTH

31  
L & K HEAPS  
KENDRICK  
BI & AA FIRTH

35  
ALLAN R & CAROL A GENDZELEVICH  
GORDON H & WENDY MCKENZIE  
DO & DM SCOTT

33  
STUART W MCHERRY  
LEIGH PORTLAND CEMENT LTD  
LADCO COMPANY LTD

32  
CHRISTIAN JENSEN  
LEIGH PORTLAND CEMENT LTD  
LADCO COMPANY LTD

31  
BRIAN S & HEATHER A OUGHTON  
EMILY M INMAN  
KR & ML DUNKSMORE

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BRIAN S & HEATHER A OUGHTON  
EMILY M INMAN  
KR & ML DUNKSMORE

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BRIAN S & HEATHER A OUGHTON  
EMILY M INMAN  
KR & ML DUNKSMORE

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ERIC AMMETER  
FROMHOLD AMMETER  
KEVIN R MOLTER

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ERIC AMMETER  
FROMHOLD AMMETER  
KEVIN R MOLTER

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RONALD L MOLTER  
WM & BF ELLIOT  
DO & DM SCOTT

29  
ROBERT W & KAREN A ELLIOT  
MAX MANDEL & SONS LTD  
ALLAN N MANDEL

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ROBERT W & KAREN A ELLIOT  
MAX MANDEL & SONS LTD  
ALLAN N MANDEL

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EDWARD STENY  
GARY FARMS LTD  
EDWARD STENY

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EDWARD STENY  
GARY FARMS LTD  
EDWARD STENY

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GARY FARMS LTD  
EDWARD STENY

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EDWARD STENY  
GARY FARMS LTD  
EDWARD STENY

30  
EDWARD STENY  
GARY FARMS LTD  
EDWARD STENY

SEE DETAIL

Stonewall

SITE

323

236

SEE DETAIL



**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, state how they will be reused.

No additional buildings are required. Existing buildings will be renovated to accommodate additional cows and robotic milking.

**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 Unit Calculation Table)	Existing number of animals (Column C from Animal Unit Calculation Table)	Total Animal Units (Column F from Animal Unit Calculation Table)
Cows - Milking Cows	210	500

- Animal Units Calculation Table attached

**Animal Confinement Facilities**

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

Type of housing:  barn     outdoor seasonal feeding area     feedlot

Show all existing and proposed buildings on the project site plan. See [Project Site Plan example](#) and the Project [Site Plan Guide](#) for help creating your site plan.

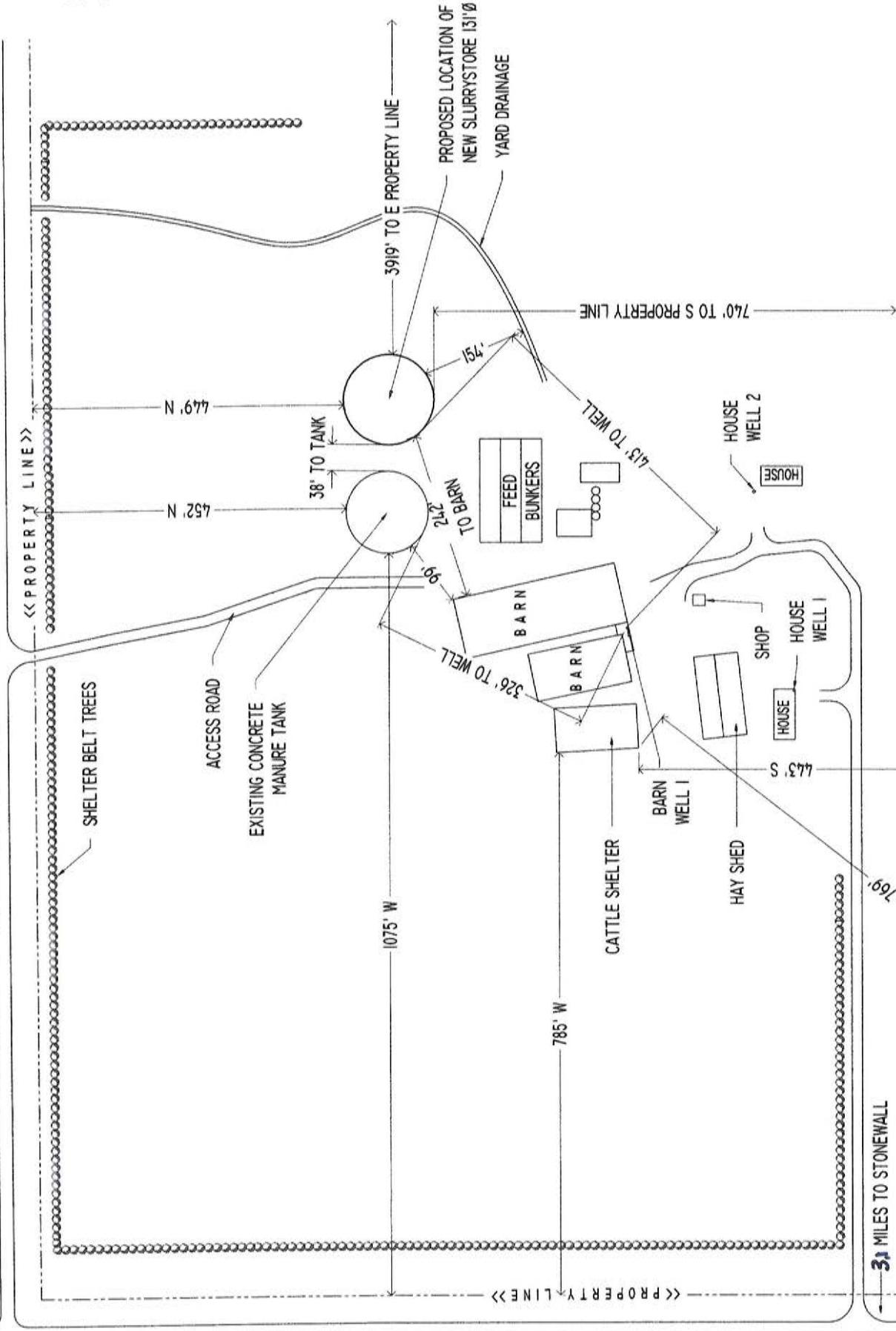
- Project Site Plan attached

# Animal Units Calculation Table

Animal Type	Type of Operation	Existing Number	Proposed Additional Number	Animal Units per Head	Total Animal Units	Annual Confinement Period (Days)
Dairy	Cows - milking cows	210	40	2	500.00	365
	Beef cows including associated livestock			1.25	-	
Beef	Backgrounder			0.5	-	
	Summer pasture / replacement heifers			0.625	-	
	Feeder cattle			0.769	-	
	Sows - farrow to finish (234-254 lbs)			1.25	-	
Pigs	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	-	
	Broilers			0.005	-	
Chickens	Roasters			0.01	-	
	Layers			0.0083	-	
	Pullets			0.0033	-	
	Broiler breeder pullets			0.0033	-	
	Broiler breeder hens			0.01	-	
	Broilers			0.01	-	
Turkeys	Heavy Toms			0.02	-	
	Heavy Hens			0.01	-	
	Mares			1.333	-	
Horses	Ewes			0.2	-	
	Feeder lambs			0.063	-	
Sheep	Type:				-	
	Type:				-	
Other Livestock	Type:				-	
				<b>Total AU's</b>	<b>500.00</b>	<b>365 -</b>

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](http://www.gov.mb.ca/agriculture/contact/agoffices.html)

