

Pig/Operation Type	Storage Type	Volatilization	Animal Numbers (Places)	Weight In (lb)	Weight Out (lb)	Average Animal Wt (lb)	Days on Feed per Cycle (days)	Number of Cycles for the Place per Year (days)	Feed Consumed Per Pig Per Day (kg/day)	Protein %	N Excreted Per Herd Adjusted for Storage N (lb/yr/herd)	Phosphorus Content of Feed (DM) %	P2O5 Excreted Per Herd Per Year (lb/yr/herd)
Gestating Sow	Liquid Uncovered Earthen	30%		447	630	539	121	3	2.3	14%	0	0.53%	0
Nursing Sow	Liquid Uncovered Earthen	30%		539	539	539	21	15.2	6.5	20%	0	0.63%	0
Nursing Litter	Liquid Uncovered Earthen	30%		3.1	13.6	8	21	15.2	0	n/a	0	n/a	0
Live Cull Sow	Liquid Uncovered Earthen	30%		630	630	630	14	26.1	2.3	14%	0	0.46%	0
Bred Gilt	Liquid Uncovered Earthen	30%		340	447	394	121	3	2.3	14%	0	0.53%	0
Gilts (Purchased)	Liquid Uncovered Earthen	30%		290	340	315	28	13.0	3.2	16%	0	0.46%	0
Boars (Purchased)	Liquid Uncovered Earthen	30%		270	660	465	365	1	2.5	14%	0	0.46%	0
Gilt Weanlings	Liquid Uncovered Earthen	30%	700	13.6	61.6	38	52	6.9	0.7	20%	4023	0.64%	2245
Replacement Young Gilts	Liquid Uncovered Earthen	30%	1080	61.6	280	171	112	3	2.8	16%	27982	0.46%	13825
Gilts to Market	Liquid Uncovered Earthen	30%	420	61.6	280	171	112	3	2.8	16%	10882	0.46%	5376
Sows, farrow to 6.2 kg	Liquid Uncovered Earthen	30%	5500	n/a	n/a	n/a	365	1	n/a	n/a	205901	n/a	147820
Sows, farrow to 28 kg	Liquid Uncovered Earthen	30%		n/a	n/a	n/a	365	1	n/a	n/a	0	n/a	0
Sows, farrow to finish	Liquid Uncovered Earthen	30%		n/a	n/a	n/a	365	1	n/a	n/a	0	n/a	0

Last Revised April 13, 2016
CANMARK

Crop	Removal		Uptake		Yield	Units	Acreage	Removal		Uptake
	P205	N	N	Units				P205 (lb)	N (lb)	N (lb)
Alfalfa	13.8	58	58	lb/ton		ton/ac		-	-	-
Barley Grain	0.42	0.97	1.39	lb/bu	66.1	bu/ac	338	9384	21672	31055
Barley Silage	11.8	34.4	34.4	lb/ton		ton/ac		-	-	-
Canola	1.04	1.93	3.19	lb/bu	44.9	bu/ac	829.5	38734	71882	118810
Corn Grain	0.44	0.97	1.53	lb/bu		bu/ac		-	-	-
Corn Silage	12.7	31.2	31.2	lb/ton		tons/ac		-	-	-
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	1.164	tons/ac	72	838	2866	2866
Lentils	1.03	3.39	5.08	lb/cwt		cwt/ac		-	-	-
Oats	0.26	0.62	1.07	lb/bu		bu/ac		-	-	-
Pasture (grazed)	10	34.2	34.2	lb/ton	0.5	ton/ac		-	-	-
Peas	0.69	2.34	3.06	lb/bu	55.5	bu/ac	310.5	11891	40325	52732
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	55.9	bu/ac	668.7	22054	56070	78872
Wheat - Winter	0.51	1.04	1.35	lb/bu	50.7	bu/ac	125.3	3240	6607	8576
Sub Total							2344	86141	199422	292912
Estimated Average Removal/Uptake (lb/ac)								36.7	85.1	125.0
Additional Acres										
Crop Planned on Additional Acres										
Total Acreage							2344			
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	4023	2245
	Growers/finishers/gilts	27982	13825
	Growers/finishers/gilts	10882	5376
	Sows, farrow to 5 kg	205901	147820
	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	0	0
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		248789	169266

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		248789
P2O5		169266
Crop Nutrient Use		lb/ac
Nitrogen Uptake		125.0
P2O5 Removal		36.7
Land Base Requirements		acres
Acres for Nitrogen Uptake		1991
Acres for 2 x P2O5 Removal		2303
Acres for 1 x P2O5 Removal		4606

CROP ROTATION TABLE

A	B	C	D	E
Expected Crops in the Rotation	Acreage	Historical Yield	Units	Source of Yield Information
Spring Wheat	668.7	55.9	Bu/ac	MASC – By Municipality
Winter Wheat	125.3	50.7	Bu/ac	MASC – By soil code due to too few acres by municipality
Canola	829.5	44.9	Bu/ac	MASC – By Municipality
Barley	338	66.1	Bu/ac	MASC – By Municipality
Grass/Alfalfa	72	1.164	T/ac	MASC – By Municipality
Peas	310.5	55.5	Bu/ac	MASC – By Municipality
Total Net Acreage for Manure Application	2344			

- 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.

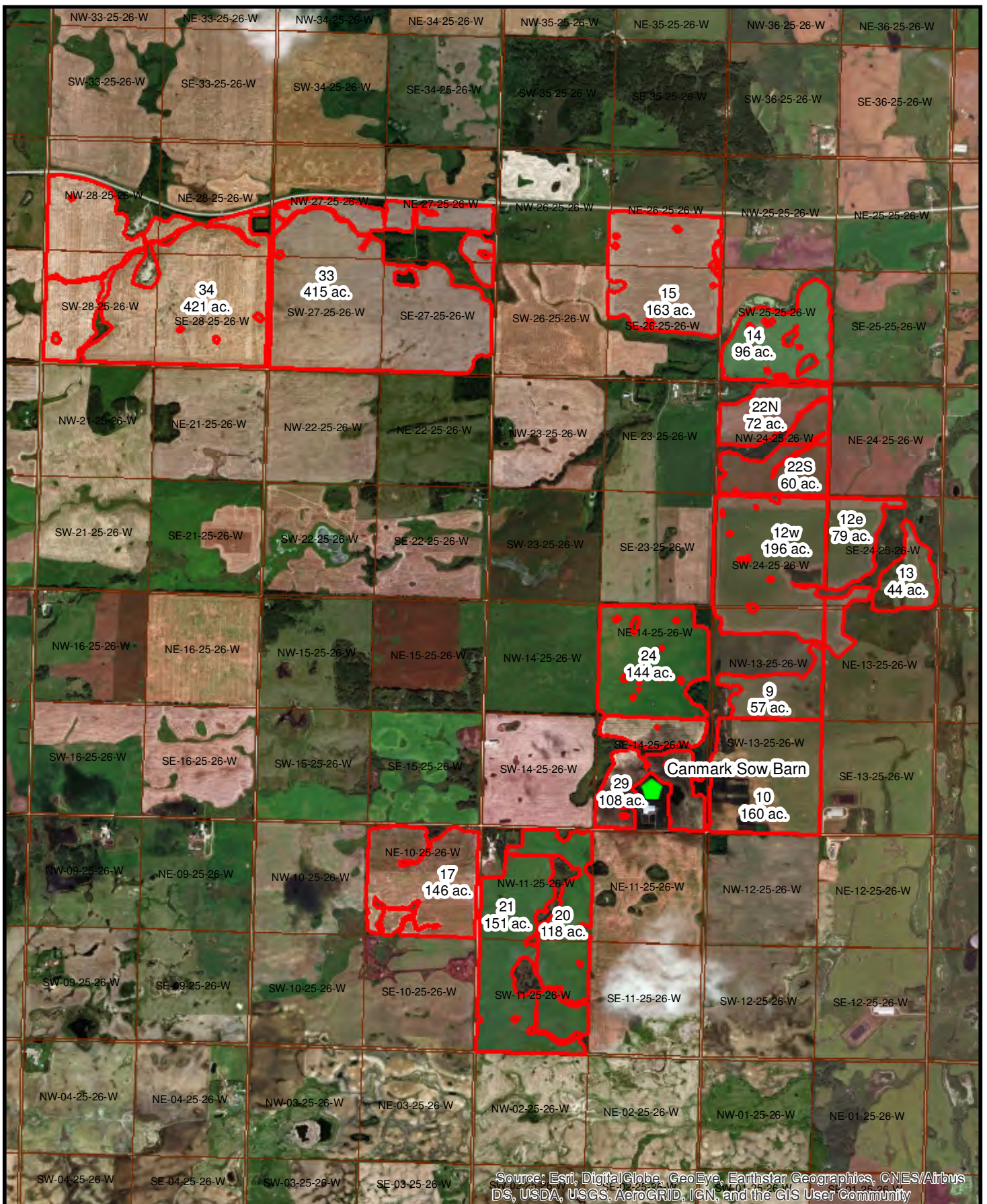
MANURE APPLICATION FIELD CHARACTERISTICS TABLE