MUNICIPAL ROAD




HWY #7

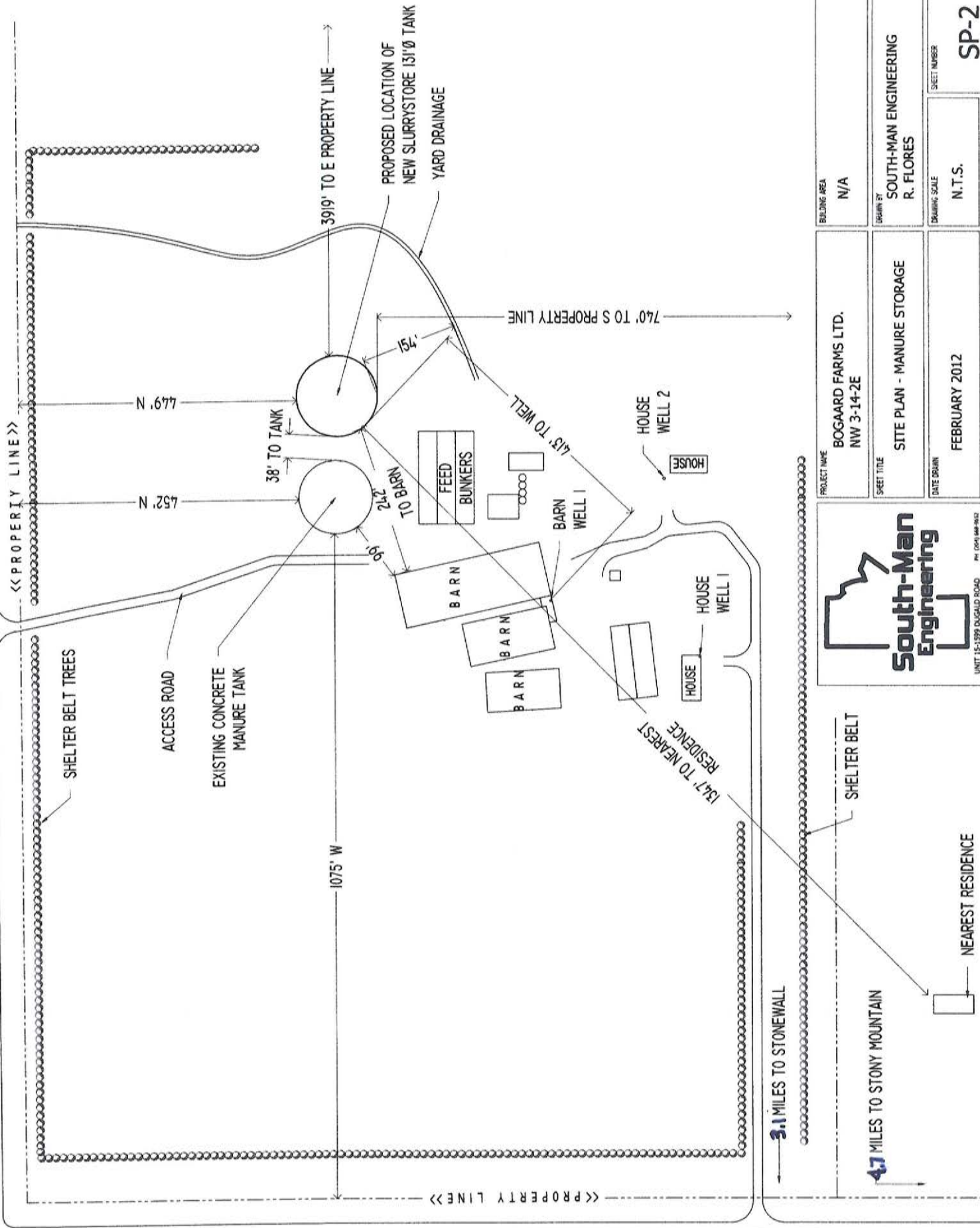
3.1 MILES TO STONEMOUNTAIN

4.7 MILES TO STONY MOUNTAIN

NEAREST RESIDENCE

 <p><b>South-Man Engineering</b></p> <p>UNIT 15-1895 DUGALD ROAD WINNIPEG, MANITOBA R2J 0H3</p> <p>PH: (204) 488-9022 FAX: (204) 488-9004</p>		<p>PROJECT NAME BOGAARD FARMS LTD. NW 3-14-2E</p>	<p>BUILDING AREA N/A</p>
<p>SHEET TITLE SITE PLAN - BARN</p>	<p>DATE DRAWN FEBRUARY 2012</p>	<p>DRAWN BY SOUTH-MAN ENGINEERING R. FLORES</p>	<p>DRAWING SCALE N.T.S.</p>
<p>THIS DRAWING IS THE PROPERTY OF SOUTH-MAN ENGINEERING, WINNIPEG, MANITOBA, CANADA.</p>		<p>SHEET NUMBER SP-1</p>	





HWY #7

3919' TO E PROPERTY LINE  
 740' TO S PROPERTY LINE  
 38' TO TANK  
 32'  
 415' TO WELL  
 1075' W  
 452' N  
 677' N  
 PROPOSED LOCATION OF NEW SLURRY TANK  
 YARD DRAINAGE  
 BARN  
 FEED BUNKERS  
 BARN WELL I  
 HOUSE WELL 2  
 HOUSE  
 HOUSE WELL I  
 HOUSE  
 1347' TO NEAREST RESIDENCE  
 242' TO BARN  
 96'

SHelter BELT TREES  
 ACCESS ROAD  
 EXISTING CONCRETE MANURE TANK  
 SHelter BELT  
 3.1 MILES TO STONEWALL  
 4.7 MILES TO STONY MOUNTAIN  
 NEAREST RESIDENCE

PROJECT NAME: BOGAARD FARMS LTD. NW 3-14-2E  
 SHEET TITLE: SITE PLAN - MANURE STORAGE  
 DATE DRAWN: FEBRUARY 2012  
 DRAWING SCALE: N.T.S.  
 BUILDING AREA: N/A  
 DRAWN BY: SOUTH-MAN ENGINEERING R. FLORES  
 SHEET NUMBER: SP-2

**South-Man Engineering**  
 UNIT 15-1599 DUGGOLD ROAD  
 WINNIPEG, MANITOBA  
 R2Z 0X0  
 PH: (204) 468-9827  
 FAX: (204) 468-9004

THIS DRAWING IS THE PROPERTY OF SOUTH-MAN ENGINEERING, WINNIPEG, MANITOBA, CANADA.

### 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](#)  yes  no

### 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. This includes barns, confined livestock areas and manure storage facilities

The [Nutrient Buffer Zone](#) is an area of land along water bodies (ex: rivers, lakes, streams, drains) that varies, depending on the waterway.

The proposed barn and/or manure storage facility:

is   
is not

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. (See [Agri-Maps](#).)

#### 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)       river  
 lake  
 dugout (dimensions : \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_)  
 proposed well       existing well

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 Water Stewardship by calling 204-945-7418 in Winnipeg; 1-800-214-6497 toll free.





Well Logs - Bogaard Dairy.txt

Bogaard Dairy - NW 3-14-2E  
R.M. of Rockwood

LOCATION: NW3-14-2E

Well\_PID: 23070  
 Owner: J VNUK  
 Driller: Ford Drilling Ltd.  
 Well Name:  
 Well Use: PRODUCTION  
 Water Use: Domestic  
 UTMX: 625204.351  
 UTM Y: 5558282.56  
 Accuracy XY: UNKNOWN  
 UTMZ:  
 Accuracy Z:  
 Date Completed: 1974 Oct 26

WELL LOG

From (ft.)	To (ft.)	Log
0	10.0	CLAY
10.0	33.0	TILL
33.0	45.0	RED LIMESTONE
45.0	64.0	WHITE LIMESTONE

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	41.0	casing	4.00			INSERT	GALVANIZED
41.0	64.0	open hole	3.90				

Top of Casing: ft. below ground

PUMPING TEST

Date:  
 Flowing Rate: 15.0 Imp. gallons/minute  
 Water level before pumping: ft. below ground  
 Pumping level at end of test: 8.0 ft. below ground  
 Test duration: hours, minutes  
 Water temperature: ?? degrees F

LOCATION: NW3-14-2E

Well\_PID: 129823  
 Owner: BOGAARD FARMS LTD  
 Driller: Interlake Water Supply  
 Well Name:  
 Well Use: PRODUCTION  
 Water Use: Domestic  
 UTMX: 625204.351  
 UTM Y: 5558282.56  
 Accuracy XY:  
 UTMZ:  
 Accuracy Z:  
 Date Completed: 2004 May 26

WELL LOG

From	To	Log
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Well Logs - Bogaard Dairy.txt

(ft.)	(ft.)	
0	15.0	CLAY
15.0	47.0	TILL AND BOULDERS
47.0	51.0	YELLOW LIMESTONE, SOFT
51.0	85.0	LIGHT BROWN LIMESTONE

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	58.0	CASING	5.00			INSERT	PVC
58.0	85.0	OPEN HOLE CASING GROUT	4.80				CEMENT

Top of Casing: 1.5 ft. above ground

PUMPING TEST

Date:	2004 May 26
Pumping Rate:	25.0 Imp. gallons/minute
Water level before pumping:	5.0 ft. below ground
Pumping level at end of test:	?? ft. below ground
Test duration:	??? hours, ?? minutes
Water temperature:	?? degrees F

## Source Water Analysis Reports

[Annual, livestock, source water monitoring analysis reports](#) must be submitted to Manitoba Conservation, for existing operations with operations of 300 Animal Units or more.

Have you submitted an annual, source water monitoring report for the current calendar year?  yes  no *Previously only submitted to Dairy Board, see attached.*

Will livestock have direct access to surface water?  yes  no

If yes, identify:

Name of the water body \_\_\_\_\_

Steps that will be taken to prevent direct access of livestock to the water body.

Confinement housing

## Water Requirements

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

For more information, 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: 9390  imperial gallons or  litres

Maximum annual use: 3,427,350  acre-feet or  cubic decameters

Water Requirement Calculation Table attached

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



# Water Requirement Calculation Table

Livestock	Number	IG/day per animal in summer	IG/day per animal in summer	IG/day
<b>Beef/Dairy/Bison</b>				
Feeder/heifer/steer (600 lb.)	70	5	9	630
Feeder (900 lb.)	50	7	12	600
Feeder (1250 lb.)	20	10	15	300
Cow/calf pair		12	15	-
Dry cow	30	10	12	360
Milking cow	250	25	30	7,500
Bison		8	10	-
<b>Horses</b>				
Horses		8	11	-
<b>Hogs</b>				
Sow (Farrow/wean)			6.5	-
Dry Sow/Boar			4	-
Feeder			3	-
Nursery (33 lb.)			2	-
<b>Chickens</b>				
Broilers			0.035	-
Roasters/Pullets			0.04	-
Layers			0.055	-
Breeders			0.07	-
<b>Turkeys</b>				
Turkey Growers			0.13	-
Turkey Heavies			0.16	-
<b>Sheep/Goats</b>				
Sheep/Goats			2	-
Ewes/Does			3	-
Lambs/Kids (90 lb.)			1.6	-
<b>TOTAL</b>			<b>9,390</b>	per day
<b>TOTAL</b>			<b>3,427,350</b>	per year

Enter this number on page 4 of the Site Assessment.

Enter this number on page 4 of the Site Assessment.

**Notes:**

(Imperial gallons per day – IG/day)

**For beef, dairy, bison and horse enterprises:**  
 Use summer numbers if appropriate for the operation.  
 Otherwise base projections on winter values. Always use the greater of the two values.

**Water Rights Licences** are issued to a specific legal land description. Obtaining a Water Rights License or information as to the licensing requirements can be obtained through Manitoba Water Stewardship at (204) 945-3983 or 1-800-282-8069 Ext 3983.

**Other consumption values:**  
 Normal household consumption, 40-55 imperial Gallons per day per person  
 (180-250 l/day/person)  
 Hydrant flow, 10 imperial GPM (45 l/min)

**Conversion Factor:** 1271,470 Imperial Gallons = 1 acre-foot

**REPORTED TO:** Bogaard Farms Ltd.-Johan Vanden Dogaard

**REPORT DATE:** July 29, 2011

**JOB NUMBER:** B167534

**Potability (Health Criteria at Point of Use) in Water**

<b>CLIENT SAMPLE IDENTIFICATION:</b>	Johan Van Den Boogaard 2		
<b>SAMPLE DATE:</b>	Jul 26/11		
<b>LAB ID:</b>	BC2085	<b>HEALTH</b>	<b>REPORTING</b>
<b>ANALYSIS DATE:</b>	Jul 26/11	<b>BACTERIA</b>	<b>LIMIT</b>
Total Coliforms (QT)	0	0	0
E. coli (QT)	0	0	0

Results expressed as Most Probable Number per 100 milliliters (MPN/100mL)



	Exist	Proposed
Manure is stored in a storage facility built by permit or registered by Manitoba Conservation.	<input type="checkbox"/> Y	<input type="checkbox"/> Y
Storage includes leachate collection.	<input type="checkbox"/> N	<input type="checkbox"/> Y
Earthen storage has between 400 and 500 days' storage.	<input type="checkbox"/> N/A	<input type="checkbox"/> N/A
Steel/concrete tank has between 250 and 500 days' storage.	<input type="checkbox"/> N	<input type="checkbox"/> Y
Manure storage facility meets required setbacks.	<input type="checkbox"/> Y	<input type="checkbox"/> Y
Field storage (solid manure) locations are changed annually.	<input type="checkbox"/> Y	<input type="checkbox"/> Y
Field storage meets required setbacks.	<input type="checkbox"/> Y	<input type="checkbox"/> Y
All application fields are soil tested annually for nitrate-N and Olsen phosphorus.	<input type="checkbox"/> N	<input type="checkbox"/> Y
All manure is applied according to a manure management plan.	<input type="checkbox"/> N	<input type="checkbox"/> Y
Licensed commercial manure applicator is used to apply manure.	<input type="checkbox"/> N	<input type="checkbox"/> N
Abandoned wells have been properly sealed.	<input type="checkbox"/> N/A	<input type="checkbox"/> N/A

Other:

---



---

### Flooding

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 have 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 100-year flood elevation or an elevation set by Manitoba Water Stewardship. Contact the Forecasting and Flood Co-ordination Branch at 204-945-2121 in Winnipeg; 1-800-214-6497 toll free.

The proposed site:  
is  is not

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 barns are located within the 100-year flood plain elevation; or an elevation set by Manitoba Water Stewardship.

### 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): Netley - Grassmere

Name of sub-watershed(s): \_\_\_\_\_

Name of Integrated Watershed Management Plan for the proposed project site, if applicable: Netley - Grassmere

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

### Manure Related

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 on this, call Manitoba Conservation at 204-945-5168 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

The quantity of manure will determine the capacity requirements for the manure storage facility or field storage area.

What is the total volume or weight of manure generated annually by the livestock operation? (See Manure Storage Calculation Table.)

liquid volume: 376,863 ft<sup>3</sup>      solid weight: \_\_\_\_\_

Manure Storage Calculation Table attached

*Equivalent to 25.77 imp gal/cow place including replacements.*



## Manure Storage Calculation Table

Animal Type	Type of Operation	Storage Volume (ft <sup>3</sup> /day/animal)			Confinement Period (Days)	Number of Animals	Total Storage Volume (AxBxC)
		Semi-solid	Solid	Liquid			
Dairy	Milking cows, including heifers						-
	Free stall	3.43	2.47	1.06	365	250.00	322,112.5 ft <sup>3</sup>
	Tie stall	3.53	2.44	1.10			-
	Loose housing		2.65	0.42			-
	Milk house wash water			0.60	365	250	54750 ft <sup>3</sup>
Beef	Beef cows including associated livestock		1.20				-
	Backgrounder		0.73				-
	Summer pasture / replacement heifers		0.85				-
	Feeder cattle		1.10				-
Pigs	Sows - farrow to finish (234 - 254 lbs)			2.30			-
	Sows - farrow to wean (up to 11 lbs)			1.00			-
	Sows - farrow to nursery (51 lbs)			0.80			-
	Weanlings, Nursery (11 - 51 lbs)			0.10			-
	Grower / Finisher (51 - 249 lbs)			0.25			-
		Storage Volume (ft <sup>3</sup> /year/bird space)			Number of Birds	(A x B)	
Chickens	Broilers - floor <sup>2</sup>			1.23			-
	Broiler breeders - floor <sup>3</sup>			2.33			-
	Broiler breeder pullets - floor <sup>2</sup>			0.98			-
	Roasters - floor <sup>2</sup>			1.16			-
	Layers - cage <sup>1</sup>			2.33			-
	Layers - floor <sup>3</sup>			1.69			-
	Layers - solid pack						-
	Pullets - cage <sup>1</sup>			0.70			-
	Pullets - floor <sup>2</sup>			0.74			-
	Pullets - solid pack						-
Turkeys	Broilers - floor <sup>2</sup>			2.85			-
	Heavy toms - floor <sup>2</sup>			5.57			-
	Heavy hens - floor <sup>2</sup>			3.31			-

<sup>1</sup> Manure removed from barn at 90% moisture content with a density of 2,094 lbs/35 ft<sup>3</sup>.

<sup>2</sup> 50 mm wood shavings or 100 mm of straw placed on floor. Manure and litter removed from barn at 25% moisture content, with a density of 705 lbs/ft<sup>3</sup>.

<sup>3</sup> One-third litter floor, two-thirds slatted floor. Manure and litter removed from barn at 40% moisture content, with a density of 881 lbs/ft<sup>3</sup>.

### 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 system will be used by the operation?

- under-barn concrete     earthen     concrete/steel tanks  
 field storage     confined livestock area

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 Dimension 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 the neighbourhoods close to the operation.

What odour control measures you are planning to use?

Manure storage cover:  yes     no

Type of cover: *Naturally floating straw cover will form in circular storages where straw bedding is used.*

Shelterbelt planting:  yes     no     existing shelterbelt

Other measures (specify): \_\_\_\_\_

### Manure Treatment

The [Livestock Manure and Mortalities Management Regulation](#) states that nobody can expand a confined livestock area or a manure storage facility for pigs, unless it includes anaerobic digestion or other environmentally sound manure treatment that is the same or better than anaerobic digestion. The alternative treatment must be approved by the Manitoba government.

Does your proposal include anaerobic digestion or another environmentally sound treatment for manure?  yes     no     not applicable

### 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.



## Existing and Proposed Manure Storage Facility Dimension Tables

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

### Existing Manure Storage Facility Dimensions

CELL	Width	Length	Depth	Height (Above Grade)	Slope (H:L)		Storage Capacity (days)
					Inside	Outside	
Primary	ft	ft	ft	ft			
Secondary	ft	ft	ft	ft			
Tertiary	ft	ft	ft	ft			
		Diameter	Height	Depth			
				(Above Grade)			
Circular Tank		119 ft	8 ft	5 ft			75

Permit/Registration # \_\_\_\_\_

### Existing Manure Storage Facility Dimensions

CELL	Width	Length	Depth	Height (Above Grade)	Slope (H:L)		Storage Capacity (days)
					Inside	Outside	
Primary	ft	ft	ft	ft			
Secondary	ft	ft	ft	ft			
Tertiary	ft	ft	ft	ft			
		Diameter	Height	Depth			
Circular Tank		ft	ft	ft			

Permit/Registration # \_\_\_\_\_

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

Proposed Manure Storage Facility Dimensions							
CELL	Width	Length	Depth	Height (Above Grade)	Slope (H:L)		Storage Capacity (days)
					Inside	Outside	
<b>Primary</b>	ft	ft	ft	ft			
<b>Secondary</b>	ft	ft	ft	ft			
<b>Tertiary</b>	ft	ft	ft	ft			
		Diameter	Height	Depth			
<b>Circular Tank</b>		131 ft	18.2 ft	17.2 ft			224

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)*.



Does the operation currently file an annual manure management plan with Manitoba Conservation? (For operations with 300 Animal Units or more, only)

yes  no *Not to date*

Manure application methods and the season they're applied in affect odour, nutrient availability, crop response, land base requirements and the risk of water contamination.

Application method:  broadcast  broadcast and incorporation within 48 hours  
 injection *Broadcast on hayland only, incorporated on cultivated acres.*

The Livestock Manure and Mortalities Management Regulation prohibits new operations and existing livestock operations 300 Animal Units or more from 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. Manure from any other livestock operation is not permitted to be used on this land.

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. The Nutrient Buffer Zone is an area of land along water bodies (ex: rivers, lakes, streams, drains) that varies depending on the waterway.

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

Use the [Manure Application Field Characteristics Table](#) to determine the following:

Total suitable area available for manure application

747 ac.