Field	A Legal Description	B Rural Municipality	C O/C/L/A	D Total Acreage	E Setbacks, including features	F Net Acreage for Manure Application	G Agriculture Capability Class and Subclass	H Soil Phosphorus (ppm Olsen P) 0-6 inches	I Development Plan Designation	J Zoning
9	NW13-25-26w	Hillsburg	A	57		57	3t, 3x	22	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
10	SW13-25-26w	Hillsburg	A	160	2 order drain	135	3t,3x,6w (24ac)	22	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
12w	SW24-25-26w	Hillsburg	A	196		196	3t, 3x	38	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
12e	SE24-25-26w	Hillsburg	A	79		79	3t, 3x	29	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
13	SE24-25-26w	Hillsburg	A	44		31	3t, 3x, 6t, (13 ac), 3i	30	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
14	SW25-25-26w	Hillsburg	A	96	3 rd order drain	91	3t, 3x, 2t, 2w, 2x	14	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
15	E 26-25-26w	Hillsburg	A	163		163	3x	21	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
17	NE10-25-26w	Hillsburg	A	146	Water feature	142	3t, 3x	8	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
20	eW 11-25-26w	Hillsburg	A	118	Water feature	116	3t, 3x	15	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
21	wW11-25-26w	Hillsburg	A	151		151	3t, 3x	15	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
22N	nNW24-25-26w	Hillsburg	A	72		72	3t, 3x	6	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
22S	sNW24-25-26w	Hillsburg	A	60		60	3t, 3x	9	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
24	NE14-25-26w	Hillsburg	A	144		144	3t, 3x	7	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
29	SE14-25-26w	Hillsburg	O	108	1 st order drain and wet	82	3t, 3x, 6w (23 ac)	7	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
33	S27-28-29w	Hillsburg	A	415	Swamp	405	3x, 3t, 2w, 5w	12	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
34	S28-28-29w	Hillsburg	A	421	Water feature	420	3x, 3t, 2w, 5w	11	By-law 29-05 Rural Policy Area	By-law 03/07 Agriculture General
						2344				

Total Net Acreage for Manure Application:

Note: all Class 6 land has been removed from Column F acre totals. Manure is not to be applied to Class 6 acres.

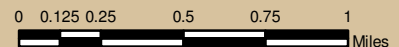
- A. Enter the legal description for each parcel of land that will receive manure: Sec, Twp, Rge or River Lot (including parish).
- B. Identify the Rural Municipality in which the parcel is located. (Note Municipality is Hillsburg-Roblin-Shell River)
- C. Indicate how the land has been secured for manure application: O – Own / C-Crown / L – Lease / A – Agreement. Multiple designations may be used as appropriate (ex. C/A for Crown lands that are under a spread agreement with the producer that holds the agricultural Crown land lease).
- 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 (ex. 8m, Order 3 drain).
- F. Enter the net 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 phosphorus in ppm Olsen P for soil samples taken at the 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.
- I. Indicate the Development Plan and its by-law number in addition to the map designation for each field (ex. By-law #1/2008: AG).
- J. Indicate the Zoning By-law and its by-law number in addition to the zoning for each field (ex. By-law 12/2009: AG 80).



Canmark Sow Barn



Canmark Sow Farm Spread Acres



Coordinate System: Transverse Mercator

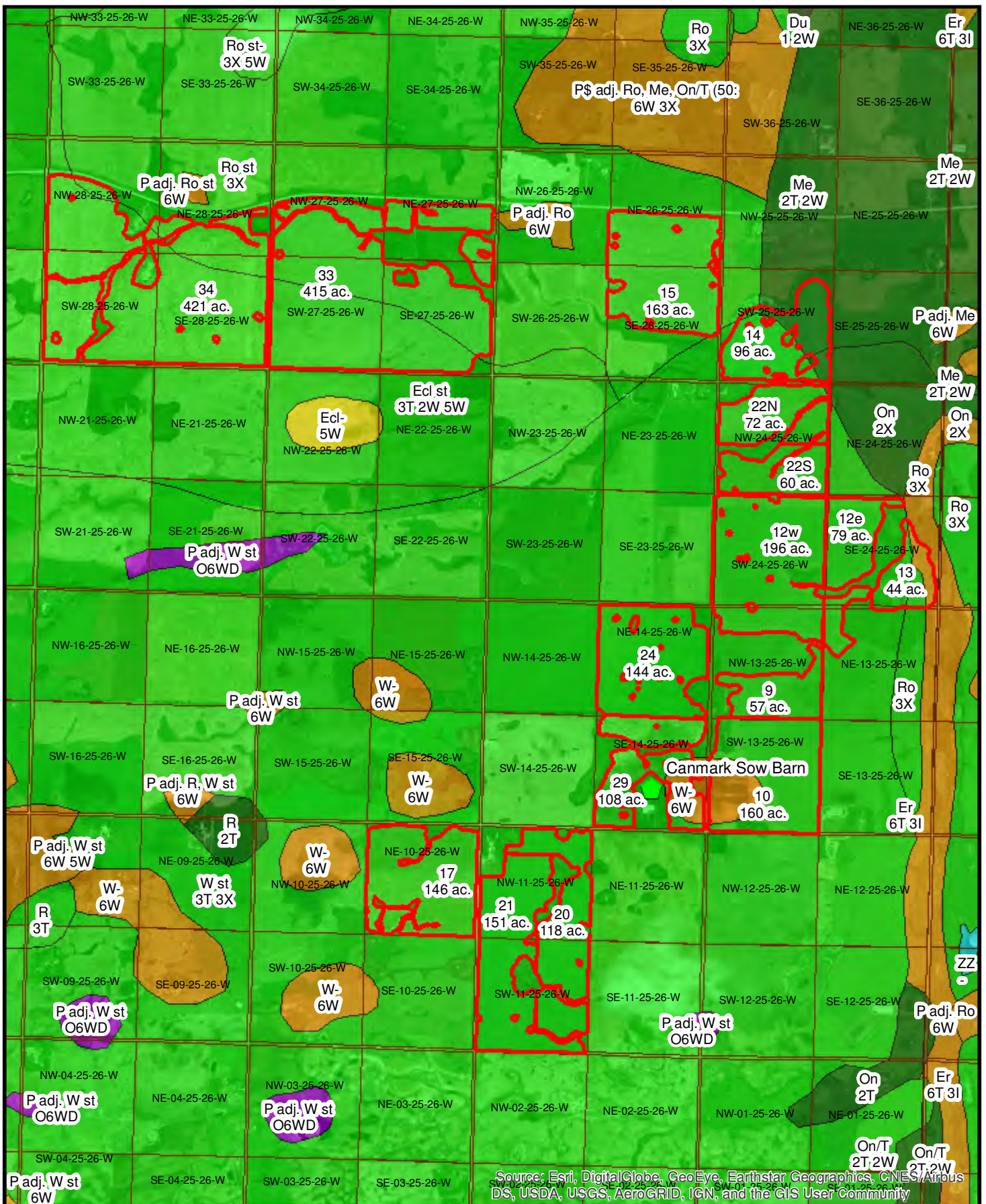
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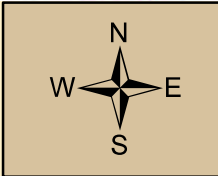
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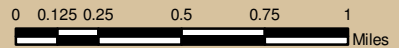




Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

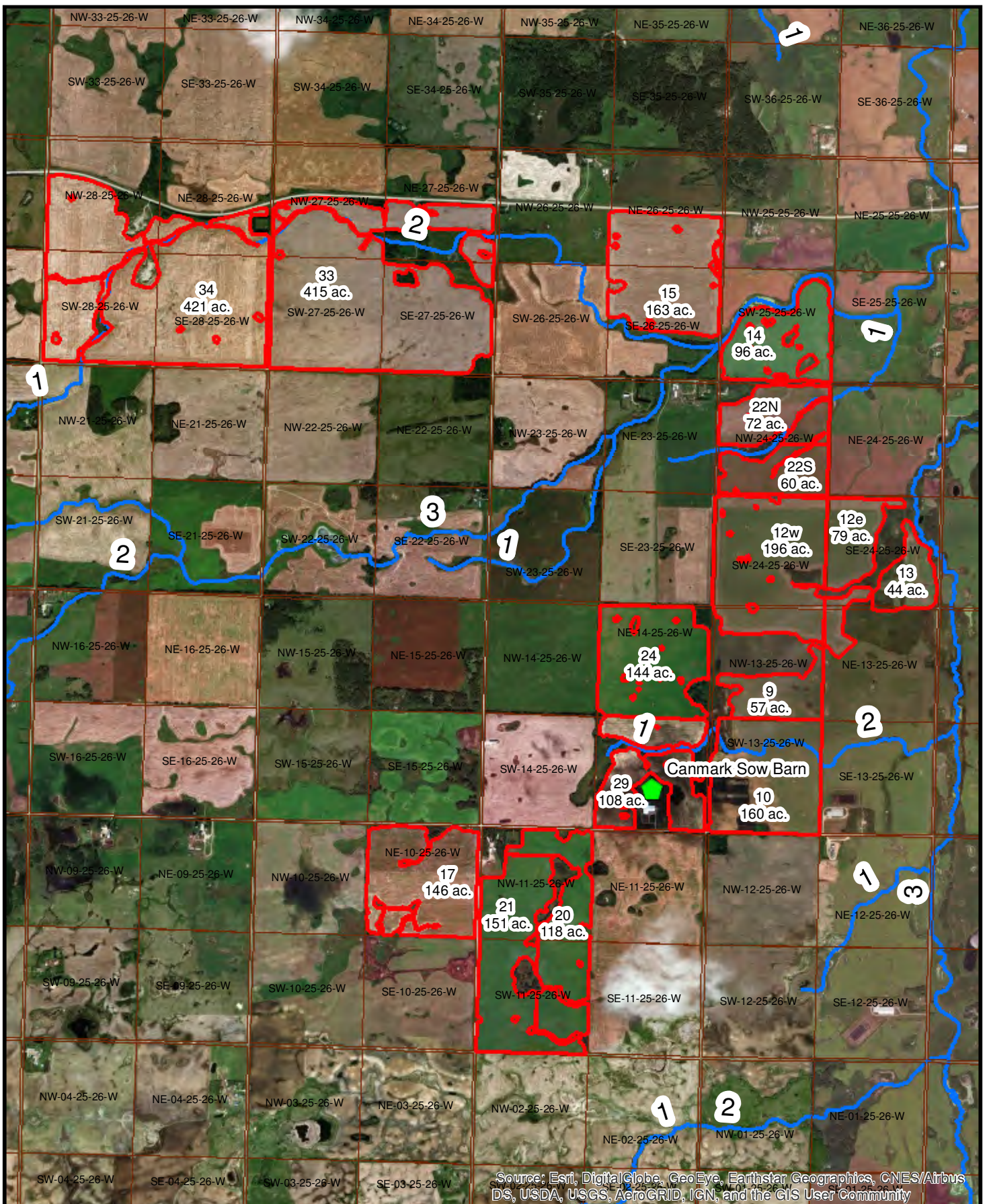


Canmark Sow Farm Soils

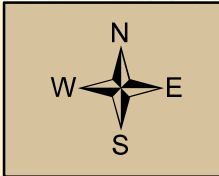


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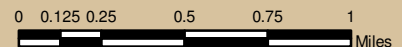




Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Canmark Sow Farm Drains



Coordinate System: Transverse Mercator

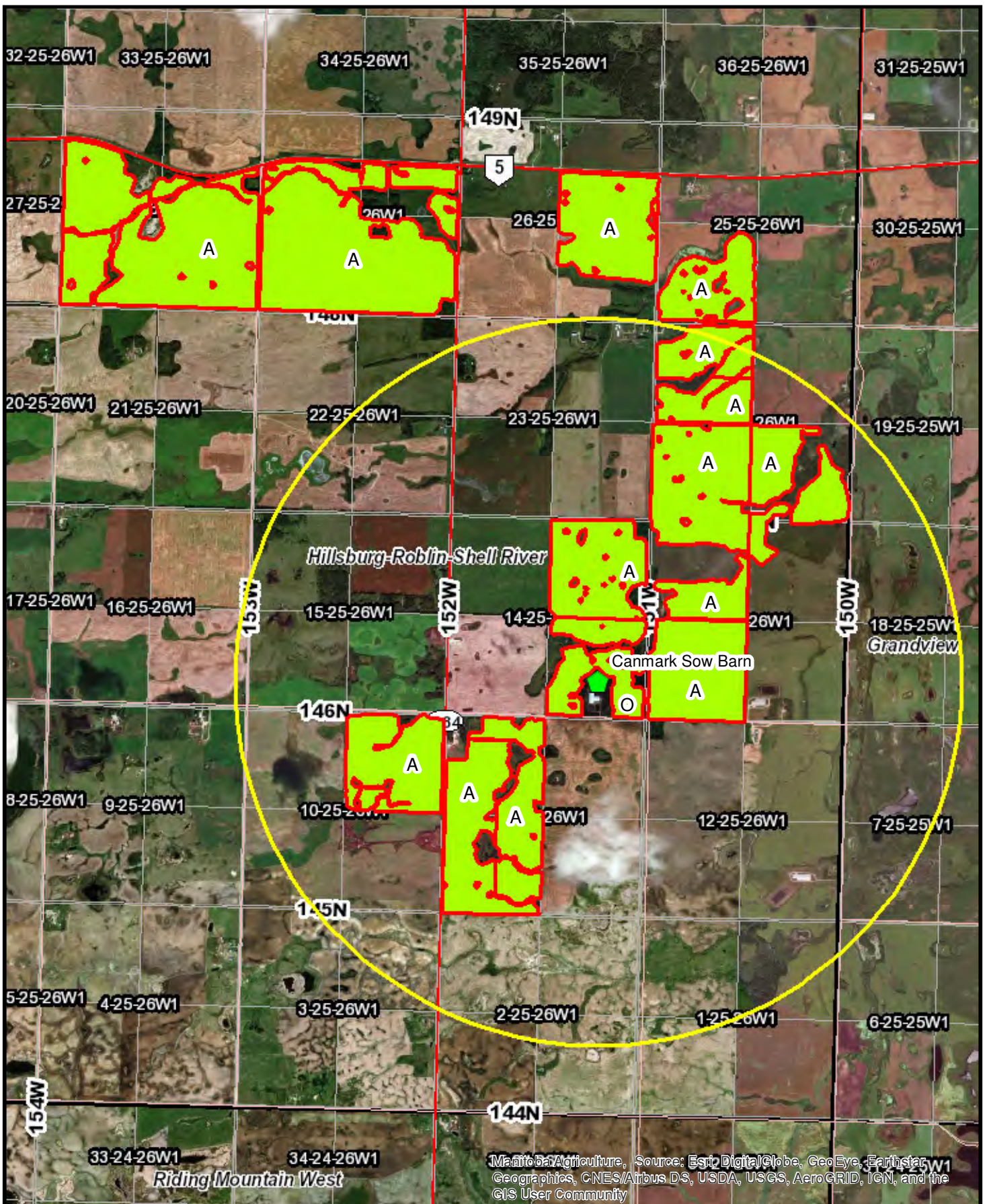
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Latitude of Origin: 0°0'0"





Manitoba Agriculture, Source: Esri, DigitalGlobe, GeoEye, Earthstar
 Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the
 GIS User Community