Manure Application Field Characteristics Table attached

Addition 385 ac. available but not soil tested.

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 age of livestock (see [Animal Units Calculation Table](#)), the quantity and availability 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 [Manure Application Field Characteristics Table](#).)

The [Livestock Manure and Mortalities Management Regulation](#) requires that the proposal must satisfy Manitoba Conservation that "sufficient land is available to the operator to implement an appropriate manure management plan" for a manure storage facility, before Manitoba Conservation issues a permit.

In areas of high livestock intensity (ex: RMs of Hanover and La Broquerie), it is Manitoba Conservation policy to approve 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.

Are any of the lands for manure application in the RMs of Hanover or La Broquerie?  yes  no



**Manure Application Field Characteristics Table**

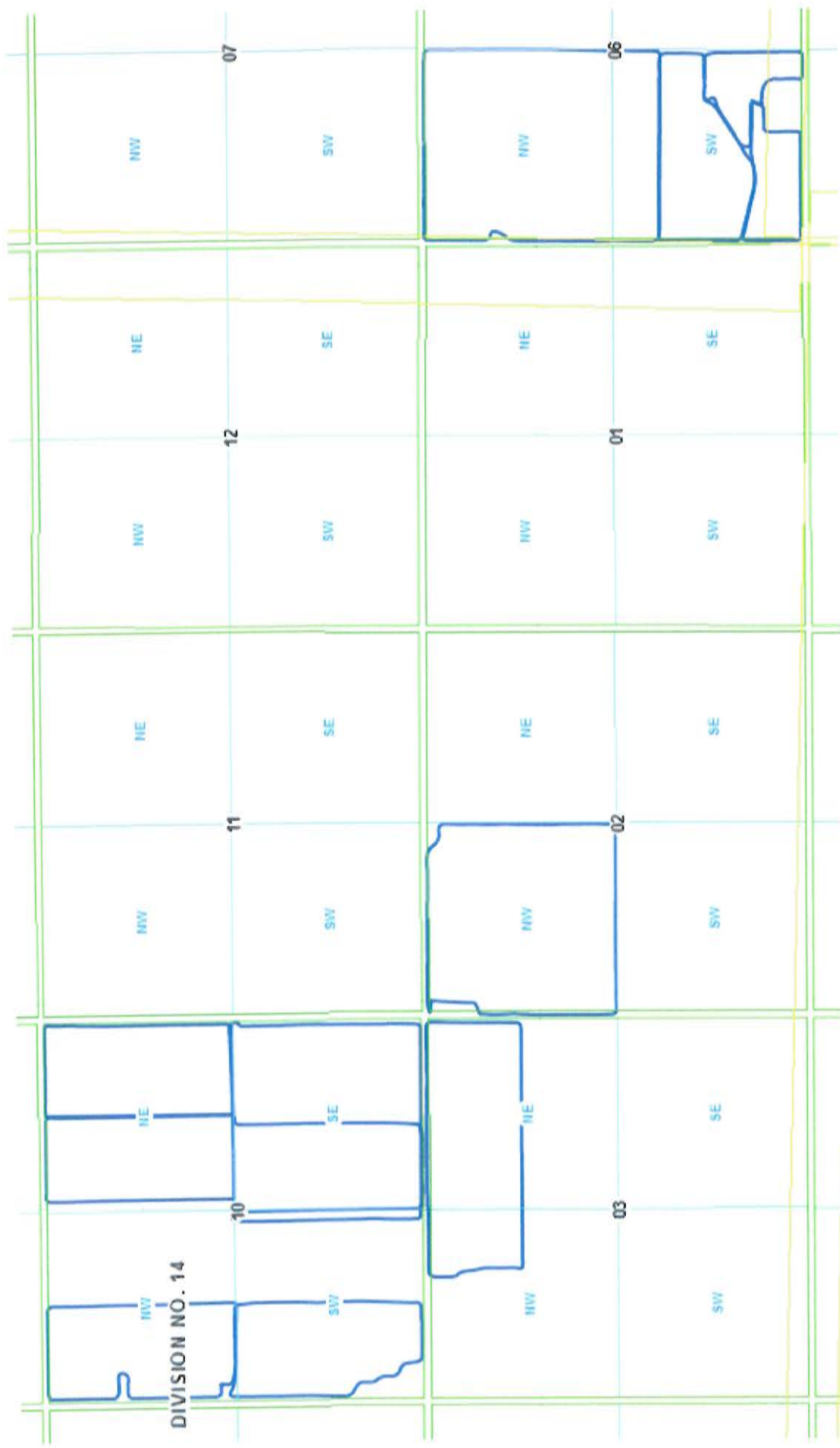
Field	Legal Description <sup>1</sup>	Municipality	O/L/A <sup>2</sup>	Acres Available <sup>3</sup>	Features <sup>4</sup>	Expected Crop to be Grown (Historical Yield Average)	Soil Nitrate <sup>5,6</sup>	Soil Phosphorus <sup>5,7</sup>	Acres Suitable for Manure Spreading <sup>8</sup>	Development Plan Designation <sup>9</sup>	Zoning <sup>10</sup>
1	NE 3-14-2E	Rockwood	0	110	Established farm site	Alfalfa (2,804 ton/ac)	138	21.6	110	17/09	AG
2	NW 2-14-2E	Rockwood	0	155	Wavy Creek along north boundary	35 ac Grass Hay (1.82 ton/ac) 120 ac oats (84.5 bu/ac)	293	10.8	120	17/09	AG
3	E 10-14-2E	Rockwood	0	80	none	Alfalfa (2,804 ton/ac)	119	26	80	17/09	AG
4	WSW 10-14-2E	Rockwood	0	80	Hwy #7	Corn silage (4.47 ton/ac)	48	11.5	76	17/09	AG
5	WNW 10-14-2E	Rockwood	0	80	Hwy #7	Alfalfa (2,804 ton/ac)	34	22.1	76	17/09	AG
6	SSW 6-14-3E	Rockwood	0	75	Yard site for replacement cattle	Grass (1.82 ton/ac)	58	13.6	55	17/09	AG
7	NW 6-14-3E	Rockwood	0	230	none	Grain Barley (64 bu/ac)	124	17.1	230	17/09	AG
8											
9	Additional 385 acres available on 10-14-2E not soil tested due to manure application					Corn silage and alfalfa	No soil tests available at this time.			17/09	AG
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
				<b>TOTAL PROPOSED</b>					<b>747</b>		
				<b>810</b>				<b>TOTAL</b>			

1. \_\_\_\_\_ Indicates Roll Number, Sec, Twship, Rge or River Lot.  
 2. \_\_\_\_\_ Indicates how the land has been secured for spreading  
 3. \_\_\_\_\_ Acres available should take into account setbacks from water courses, including ditches, property lines (refer to setback tables in the SA Guide)  
 4. \_\_\_\_\_ Features indicate any dwellings, other uses, wells (existing or abandoned), water bodies or other natural features within or adjacent to a spread field (note if any native habitat is proposed for manure application)



## Manure Application Field Characteristics Table

5. \_\_\_\_\_ Soil fertility analysis must be completed by an accredited soil-testing laboratory.
6. \_\_\_\_\_ Nitrate concentration N (lb/ac at 0-24 inch depth)
7. \_\_\_\_\_ Phosphorus concentration (ppm P at 0-6 inch depth) based on extraction method specified
8. \_\_\_\_\_ Suitable acreage is to be based on soil, crop and setback calculations
9. \_\_\_\_\_ Please reference the Development Plan for the designations
10. \_\_\_\_\_ Please reference the Zoning Bylaw of your municipality(ies)

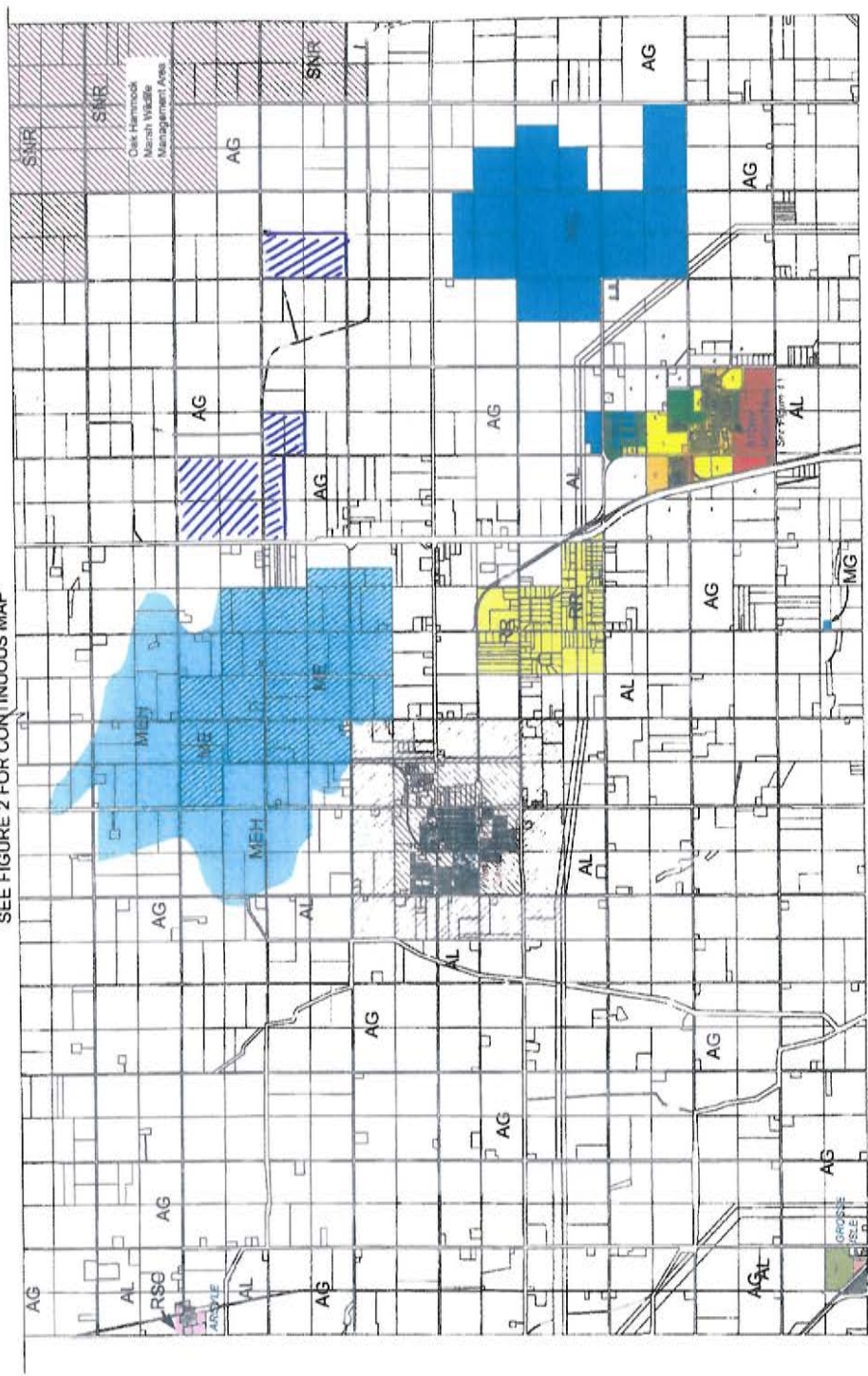


**DIVISION NO. 14**





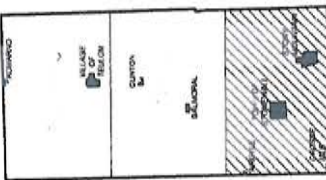
SEE FIGURE 2 FOR CONTINUOUS MAP



**RM OF ROCKWOOD  
ZONING BY-LAW NO. 17/09  
ZONING MAP  
FIGURE 1**

- AG AGRICULTURAL GENERAL
- AL AGRICULTURAL LIMITED
- AL-1 AGRICULTURAL LIMITED - STOREFRONT VICINITY
- PR PARKS AND RECREATION
- SNR SENSITIVE AND NATURAL RESOURCE
- I INSTITUTIONAL
- CH COMMERCIAL HIGHWAY
- CC COMMERCIAL CENTRE
- CR COMMERCIAL RECREATION
- LCR LIMITED COMMERCIAL RESIDENTIAL
- UH URBAN HOLDING AREA
- MG INDUSTRIAL GENERAL
- MB INDUSTRIAL BUSINESS
- ME INDUSTRIAL EXTRACTIVE
- MEH INDUSTRIAL EXTRACTIVE HOLDING AREA
- RR RURAL RESIDENTIAL
- RSC RURAL SETTLEMENT CENTRE
- RS-1 RESIDENTIAL SINGLE FAMILY
- RS-2 RESIDENTIAL SINGLE FAMILY
- RM RESIDENTIAL MULTIPLE FAMILY
- RC RESIDENTIAL COMPREHENSIVE
- MHR RESIDENTIAL MOBILE HOME
- LIMIT OF ZONES

Approved July 28, 2010



**KEY PLAN**

 - CROPLAND



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

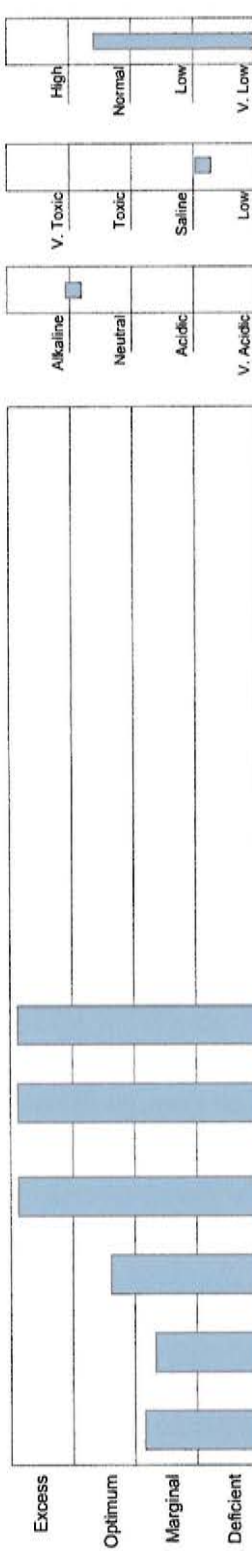
**Report To:** Farmers Edge - Manure Management  
 1357 Dugald Rd.  
 Winnipeg, MB R2J 0H3

**Grower:** BOGDAL  
**Grower Field Name:**  
**Reference Field Name:** NNE 3-14-2 E1  
**Legal Location:** 110  
**Total Acres:** RV  
**Sampler:**

**Lot Number:** 120409\_001  
**Date Sampled:** 2012/04/06  
**Received Date:** 2012/04/09  
**Date Reported:** 2012/04/11

**Attention:** George Bilinsky  
**Client ID:** 09-0021

Sample ID	Depth	N	P*	K	S	Ca	Mg	Na	B	Cu	Fe	Mn	Zn	Cl	pH	EC	OM
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		dS/m	%
120409_001-01	0-6	19	21.6	281	268	5333	2077	221							7.4	1.67	5.5
120409_001-02	6-24	17			445										8.1	2.06	



0-6 lb/Ac:	37	43	562	536	CEC (meq/100g):	45.4	Ca Base Saturation (%):	58.6	Mg Base Saturation (%):	37.7
6-24 lb/Ac:	101			2671	Base Saturation (%):	100.0	K Base Saturation (%):	1.6	Na Base Saturation (%):	2.1
Total lb/Ac:	138	43	562	3207	Sand (%):		Silt (%):		Clay (%):	
Estimated lb/Ac:	138	43	562	3207	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.





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 Winnipeg, Manitoba Canada  
 R2J 0H3  
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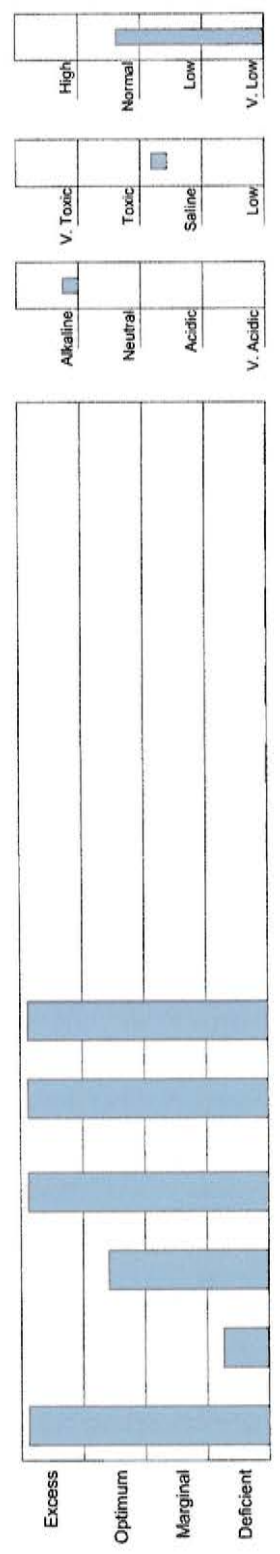
**Report To:** Farmers Edge - Manure Management  
 1357 Dugald Rd.  
 Winnipeg, MB R2J 0H3

**Lot Number:** 120409\_006  
**Date Sampled:** 2012/04/06  
**Received Date:** 2012/04/09  
**Date Reported:** 2012/04/11

**Grower:** BOGDAL  
**Grower Field Name:**  
**Reference Field Name:** NW 2-14-2 E1  
**Legal Location:** 160  
**Total Acres:** RV  
**Sampler:**

**Attention:** George Bilinsky  
**Client ID:** 09-0021

Sample ID	Depth	N	P*	K	S	Ca	Mg	Na	B	Cu	Fe	Mn	Zn	Cl	pH	EC	OM
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		dS/m	%
120409_006-01	0-6	34	10.8	349	897	5113	3266	280							7.8	3.38	4.2
120409_006-02	6-24	37			1192										8.0	4.18	



0-6 lb/Ac:	68	22	698	1795	CEC (meq/100g):	54.5	Ca Base Saturation (%):	46.8	Mg Base Saturation (%):	49.3
6-24 lb/Ac:	225			7154	Base Saturation (%):	100.0	K Base Saturation (%):	1.6	Na Base Saturation (%):	2.2
Total lb/Ac:	293	22	698	8949	Sand (%):		Silt (%):		Clay (%):	
Estimated lb/Ac:	293	22	698	8949						