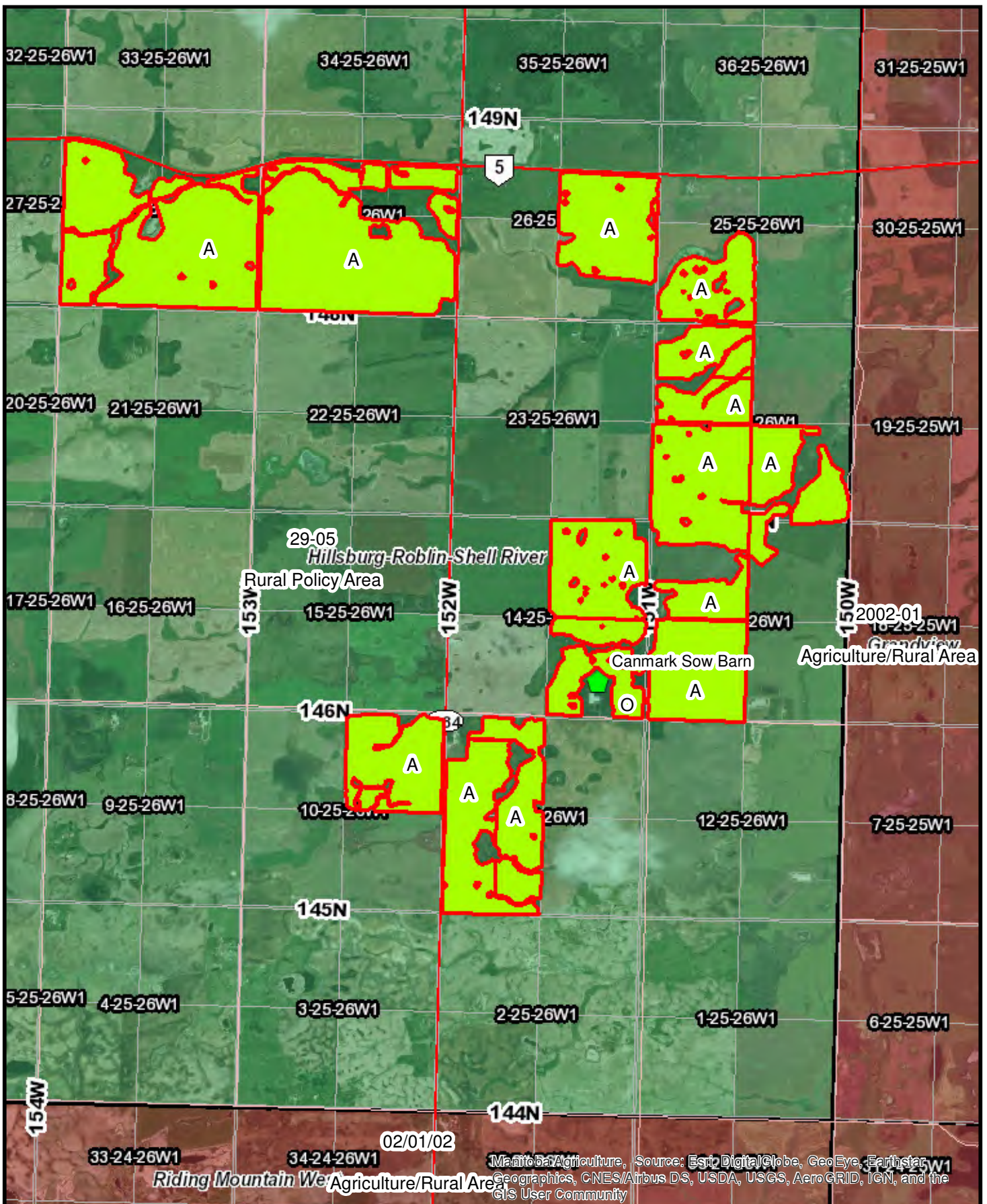


Canmark Sow Farm Land Use

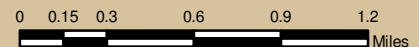
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Miles

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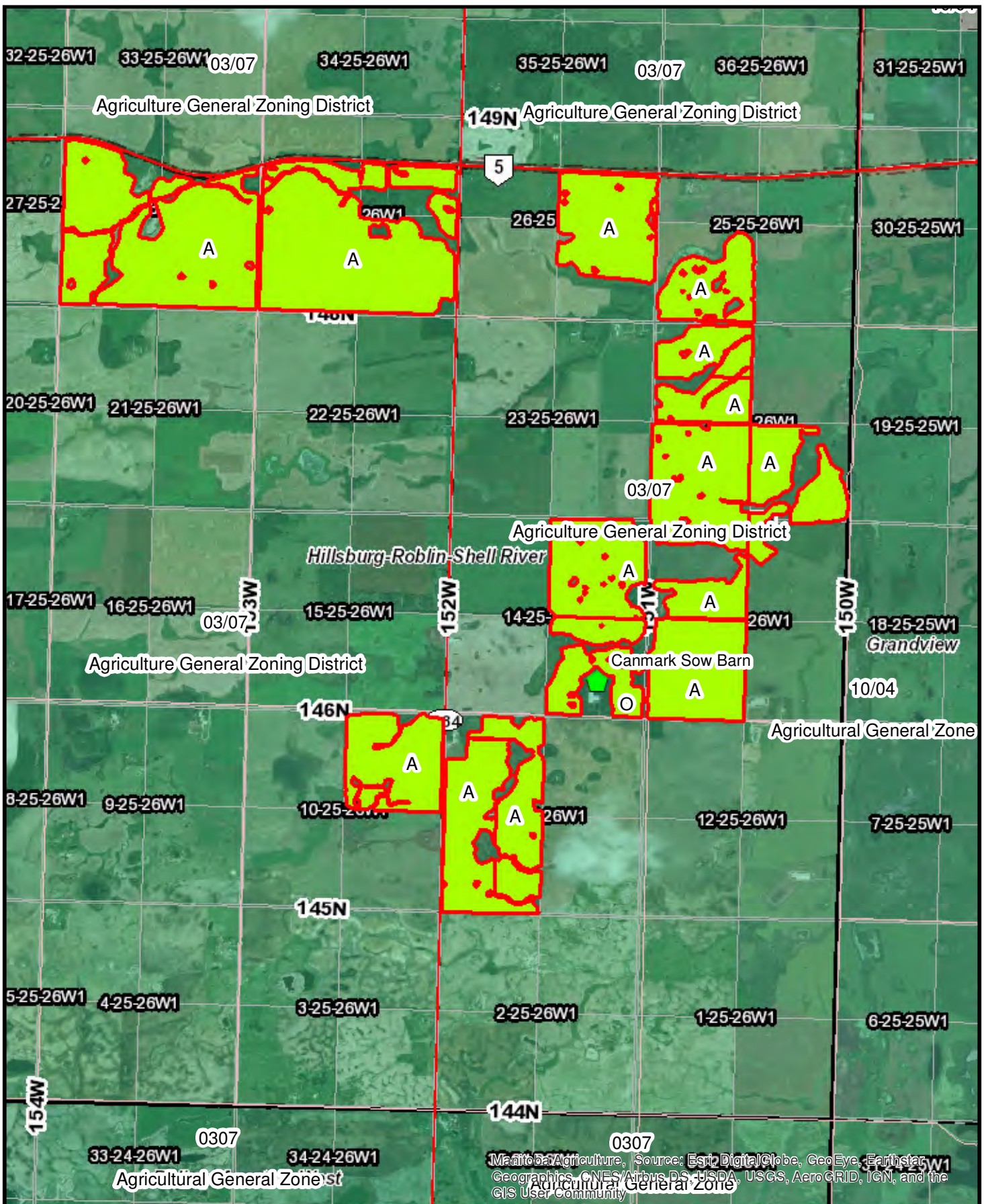


Canmark Sow Farm Land Use - Development Plan

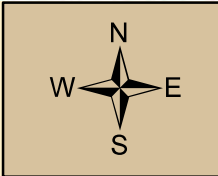


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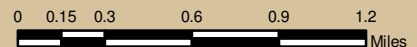




Manitoba Agriculture, Source: Esri, DigitalGlobe, GeoEye, Earthstar
 Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the
 GIS User Community



Canmark Sow Farm Land Use - Zoning



Coordinate System: Transverse Mercator
 Central Meridian: 99°0'0"W
 1st Std Parallel: 0°0'0"
 2nd Std Parallel: 0°0'0"
 Latitude of Origin: 0°0'0"



Canmark Family Farming Ltd.

Box 1198
Roblin, MB
R0L 1P0

Phone: 204-937-4808
Cell: 204-937-0148
Fax: 204-937-4807
Email: henrik@canmark.net

Manure Spreading Agreement

Agreement between Rudy Friesen (Landowner/Land Manager)
and Canmark Family Farming Ltd. (Canmark or Livestock Operator)


Hereby Agree:

The Landowner/Land Manager grants the Livestock Operator full and exclusive rights to apply hog manure onto the described land subject to the following terms and agreements:

1. The Livestock Operator agrees to apply manure nutrients in such a way that complies with Environmental Regulations and general soil fertility recommendations.
2. The Landowner/Manager agrees to allow access to the described land for the purpose of manure application and other related activities.
3. Should the Landowner/Manager decide to sell the land described, he/she shall notify the Livestock Operator.
4. This agreement will remain in effect for a period of 3 years; effective immediately.
5. This agreement is conditional to obtaining all required approvals to construct the Canmark 3700 space Sow to Wean Expansion project at SE 14-25-26 W in the Municipality of Roblin.
6. Manure supplied and applied to cost 70% of the current price of Nitrogen, with farmer supplying 3 price quotes by mid October. Any agreement to spread on land over 1 ½ miles away will result in extra pumping fees. Soil tests to be taken ASAP after harvest and results faxed to Canmark Family Farming 1 week, or soon as possible, before manure is to be applied. The manure cost will be due November 1.

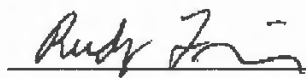
Described Land List:

- NE10-25-26 W1, NW6-25-25 W1, NE24-25-26 W1
SW30-25-25 W1



Henrik Thomsen, Owner/Manager

March 6, 2018
Date signed



(Landowner/Land Manager signature)

Mar. 7, 2018
Date signed

Canmark Family Farming Ltd.

Box 1198
Roblin, MB
R0L 1P0

Phone: 204-937-4808
Cell: 204-937-0140
Fax: 204-937-4807
Email: henrik@canmark.net

Manure Spreading Agreement

Agreement between Lester Goosen (Landowner/Land Manager)
and Canmark Family Farming Ltd. (Canmark or Livestock Operator)

Hereby Agree:

The Landowner/Land Manager grants the Livestock Operator full and exclusive rights to apply hog manure onto the described land subject to the following terms and agreements:

1. The Livestock Operator agrees to apply manure nutrients in such a way that complies with Environmental Regulations and general soil fertility recommendations.
2. The Landowner/Manager agrees to allow access to the described land for the purpose of manure application and other related activities.
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Described Land List:

- W¹/₂ 11-25-26



Henrik Thomsen, Owner/Manager

March 6, 2018
Date signed



(Landowner/Land Manager signature)

March 6, 2018
Date signed

Canmark Family Farming Ltd.