**Recommendation:**

**Comments:**

\* Bicarbonate-Extractable (Olsen) Phosphate





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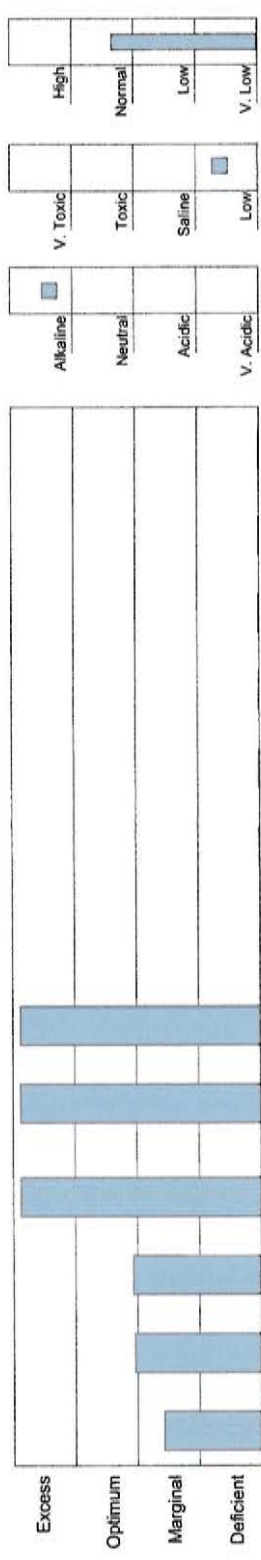
**Report To:** Farmers Edge - Manure Management  
 1357 Dugald Rd.  
 Winnipeg, MB R2J 0H3

**Grower:** BOGDAL  
**Grower Field Name:**  
**Reference Field Name:**  
**Legal Location:** E 10-14-2 E1  
**Total Acres:** 80  
**Sampler:** RV

**Lot Number:** 120409\_005  
**Date Sampled:** 2012/04/06  
**Received Date:** 2012/04/09  
**Date Reported:** 2012/04/11

**Attention:** George Bilinsky  
**Client ID:** 09-0021

Sample ID	Depth	N	P*	K	S	Ca	Mg	Na	B	Cu	Fe	Mn	Zn	Cl	pH	EC	OM
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		dS/m	%
120409_005-01	0-6	24	26.0	168	108	4647	2165	193							8.4	1.21	4.0
120409_005-02	6-24	12			314										8.7	1.75	



0-6 lb/Ac:	48	52	336	216	CEC (meq/100g):	42.3	Ca Base Saturation (%):	54.9	Mg Base Saturation (%):	42.1
6-24 lb/Ac:	71		1886		Base Saturation (%):	100.0	K Base Saturation (%):	1.0	Na Base Saturation (%):	2.0
Total lb/Ac:	119	52	336	2102	Sand (%):		Silt (%):		Clay (%):	Texture:
Estimated lb/Ac:	119	52	336	2102						

**Recommendation:**

**Comments:**

\* Bicarbonate-Extractable (Olsen) Phosphate



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 Phone: 1 204 233 4099

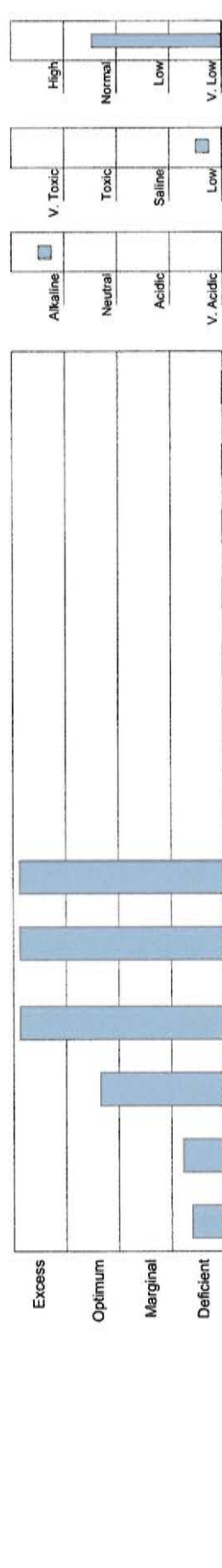
**Report To:** Farmers Edge - Manure Management  
 1357 Dugald Rd.  
 Winnipeg, MB R2J 0H3

**Grower:** BOGDAI  
**Grower Field Name:**  
**Reference Field Name:** WSW 10-14-2 E1  
**Legal Location:** 80  
**Total Acres:** RV  
**Sampler:**

**Lot Number:** 120409\_003  
**Date Sampled:** 2012/04/06  
**Received Date:** 2012/04/09  
**Date Reported:** 2012/04/11

**Attention:** George Bilinsky  
**Client ID:** 09-0021

Sample ID	Depth	N	P*	K	S	Ca	Mg	Na	B	Cu	Fe	Mn	Zn	Cl	pH	EC	OM
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		dS/m	%
120409_003-01	0-6	8	11.5	267	20	4660	2224	70							8.4	0.74	4.7
120409_003-02	6-24	5		18											8.9	0.60	



0-6 lb/Ac:	16	23	533	40	CEC (meq/100g):	42.5	Ca Base Saturation (%):	54.7	Mg Base Saturation (%):	43.0
6-24 lb/Ac:	32		109		Base Saturation (%):	100.0	K Base Saturation (%):	1.6	Na Base Saturation (%):	0.7
Total lb/Ac:	48	23	533	149	Sand (%):		Silt (%):		Clay (%):	
Estimated lb/Ac:	48	23	533	149						

**Recommendation:**

**Comments:**

\* Bicarbonate-Extractable (Olsen) Phosphate



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

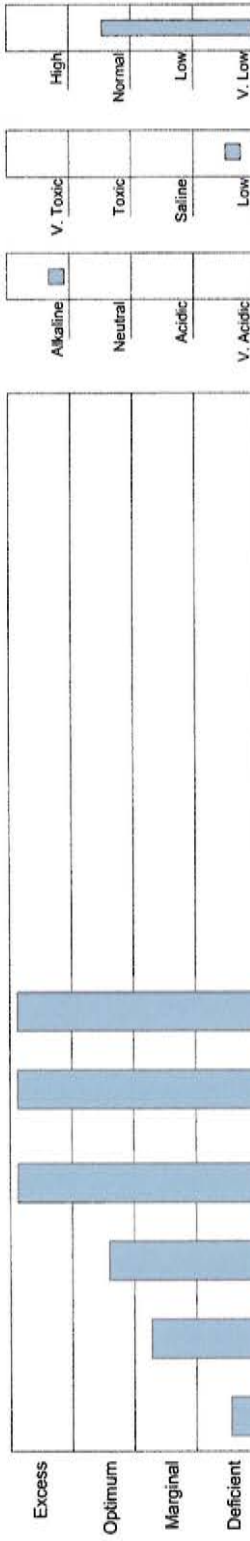
**Report To:** Farmers Edge - Manure Management  
 1357 Dugald Rd.  
 Winnipeg, MB R2J 0H3

**Grower:** BOGDAL  
**Grower Field Name:**  
**Reference Field Name:** WNW 10-14-2 E1  
**Legal Location:** 80  
**Total Acres:** RV  
**Sampler:**

**Lot Number:** 120409\_004  
**Date Sampled:** 2012/04/06  
**Received Date:** 2012/04/09  
**Date Reported:** 2012/04/11

**Attention:** George Bilinsky  
**Client ID:** 09-0021

Sample ID	Depth	N	P*	K	S	Ca	Mg	Na	B	Cu	Fe	Mn	Zn	Cl	pH	EC	OM
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		dS/m	%
120409_004-01	0-6	10	22.1	286	27	4637	2047	65							8.0	0.71	4.7
120409_004-02	6-24	2			223										8.4	1.13	



	N	P	K	S
0-6 lb/Ac:	20	44	572	55
6-24 lb/Ac:	14			1336

CEC (meq/100g): 41.0 Ca Base Saturation (%): 56.4 Mg Base Saturation (%): 41.1  
 Base Saturation (%): 100.0 K Base Saturation (%): 1.8 Na Base Saturation (%): 0.7

Sand (%): Silt (%): Clay (%): Texture:

Total lb/Ac:	34	44	572	1391
Estimated lb/Ac:	34	44	572	1391

**Recommendation:**

\* 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.







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

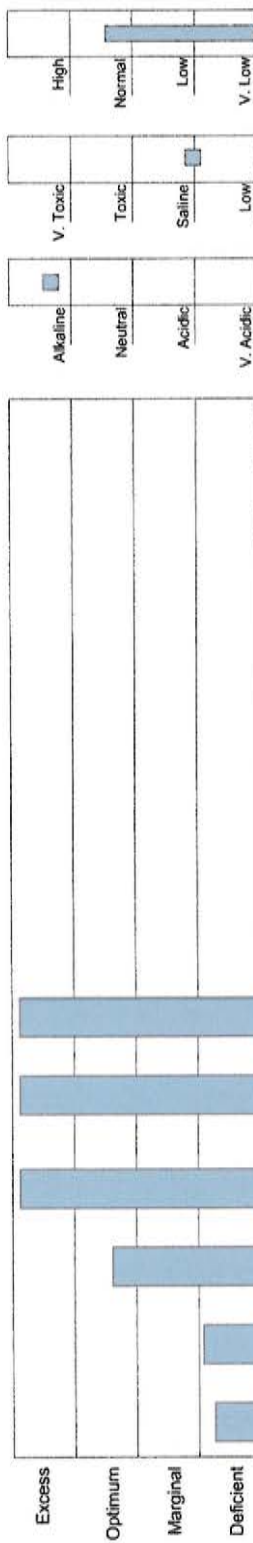
**Report To:** Farmers Edge - Manure Management  
 1357 Dugald Rd.  
 Winnipeg, MB R2J 0H3