Box 1198
Roblin, MB
R0L 1P0

Phone: 204-937-4808
Cell: 204-937-0140
Fax: 204-937-4807
Email: henrik@canmark.net

Manure Spreading Agreement

Agreement between Bradley Isaac (Landowner/Land Manager)
and Canmark Family Farming Ltd. (Canmark or Livestock Operator)

Hereby Agree:

The Landowner/Land Manager grants the Livestock Operator full and exclusive rights to apply hog manure onto the described land subject to the following terms and agreements:

1. The Livestock Operator agrees to apply manure nutrients in such a way that complies with Environmental Regulations and general soil fertility recommendations.
2. The Landowner/Manager agrees to allow access to the described land for the purpose of manure application and other related activities.
3. Should the Landowner/Manager decide to sell the land described, he/she shall notify the Livestock Operator.
4. This agreement will remain in effect for a period of 3 years; effective immediately.
5. This agreement is conditional to obtaining all required approvals to construct the Canmark 3700 space Sow to Wean Expansion project at SE 14-25-26 W in the Municipality of Roblin.
6. Manure supplied and applied to cost 70% of the current price of Nitrogen, with farmer supplying 3 price quotes by mid October. Any agreement to spread on land over 1 ½ miles away will result in extra pumping fees. Soil tests to be taken ASAP after harvest and results faxed to Canmark Family Farming 1 week, or soon as possible, before manure is to be applied. The manure cost will be due November 1.

Described Land List:

- E ½ of SE 23-25-26 w1, E ½ of NE 23-25-26 w1, NW 24-25-26 w1



Henrik Thomsen, Owner/Manager

Mar 6/18
Date signed



(Landowner/Land Manager signature)

Mar 20/18
Date signed

Canmark Family Farming Ltd.

Box 1198
Roblin, MB
R0L 1P0

Phone: 204-937-4808
Cell: 204-937-0140
Fax: 204-937-4807
Email: henrik@canmark.net

Manure Spreading Agreement

Agreement between Ray Isaac (Landowner/Land Manager)
and Canmark Family Farming Ltd. (Canmark or Livestock Operator)

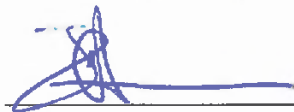
Hereby Agree:

The Landowner/Land Manager grants the Livestock Operator full and exclusive rights to apply hog manure onto the described land subject to the following terms and agreements:

1. The Livestock Operator agrees to apply manure nutrients in such a way that complies with Environmental Regulations and general soil fertility recommendations.
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3. Should the Landowner/Manager decide to sell the land described, he/she shall notify the Livestock Operator.
4. This agreement will remain in effect for a period of 3 years; effective immediately.
5. This agreement is conditional to obtaining all required approvals to construct the Canmark 3700 space Sow to Wean Expansion project at SE 14-25-26 W in the Municipality of Roblin.
6. Manure supplied and applied to cost 70% of the current price of Nitrogen, with farmer supplying 3 price quotes by mid October. Any agreement to spread on land over 1 1/2 miles away will result in extra pumping fees. Soil tests to be taken ASAP after harvest and results faxed to Canmark Family Farming 1 week, or soon as possible, before manure is to be applied. The manure cost will be due November 1.

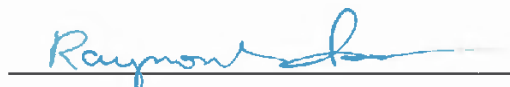
Described Land List:

- NE 14-25-26, W 1/2 of SE 23-25-26, W 1/2 of NE 23-25-26



Henrik Thomsen, Owner/Manager

March 17 - 2018
Date signed



(Landowner/Land Manager signature)

Mar. 14 - 2018
Date signed

Canmark Family Farming Ltd.

Box 1198
Roblin, MB
R0L 1P0

Phone: 204-937-4808
Cell: 204-937-0140
Fax: 204-937-4807
Email: henrik@canmark.net

Manure Spreading Agreement

Agreement between Russell Stedje (Landowner/Land Manager)
and Canmark Family Farming Ltd. (Canmark or Livestock Operator)

Hereby Agree:

The Landowner/Land Manager grants the Livestock Operator full and exclusive rights to apply hog manure onto the described land subject to the following terms and agreements:

1. The Livestock Operator agrees to apply manure nutrients in such a way that complies with Environmental Regulations and general soil fertility recommendations.
2. The Landowner/Manager agrees to allow access to the described land for the purpose of manure application and other related activities.
3. Should the Landowner/Manager decide to sell the land described, he/she shall notify the Livestock Operator.
4. This agreement will remain in effect for a period of 3 years; effective immediately.
5. This agreement is conditional to obtaining all required approvals to construct the Canmark 3700 space Sow to Wean Expansion project at SE 14-25-26 W in the Municipality of Roblin.
6. Manure supplied and applied to cost 70% of the current price of Nitrogen, with farmer supplying 3 price quotes by mid October. Any agreement to spread on land over 1 ½ miles away will result in extra pumping fees. Soil tests to be taken ASAP after harvest and results faxed to Canmark Family Farming 1 week, or soon as possible, before manure is to be applied. The manure cost will be due November 1.

Described Land List:

- SE 11-25-26
- NE 11-25-26

Henrik Thomsen, Owner/Manager

March 6 / 18
Date signed

Russell Stedje

(Landowner/Land Manager signature)

March 20 / 2018 yr.
Date signed

Canmark Family Farming Ltd.

Box 1198
Roblin, MB
R0L 1P0

Phone: 204-937-4808
Cell: 204-937-0140
Fax: 204-937-4807
Email: henrik@canmark.net

Manure Spreading Agreement

Agreement between Misko Farms (Landowner/Land Manager)
and Canmark Family Farming Ltd. (Canmark or Livestock Operator)

Hereby Agree:

The Landowner/Land Manager grants the Livestock Operator full and exclusive rights to apply hog manure onto the described land subject to the following terms and agreements:

1. The Livestock Operator agrees to apply manure nutrients in such a way that complies with Environmental Regulations and general soil fertility recommendations.
2. The Landowner/Manager agrees to allow access to the described land for the purpose of manure application and other related activities.
3. Should the Landowner/Manager decide to sell the land described, he/she shall notify the Livestock Operator.
4. This agreement will remain in effect for a period of 3 years; effective immediately.
5. This agreement is conditional to obtaining all required approvals to construct the Canmark 3700 space Sow to Wean Expansion project at SE 14-25-26 W in the Municipality of Roblin.
6. Manure supplied and applied to cost 70% of the current price of Nitrogen, with farmer supplying 3 price quotes by mid October. Any agreement to spread on land over 1 ½ miles away will result in extra pumping fees. Soil tests to be taken ASAP after harvest and results faxed to Canmark Family Farming 1 week, or soon as possible, before manure is to be applied. The manure cost will be due November 1.

Described Land List:

- attached



Henrik Thomsen, Owner/Manager

Mar 16 - 2018

Date signed



(Landowner/Land Manager signature)

Mar 16 / 2018

Date signed

Legal Land Desc.	Owner Name
SW 1-25-26	Robert Misko
NW 1-25-26	Misko Farms
NE 2-25-26	Misko Farms
SE 2-25-26	Robert Misko
NW 2-25-26	Misko Farms
NE 13-25-26	Misko Farms
NW 13-25-26	Misko Farms
SW 13-25-26	Misko Farms
SW 24-25-26	Misko Farms
SE 24-25-26	Misko Farms
SW 25-25-26	Misko Farms
E1/2 26-25-26	Misko Farms
NE 16-25-26	Misko Farms
NE 21-25-26	Misko Farms
NW 22-25-26	Misko Farms
S 1/2 27-25-26	Misko Farms
S 1/2 28-25-26	Misko Farms
SE,W 1/2 29-25-26	Bailes/Misko Farms

Volume Calculations

Livestock	*Rate (m ³ /day) (imp gal/day)	Current	400 day storage (m ³) (imp gal)	Additional	400 day storage (m ³) (imp gal)	Total Storage (m ³) (imp gal)
Sow (farrow - wean)	0.0227 4.9924	1,800	16,344 3,594,537	3,700	33,596 7,388,770	49,940 10,983,307
Gilts (25-140 kg)	0.0071 1.5615	-	-	1,500	4,260 936,902	4,260 936,902
Weanlings/Nursery	0.0028 0.6158	-	-	700	784 172,425	784 172,425
Total Storage Volume Required:						54,984 12,092,635

*Rate taken from Table 3a: Minimum Manure Storage Volume Requirements from Farm Practices Guidelines for Pig Producers (2007)

Existing Storage	Cell #1		Cell #2		Total Provided	Additional Required
m ³	6,018.75		13,376.50		19,395.25	35,588.75
imp gal	1,323,704		2,941,894		4,265,599	7,827,036

With additional 5% to account for solids accumulation **37,368** m³
 8,218,388 imp gal
 Size from geometry **37,441** m³
 8,234,401 imp gal

Design Details

		Existing		Proposed
		Cell #1	Cell #2	Cell #3
Floor Measurement	Length (m)	22.9	71.9	120.73
	Width (m)	31.1	32.9	67.04
	Inside Slope Ratio	3:1	3:1	3:1
Top Measurement	Length (m)	45.7	93.0	145.69
	Width (m)	54.9	54.9	92.00
	Outside Slope Ratio	5:1	5:1	5:1
Total Depth (incl freeboard) (m)		4.3	3.7	4.16
Freeboard (m)		0.3	0.3	0.5
Storage Capacity (days)		44	97	272
Storage Loading		bottom		

Total Storage Capacity (days) **413**

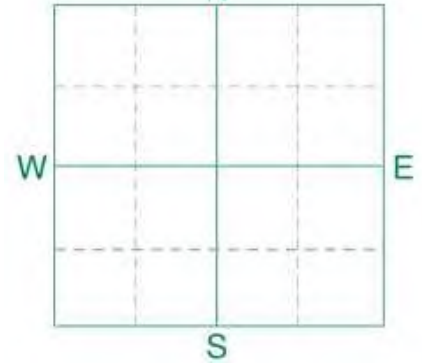


Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID
 SAMPLE ID **W9**
 FIELD NAME
 COUNTY
 TWP **25-26** RANGE
 SECTION **13** QTR **W1/2** ACRES **300**
 PREV. CROP **Wheat-Spring**

Field 9 + 10



SUBMITTED FOR:
ROBERT MISKO

ROBLIN, MB ROL 1P0

SUBMITTED BY: **GI6968**
GILBERT PLAINS COOP
19 GORDON AVE EAST
GILBERT PLAINS, MB ROL 0X0

REF # **19366016** BOX # **0**
 LAB # **NW66199**

Date Sampled **09/11/2017**

Date Received **09/13/2017**

Date Reported **5/18/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6" 13 lb/ac					Canola-bu							
						YIELD GOAL		YIELD GOAL		YIELD GOAL			
						60 BU							
	0-24" 56 lb/ac					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
						Band							
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus	Olsen 22 ppm					N 154		N		N			
Potassium	267 ppm					P ₂ O ₅ 10	Band (Starter)*	P ₂ O ₅		P ₂ O ₅			
Chloride	0-24" 196 lb/ac					K ₂ O 0		K ₂ O		K ₂ O			
Sulfur	0-6" 20 lb/ac					Cl	Not Available	Cl		Cl			
Boron	0-24" 88 lb/ac					S 15	Band	S		S			
Zinc						B		B		B			
Iron						Zn		Zn		Zn			
Manganese						Fe		Fe		Fe			
Copper	2.11 ppm					Mn		Mn		Mn			
Magnesium						Cu 0		Cu		Cu			
Calcium						Mg		Mg		Mg			
Sodium						Lime		Lime		Lime			
Org.Matter						Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)			
Carbonate(CCE)						Buffer pH			% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 0.43 mmho/cm					0-6" 7.7							
	0-24" 0.44 mmho/cm					6-24" 7.9							

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

(may include some points from Pea land on Field 12w)

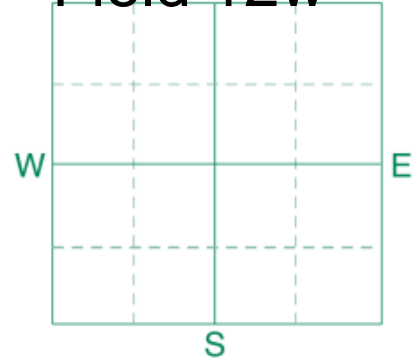


Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **SW 24-25-26**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **160**
 PREV. CROP **Peas-Field**

Field 12w



SUBMITTED FOR:
CANMAR

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **17170073** BOX # **0**
 LAB # **NW20678**

Date Sampled **05/08/2018**

Date Received **05/09/2018**

Date Reported **5/25/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High									
Nitrate	0-6" 6-24"	78 lb/ac 60 lb/ac	*****	*****	*****	*****	Wheat-Spring							
							YIELD GOAL	YIELD GOAL	YIELD GOAL					
	0-24"	138 lb/ac					70 BU							
							SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES					
							Band							
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Phosphorus	Olsen	38 ppm	*****	*****	*****	N	36	N		N				
Potassium		293 ppm	*****	*****	*****	P ₂ O ₅	15	Band (Starter)*	P ₂ O ₅	P ₂ O ₅				
Chloride						K ₂ O	10	Band (Starter)*	K ₂ O	K ₂ O				
Sulfur	0-6" 6-24"	22 lb/ac 66 lb/ac	*****	*****	*****	Cl			Cl	Cl				
Boron						S	0		S	S				
Zinc						B			B	B				
Iron						Zn			Zn	Zn				
Manganese						Fe			Fe	Fe				
Copper						Mn			Mn	Mn				
Magnesium		455 ppm	*****	*****	*****	Cu			Cu	Cu				
Calcium		3386 ppm	*****	*****	*****	Mg	0		Mg	Mg				
Sodium		40 ppm	*****			Lime			Lime	Lime				
Org.Matter		3.6 %	*****											
Carbonate(CCE)						Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
										% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 6-24"	0.57 mmho/cm 0.37 mmho/cm	*****	*****	*****	0-6" 7.1 6-24" 8.0		21.6 meq		(65-75) 78.2	(15-20) 17.5	(1-7) 3.5	(0-5) 0.8	(0-5)

General Comments: Fine Loams (CEC range 21 to 30) (Medium)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 44 K2O = 26 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

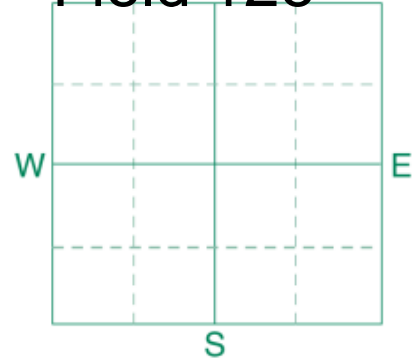


Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **WSE 24-25-26**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **89**
 PREV. CROP **Peas-Field**

Field 12e



SUBMITTED FOR:
CANMAR

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **17170071** BOX # **0**
 LAB # **NW20676**

Date Sampled **05/08/2018**

Date Received **05/09/2018**

Date Reported **5/25/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6" 6-24"	85 lb/ac 57 lb/ac	*****	*****	*****	*****	Wheat-Spring						
							YIELD GOAL	YIELD GOAL	YIELD GOAL				
							70 BU						
	0-24"	142 lb/ac					SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES				
							Band						
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus	Olsen	29 ppm	*****	*****	*****	N	32	N		N			
Potassium		343 ppm	*****	*****	*****	P ₂ O ₅	15	P ₂ O ₅		P ₂ O ₅			
Chloride						K ₂ O	10	K ₂ O		K ₂ O			
Sulfur	0-6" 6-24"	28 lb/ac 54 lb/ac	*****	*****	*****	Cl		Cl		Cl			
Boron						S	5	S		S			
Zinc						B		B		B			
Iron						Zn		Zn		Zn			
Manganese						Fe		Fe		Fe			
Copper						Mn		Mn		Mn			
Magnesium		528 ppm	*****	*****	*****	Cu		Cu		Cu			
Calcium		3348 ppm	*****	*****	*****	Mg	0	Mg		Mg			
Sodium		60 ppm	*****			Lime		Lime		Lime			
Org.Matter		3.7 %	*****										
Carbonate(CCE)													
Sol. Salts	0-6" 6-24"	0.6 mmho/cm 0.45 mmho/cm	*****	*****	*****	Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
						0-6" 7.0 6-24" 8.0		22.3 meq	% Ca	% Mg	% K	% Na	% H
									(65-75) 75.1	(15-20) 19.7	(1-7) 3.9	(0-5) 1.2	(0-5)

General Comments: Fine Loams (CEC range 21 to 30) (Medium)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 44 K2O = 26 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

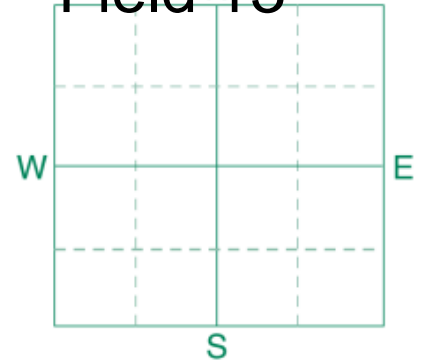


Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **ESE 24-25-26**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **40**
 PREV. CROP **Wheat-Spring**

Field 13



SUBMITTED FOR:
CANMAR

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **17170072** BOX # **0**
 LAB # **NW20677**