**Grower:** BOGDAL  
**Grower Field Name:**  
**Reference Field Name:**  
**Legal Location:** SSW 6-14-3 E1  
**Total Acres:** 75  
**Sampler:** RV

**Lot Number:** 120409\_008  
**Date Sampled:** 2012/04/06  
**Received Date:** 2012/04/09  
**Date Reported:** 2012/04/11

**Attention:** George Bilinsky  
**Client ID:** 09-0021

Sample ID	Depth	N	P*	K	S	Ca	Mg	Na	B	Cu	Fe	Mn	Zn	Cl	pH	EC	OM
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		dS/m	%
120409_008-01	0-6	20	13.6	280	337	3696	2955	413							8.3	2.04	4.5
120409_008-02	6-24	3			614										8.4	2.70	



	N	P	K	S
0-6 lb/Ac:	41	27	561	674
6-24 lb/Ac:	17			3685
Total lb/Ac:	58	27	561	4359
Estimated lb/Ac:	58	27	561	4359

CEC (meq/100g): 45.3  
 Base Saturation (%): 100.0  
 Sand (%):  
 Ca Base Saturation (%): 40.7  
 K Base Saturation (%): 1.6  
 Silt (%):  
 Mg Base Saturation (%): 53.7  
 Na Base Saturation (%): 4.0  
 Clay (%):

Texture:

**Recommendation:**

**Comments:**

\* Bicarbonate-Extractable (Olsen) Phosphate



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

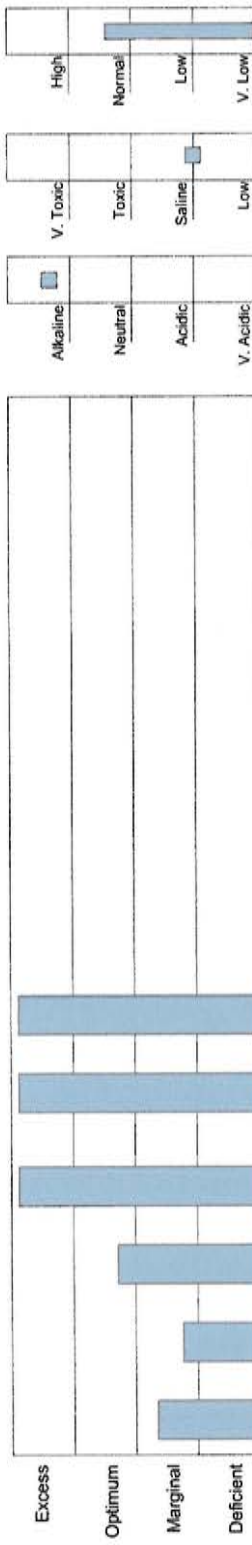
**Report To:** Farmers Edge - Manure Management  
 1357 Dugald Rd.  
 Winnipeg, MB R2J 0H3

**Grower:** BOGDAL  
**Grower Field Name:**  
**Reference Field Name:** NW 6-14-3 E1  
**Legal Location:** 240  
**Total Acres:** RV  
**Sampler:**

**Lot Number:** 120409\_007  
**Date Sampled:** 2012/04/06  
**Received Date:** 2012/04/09  
**Date Reported:** 2012/04/11

**Attention:** George Bilinsky  
**Client ID:** 09-0021

Sample ID	Depth	N	P*	K	S	Ca	Mg	Na	B	Cu	Fe	Mn	Zn	Cl	pH	EC	OM
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		dS/m	%
120409_007-01	0-6	22	17.1	245	297	4281	2947	334							8.3	2.00	4.4
120409_007-02	6-24	13			356										8.6	1.96	



CEC (meq/100g): 47.7 Ca Base Saturation (%): 44.8 Mg Base Saturation (%): 50.8  
 Base Saturation (%): 100.0 K Base Saturation (%): 1.3 Na Base Saturation (%): 3.0

Sand (%): Silt (%): Clay (%): Texture:

Total lb/Ac: 124 34 489 2731  
 Estimated lb/Ac: 124 34 489 2731

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.



In areas with lower livestock intensity, Manitoba Conservation 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 (and)
- if long-term phosphorus inputs from manure application will be balanced with one times the crop removal rate of phosphorus to prevent build up in soils

Use the [Land Base Calculator](#) to calculate the minimum area required for manure application.

<b>Total minimum area required for manure application at two times crop removal, for operations outside of Hanover and La Broquerie</b>	631 ac.
<b>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</b>	1261 ac.

For more, call Manitoba Agriculture, Food and Rural Initiatives (MAFRI) at 204-945-3869 in Winnipeg or contact your local [MAFRI GO Office](#).

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)

I acknowledge that over the long term, up to 1261 acres/hectares (which is one times crop removal from table above) may be required for the long term environmental sustainability of the operation.



# Bogaard Farms Ltd.

Operation Name:

### STEP 1: Livestock Information

Species	Type	Manure Type	Livestock Places	Animal Units	Production Cycle (Days)	Rotation	Output per head		Production-N		Production P <sub>2</sub> O <sub>5</sub>	
							kg N	kg P	kg	lb	kg	lb
1 Dairy	Dairy Cows (including associated livestock)	Liquid	250	500	365	1	154.5	75	38625	84975	18750	41250
2												
3												
4												
5												
			<b>Total AU</b>	<b>500</b>								

### STEP 2: Crop Rotation Information

Removal (lb/ac)	38625	84975	18750	41250
Post Manure Application N:	19313	42488	--	--

### 1. Detailed Rotation (Farm Data)

Nitrogen (N)	104	33	65
2XP <sub>2</sub> O <sub>5</sub>			

### STEP 3: Nitrogen Volatilization

1. Manure	Type	Value (%)
Liquid	Open	20

### 2. Method of Application

Incorporated within 2 day	Average	Value (%)
		30

### STEP 4: Phytase Added

1. Was phytase used as an additive in feed?	No
---	----

- Nutrient values excreted by livestock is adapted from Quebec (Le Centre de reference en agriculture et agroalimentaire du Quebec - CREAQ)
- Nutrient excretion for sows is based upon unpublished data for Manitoba
- Nutrient values for turkeys based upon data from "Farm Practices Guidelines for Poultry Producers in Manitoba, 2000"

<b>Base Total N:</b>	38625	84975	18750	41250
<b>LAND BASE REQUIRED</b>				
Nitrogen (N) based	Acres		408	408
Phosphorus (P <sub>2</sub> O <sub>5</sub> ) based	Acres		631	1261

Operation: **Bogaard Farms Ltd.**

Crop	Example Manitoba Target Yields	Unit	Historical Yield	Nutrient Removal (lb/ac)				Uptake (lb/ac)				Total Removal			
				Unit	P <sub>2</sub> O <sub>5</sub>	2(P <sub>2</sub> O <sub>5</sub> )	Nitrogen (N)	Unit	P <sub>2</sub> O <sub>5</sub>	2(P <sub>2</sub> O <sub>5</sub> )	Nitrogen (N)	Acres	P <sub>2</sub> O <sub>5</sub>	2(P <sub>2</sub> O <sub>5</sub> )	Nitrogen (N)
Alfalfa	5	tons/ac	2.804	39	77	163	30	266	13.78	27.56	57.91	10.68			
Barley Grain	80	bu/ac	64	27	54	62	89	230	8.28	16.55	19.11	27.39			
Barley Silage	4.5	tons/ac													
Canola	35	bu/ac		40	80		110								
Corn Grain	100	bu/ac		40	80		150								
Corn Silage	5	tons/ac	4.47	57	114	139	0	76	5.78	11.55	14.19	0.00			
Dry edible beans	18	cwt/ac		25	50										
Fababeans	34	cwt/ac													
Flax	24	bu/ac													
Grass hay	3	tons/ac	1.82	18	36	62	0	55	1.34	2.68	4.58	0.00			
Lentils	18	cwt/ac													
Oats	100	bu/ac	84.5	22	44	52	90	120	3.53	7.06	8.42	14.52			
Peas	50	bu/ac													
Potatoes	400	cwt/ac													
Rye	55	bu/ac													
Soybeans	35	bu/ac		25	50		30								
Sunflower	22	cwt/ac													
Wheat - Spring	40	bu/ac													
Wheat - Winter	75	bu/ac													
<b>Total</b>								<b>747</b>	<b>32.70</b>	<b>65.40</b>	<b>104.21</b>	<b>52.60</b>			



## 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 ensures livestock mortalities are handled in an environmentally sound manner. Permanent composting facilities require a permit from Manitoba Conservation. Winter application of composted mortalities is prohibited.

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

### Mass Mortalities

The [Livestock Manure and Mortalities Management Regulation](#) sets requirements for mass mortalities.

A plan for mass mortalities (endorsed by Manitoba Conservation) is in place.

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

MB Conservation will be contacted to provide direction with respect to clean up activities and appropriate disposal land fill site. Proximity to groundwater and bedrock no desirable for burial. Composting is a consideration, subject to cause of mortality.

**Project Site Description: land use planning considerations**

For assistance contact your [Community and Regional Planning Regional Office](#).

### Development Plan and Zoning Bylaw

The Development Plan and Zoning Bylaw 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 bylaw, 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 plan's land use designation and policies (for the planning district or municipality that affect the site and proposed spread fields) will help confirm the project's compliance.

Name of development plan	RM of Rockwood Zoning By-Law
By-law number	17/09
Land use designation of project site	AG: Agricultural General Zone
Livestock operation policies – quote supportive policy numbers	Section 49.0 Section 83.0
Other development plan policies – quote supportive policy numbers	
Non-supportive development plan policies	

The development plan livestock operation policies support the size and location of the proposed operation. (Conditional Use)

### Zoning Bylaw

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 bylaw?

	Project site dimensions	Minimum zoning bylaw site requirements
Minimum site area	160 acres	80 acres
Minimum site width	1320 ft	600'
Minimum front yard	785 ft	125'
Minimum side and rear yard	449 ft	25'

### Separation Distances

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:

earthen manure storage facility or feedlot OR

animal confinement facility or non-earthen manure storage facility

To	Minimum separation distance required (by the zoning bylaw)	If land use feature is within the minimum distance	
		Provide actual distance	Provide location or name of feature (ex: Red River)
Residence/dwelling	820 ft	769 ft 1190 ft	barn facility concrete manure tank
Designated area (non-agricultural)	4364 ft	16368 ft	Town of Stonewall
Surface water	330ft	3360 ft	Limestone Quarry
Surface watercourse	330 ft	449 ft	North Ditch
Crown land	4364 ft	18480 ft	SW 19-14-3E
Wildlife Management Area	4364 ft	20,540 ft	Oak Hammock Marsh Wildlife Mangement Area
Livestock operation	820 ft	6372'	DO + DM Scott NE 34-13-2E
Other significant features/land uses			

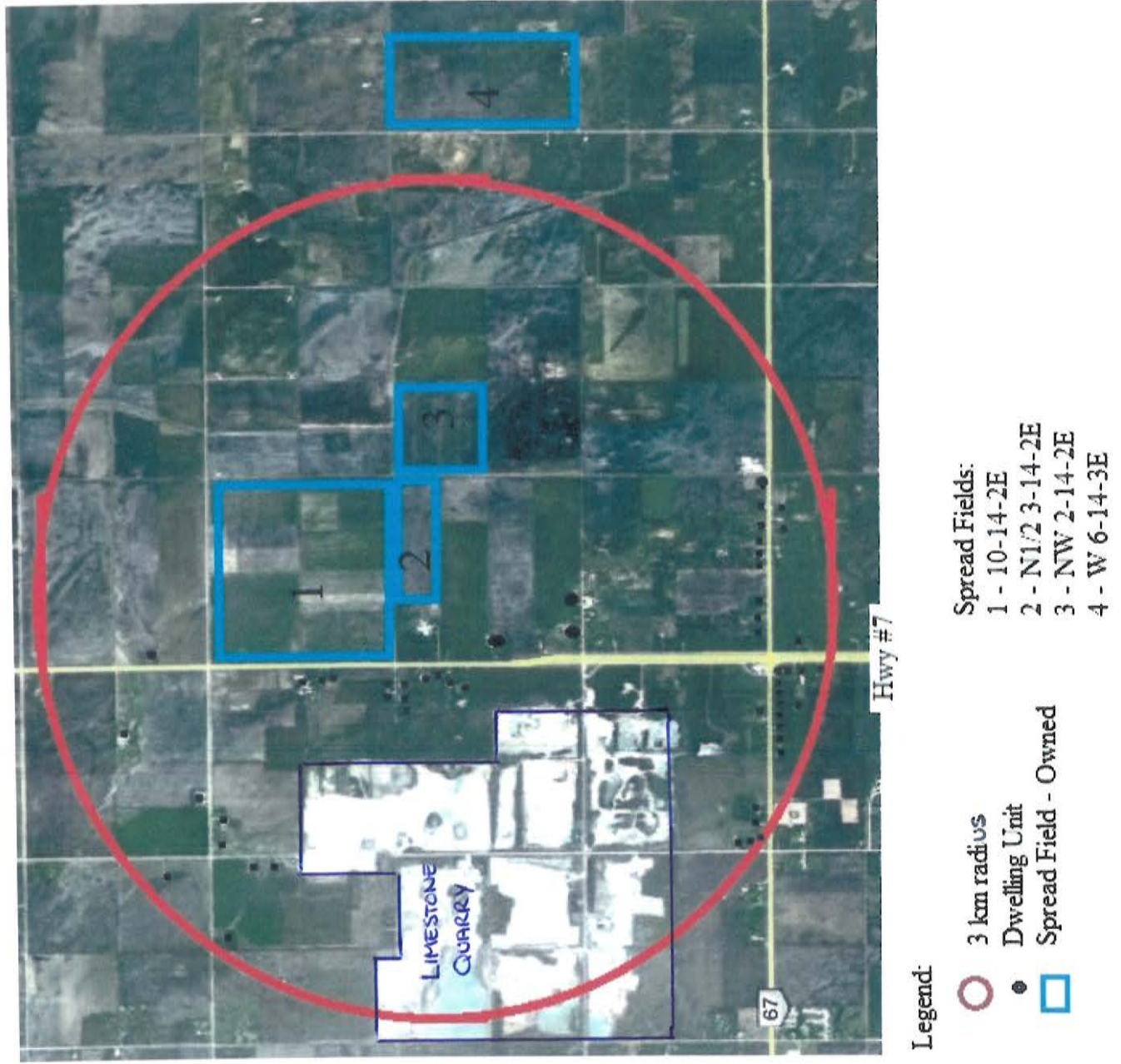
In cases where minimum separation distances are not stated in the zoning bylaw or development plan, the minimum separation distances in the [Provincial Planning Regulation](#) apply.

Show: a) location of the project site, location and ownership of spread fields and c) land uses and significant features (i) within a 3 kilometre 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](#)).

Land Use & Spread Field Map attached



Figure 1: Bogard Dairy



### **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.

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](#).

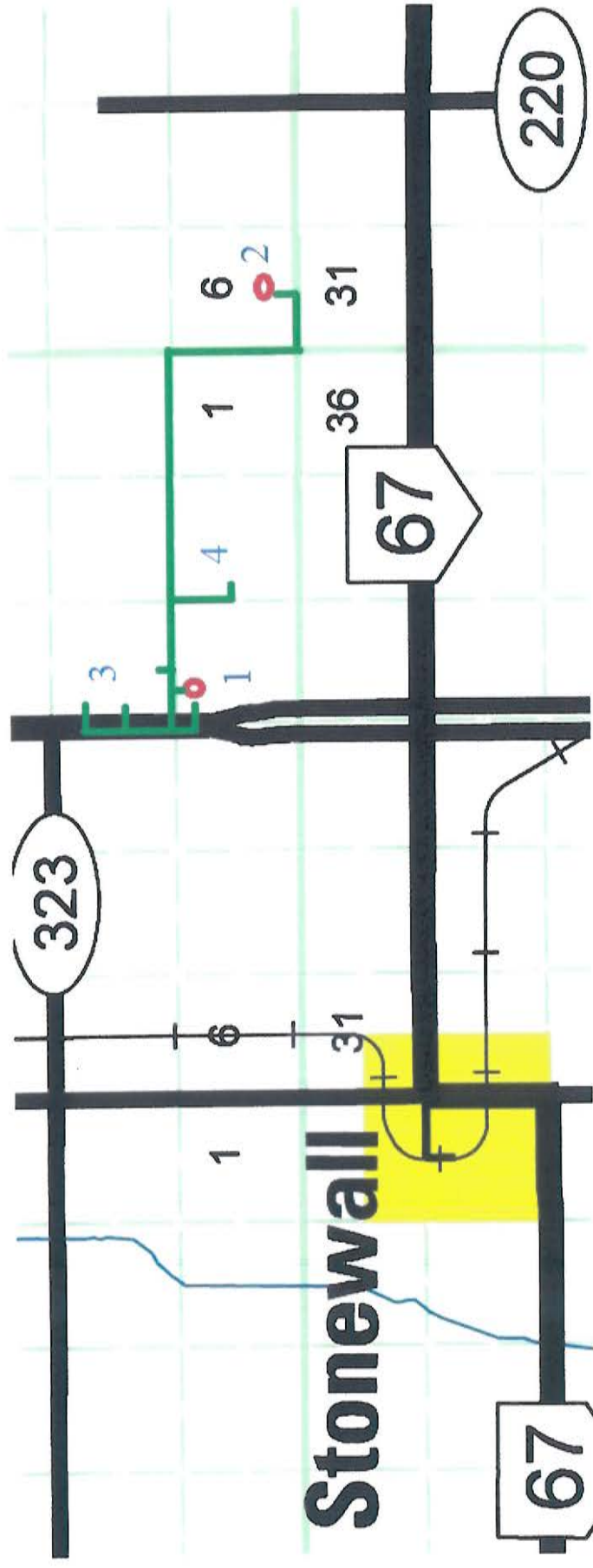
Truck Haul Routes and Access Points Map attached

### **Supporting Documents**

Check off the supporting documents included in this submission:

- Contact Information and Privacy and Publication Notice**
- Location Map** (shows proposed project within rural municipality)
- Animal Unit Calculation Table**
- Water Requirement Calculation Table**
- Manure Storage Calculation Table**
- Existing and Proposed Manure Storage Facility Dimension Tables**  
(if applicable)
- Manure Application Field Characteristics Table**
- 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)
- Land Base Calculator**
- Project Site Plan** (proposed operation showing current and proposed structures)
- 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)
- Truck Haul Routes and Access Points Map** (with routes and access points on municipal/provincial roads and/or provincial trunk highways)

Figure 2: Truck Haul Route



- 1: Home Farm
- 2: Replacement cattle
- Truck Route
- 3: 10-14-2E (Spreadable Acreage)
- 4: NW 2-14-2E (Spreadable Acreage)