Date Sampled **05/08/2018**

Date Received **05/09/2018**

Date Reported **5/25/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice				
		VLow	Low	Med	High											
Nitrate	0-6" 6-24"	86 lb/ac 54 lb/ac					Canola-bu									
							YIELD GOAL			YIELD GOAL			YIELD GOAL			
							55 BU									
	0-24"	140 lb/ac					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			
							Band									
							LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus	Olsen	30 ppm					N	53		N			N			
Potassium		352 ppm					P ₂ O ₅	10	Band (Starter)*	P ₂ O ₅			P ₂ O ₅			
Chloride							K ₂ O	0		K ₂ O			K ₂ O			
Sulfur	0-6" 6-24"	52 lb/ac 66 lb/ac					Cl			Cl			Cl			
Boron							S	10	Band	S			S			
Zinc							B			B			B			
Iron							Zn			Zn			Zn			
Manganese							Fe			Fe			Fe			
Copper							Mn			Mn			Mn			
Magnesium		597 ppm					Cu			Cu			Cu			
Calcium		3525 ppm					Mg	0		Mg			Mg			
Sodium		40 ppm					Lime	0		Lime			Lime			
Org.Matter		4.6 %														
Carbonate(CCE)							Soil pH	Buffer pH	Cation Exchange Capacity			% Base Saturation (Typical Range)				
											% Ca	% Mg	% K	% Na	% H	
Sol. Salts	0-6" 6-24"	0.72 mmho/cm 0.46 mmho/cm					0-6" 6.9 6-24" 8.0		23.7 meq		(65-75) 74.4	(15-20) 21.0	(1-7) 3.8	(0-5) 0.7	(0-5)	

General Comments: Fine Loams (CEC range 21 to 30) (Medium)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

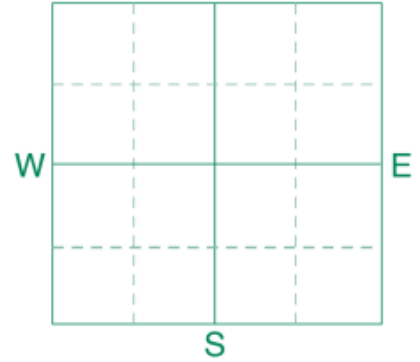


Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **SSW 25-25-26**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **100**
 PREV. CROP **Wheat-Spring**

Field 14



SUBMITTED FOR:
CANMAR

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **17170076** BOX # **0**
 LAB # **NW20681**

Date Sampled **05/08/2018**

Date Received **05/09/2018**

Date Reported **5/25/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High									
Nitrate	0-6" 6-24"	*****				Canola-bu								
	91 lb/ac 57 lb/ac					YIELD GOAL		YIELD GOAL		YIELD GOAL				
	0-24"					55 BU								
	148 lb/ac					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
Band		LB/ACRE		APPLICATION		LB/ACRE		APPLICATION		LB/ACRE		APPLICATION		
Phosphorus	Olsen 14 ppm	*****				N 45		N		N				
Potassium	275 ppm	*****				P ₂ O ₅ 30	Band *	P ₂ O ₅		P ₂ O ₅				
Chloride						K ₂ O 0		K ₂ O		K ₂ O				
Sulfur	0-6" 6-24"	*****				Cl		Cl		Cl				
	26 lb/ac 78 lb/ac	*****				S 15	Band	S		S				
Boron						B		B		B				
Zinc						Zn		Zn		Zn				
Iron						Fe		Fe		Fe				
Manganese						Mn		Mn		Mn				
Copper						Cu		Cu		Cu				
Magnesium	713 ppm	*****				Mg 0		Mg		Mg				
Calcium	5142 ppm	*****				Lime		Lime		Lime				
Sodium	27 ppm	****												
Org.Matter	4.8 %	*****												
Carbonate(CCE)														
Sol. Salts	0-6" 6-24"	*****				Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
	0.61 mmho/cm 0.38 mmho/cm					0-6" 7.4 6-24" 8.1		32.5 meq	% Ca	% Mg	% K	% Na	% H	
										(65-75) 79.2	(15-20) 18.3	(1-7) 2.2	(0-5) 0.4	(0-5)

General Comments: Clays/Clay Loams (CEC range = 30+) (Fine)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50
 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

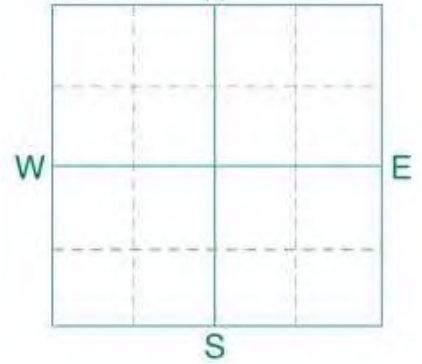


Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID
 SAMPLE ID **W46**
 FIELD NAME
 COUNTY
 TWP **25-26** RANGE
 SECTION **26** QTR **E1/2** ACRES **180**
 PREV. CROP **Canola-bu**

Field_N15



SUBMITTED FOR:
MISKO FARMS

ROBLIN, MB ROL 1P0

SUBMITTED BY: **GI6968**
GILBERT PLAINS COOP
19 GORDON AVE EAST
GILBERT PLAINS, MB ROL 0X0

REF # **19365683** BOX # **0**
 LAB # **NW87289**

Date Sampled **09/26/2017**

Date Received **09/28/2017**

Date Reported **5/18/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
		VLow	Low	Med	High	Peas-Field								
Nitrate	0-6" 6-24"	14 lb/ac 12 lb/ac				YIELD GOAL			YIELD GOAL			YIELD GOAL		
	0-24"	26 lb/ac	*****			50 BU								
						SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
						Band								
						LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION	
Phosphorus	Olsen	21 ppm	*****	*****	N	16		N			N			
Potassium		260 ppm	*****	*****	P ₂ O ₅	13	Band *	P ₂ O ₅			P ₂ O ₅			
Chloride	0-24"	52 lb/ac	*****	*****	K ₂ O	0		K ₂ O			K ₂ O			
Sulfur	0-6" 6-24"	34 lb/ac 66 lb/ac	*****	*****	Cl		Not Available	Cl			Cl			
Boron					S	0		S			S			
Zinc					B			B			B			
Iron					Zn			Zn			Zn			
Manganese					Fe			Fe			Fe			
Copper		1.27 ppm	*****	*****	Mn			Mn			Mn			
Magnesium					Cu	0		Cu			Cu			
Calcium					Mg			Mg			Mg			
Sodium					Lime			Lime			Lime			
Org.Matter					Soil pH			Cation Exchange Capacity			% Base Saturation (Typical Range)			
Carbonate(CCE)					Buffer pH			% Ca	% Mg	% K	% Na	% H		
Sol. Salts	0-6" 6-24"	0.34 mmho/cm 0.31 mmho/cm	*****	*****	0-6"	7.7								
					6-24"	8.2								

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P₂O₅ = 35 K₂O = 36 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

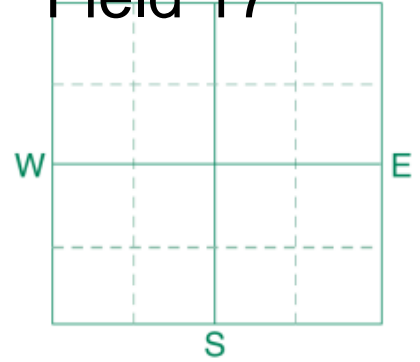


Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NE 10-25-26**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **137**
 PREV. CROP **Wheat-Spring**

Field 17



SUBMITTED FOR:
FRIRUD

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **14095430** BOX # **0**
 LAB # **NW180495**

Date Sampled **11/03/2015**

Date Received **11/05/2015**

Date Reported **5/25/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice							
		VLow	Low	Med	High												
Nitrate	0-6" 6-24"	11 lb/ac 48 lb/ac	*****	*****		Canola-bu											
	0-24"	59 lb/ac				YIELD GOAL		YIELD GOAL			YIELD GOAL						
						40 BU											
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			SUGGESTED GUIDELINES						
						Broadcast											
Olsen Phosphorus	8 ppm	*****	*****														
Potassium	174 ppm	*****	*****	*****													
Chloride																	
Sulfur	0-6" 6-24"	12 lb/ac 30 lb/ac	*****	*****	*****	N	81	N		N							
						P ₂ O ₅	69 Broadcast	P ₂ O ₅		P ₂ O ₅							
Boron					K ₂ O	0	K ₂ O		K ₂ O								
Zinc					Cl		Cl		Cl								
Iron					S	25 Broadcast	S		S								
Manganese					B		B		B								
Copper					Zn		Zn		Zn								
Magnesium	561 ppm	*****	*****	*****	Fe		Fe		Fe								
Calcium	3855 ppm	*****	*****	*****	Mn		Mn		Mn								
Sodium	19 ppm	***			Cu		Cu		Cu								
Org.Matter	3.3 %	*****	*****		Mg	0	Mg		Mg								
Carbonate(CCE)					Lime		Lime		Lime								
Sol. Salts	0-6" 6-24"	0.26 mmho/cm 0.3 mmho/cm	*****	*****	Soil pH	7.8	Buffer pH		Cation Exchange Capacity	24.5 meq	% Base Saturation (Typical Range)						
					0-6"	7.8			% Ca	78.7	% Mg	19.1	% K	1.8	% Na	0.3	% H

General Comments: Texture is not estimated on high pH soils.

Crop 1: Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 36 K2O = 18 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.

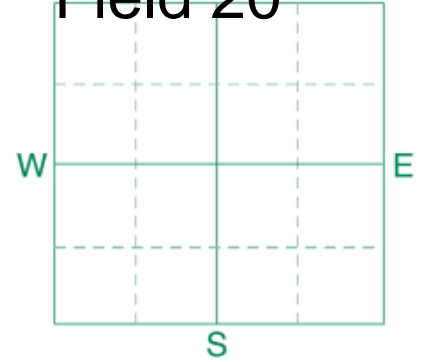


Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **EW 11-25-26**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **160**
 PREV. CROP **Wheat-Spring**

Field 20



SUBMITTED FOR:
CANMAR

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB ROL 1P0

REF # **17170070** BOX # **0**
 LAB # **NW20675**

Date Sampled **05/08/2018**

Date Received **05/09/2018**

Date Reported **5/25/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6"	19 lb/ac				Canola-bu							
	6-24"	42 lb/ac				YIELD GOAL		YIELD GOAL		YIELD GOAL			
			*****			55 BU							
	0-24"	61 lb/ac				SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
						Band							
	Olsen	15 ppm	*****			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus					N	132		N		N			
Potassium		247 ppm	*****										
					P ₂ O ₅	28	Band *	P ₂ O ₅		P ₂ O ₅			
Chloride					K ₂ O	0		K ₂ O		K ₂ O			
	0-6"	28 lb/ac	*****		Cl			Cl		Cl			
Sulfur	6-24"	90 lb/ac	*****		S	15	Band	S		S			
Boron					B			B		B			
Zinc					Zn			Zn		Zn			
Iron					Fe			Fe		Fe			
Manganese					Mn			Mn		Mn			
Copper					Cu			Cu		Cu			
Magnesium		564 ppm	*****		Mg	0		Mg		Mg			
Calcium		3461 ppm	*****		Lime			Lime		Lime			
Sodium		29 ppm	****										
Org.Matter		4.2 %	*****										
Carbonate(CCE)													
	0-6"	0.38 mmho/cm	*****		Soil pH	7.0		Cation Exchange Capacity	% Base Saturation (Typical Range)				
Sol. Salts	6-24"	0.38 mmho/cm	*****		6-24"	7.8		22.8 meq	% Ca	% Mg	% K	% Na	% H
									(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
									76.0	20.6	2.8	0.6	

General Comments: Fine Loams (CEC range 21 to 30) (Medium)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

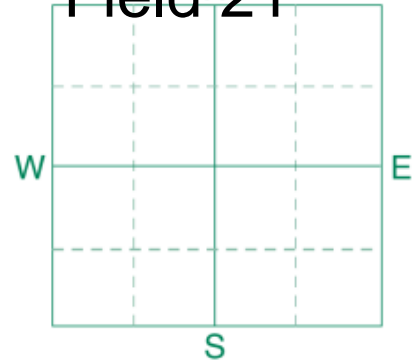


Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NW 11-25-26**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **160**
 PREV. CROP **Canola-bu**

Field N21



SUBMITTED FOR:
CANMAR

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB ROL 1P0

REF # **17170069** BOX # **0**
 LAB # **NW20674**

Date Sampled **05/08/2018**

Date Received **05/09/2018**

Date Reported **5/25/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High	Wheat-Spring		YIELD GOAL		YIELD GOAL				
Nitrate	0-6" 6-24"	32 lb/ac 90 lb/ac	*****	*****	*****	*****	70 BU	YIELD GOAL		YIELD GOAL				
	0-24"	122 lb/ac	*****	*****	*****	*****	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
			*****	*****	*****	*****	Band	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
			*****	*****	*****	*****	LB/ACRE APPLICATION	LB/ACRE APPLICATION	LB/ACRE APPLICATION	LB/ACRE APPLICATION	LB/ACRE APPLICATION			
			*****	*****	*****	*****	N 67	N		N				
Phosphorus	Olsen	15 ppm	*****	*****	*****	P2O5 25	Band *	P2O5		P2O5				
Potassium		188 ppm	*****	*****	*****	K2O 10	Band (Starter)*	K2O		K2O				
Chloride			*****	*****	*****	Cl		Cl		Cl				
Sulfur	0-6" 6-24"	38 lb/ac 66 lb/ac	*****	*****	*****	S 0		S		S				
Boron						B		B		B				
Zinc						Zn		Zn		Zn				
Iron						Fe		Fe		Fe				
Manganese						Mn		Mn		Mn				
Copper						Cu		Cu		Cu				
Magnesium		624 ppm	*****	*****	*****	Mg 0		Mg		Mg				
Calcium		3533 ppm	*****	*****	*****	Lime		Lime		Lime				
Sodium		26 ppm	****											
Org.Matter		3.8 %	*****	*****	*****									
Carbonate(CCE)														
Sol. Salts	0-6"	0.37 mmho/cm	*****	*****	*****	Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
	6-24"	0.36 mmho/cm	*****	*****	*****	0-6" 7.6		23.5 meq	% Ca	% Mg	% K	% Na	% H	
						6-24" 8.1			(65-75) 75.3	(15-20) 22.2	(1-7) 2.1	(0-5) 0.5	(0-5)	

General Comments: Fine Loams (CEC range 21 to 30) (Medium)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 44 K2O = 26 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

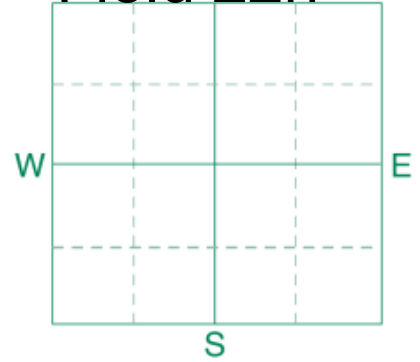


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 (http://www.agvise.com)
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 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **NNW 24-25-26**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **80**
 PREV. CROP **Grass/Pasture**

Field **N22n**



SUBMITTED FOR:
CANMAR

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **17170075** BOX # **0**
 LAB # **NW20680**

Date Sampled **05/08/2018**

Date Received **05/09/2018**

Date Reported **5/25/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High									
Nitrate	0-6" 6-24"	6 lb/ac 6 lb/ac				Wheat-Spring								
			**			YIELD GOAL		YIELD GOAL		YIELD GOAL				
	0-24"	12 lb/ac				70 BU								
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
						Band								
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Phosphorus	Olsen	6 ppm	*****			N	177	N		N				
Potassium		221 ppm	*****			P2O5	46 Band *	P2O5		P2O5				
Chloride						K2O	10 Band (Starter)*	K2O		K2O				
Sulfur	0-6" 6-24"	24 lb/ac 48 lb/ac	*****			Cl		Cl		Cl				
Boron						S	5 Band (Trial)	S		S				
Zinc						B		B		B				
Iron						Zn		Zn		Zn				
Manganese						Fe		Fe		Fe				
Copper						Mn		Mn		Mn				
Magnesium		704 ppm	*****			Cu		Cu		Cu				
Calcium		4497 ppm	*****			Mg	0	Mg		Mg				
Sodium		17 ppm	**			Lime		Lime		Lime				
Org.Matter		4.0 %	*****			Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)				
Carbonate(CCE)						Buffer pH				% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 6-24"	0.37 mmho/cm 0.39 mmho/cm	*****			0-6" 7.4		29.0 meq		(65-75) 77.6	(15-20) 20.2	(1-7) 2.0	(0-5) 0.3	(0-5)

General Comments: Fine Loams (CEC range 21 to 30) (Medium)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 44 K2O = 26 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

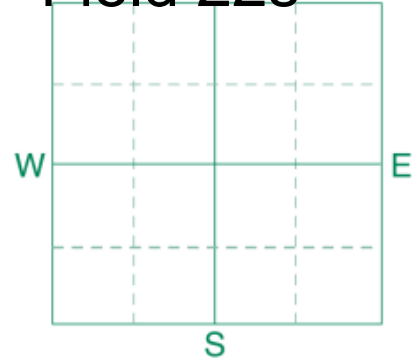


Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **SNW 24-25-26**
 SAMPLE ID
 FIELD NAME
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **80**
 PREV. CROP **Canola-bu**

Field 22s



SUBMITTED FOR:
CANMAR

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **17170074** BOX # **0**
 LAB # **NW20679**

Date Sampled **05/08/2018**

Date Received **05/09/2018**

Date Reported **5/25/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6" 6-24"	17 lb/ac 21 lb/ac	*****				Wheat-Spring						
	0-24"	38 lb/ac					YIELD GOAL	YIELD GOAL	YIELD GOAL				
							70 BU						
							SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES				
							Band						
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus	Olsen	9 ppm	*****										
Potassium		188 ppm	*****			N 151		N		N			
Chloride						P2O5 39	Band *	P2O5		P2O5			
Sulfur	0-6" 6-24"	28 lb/ac 54 lb/ac	*****			K2O 10	Band (Starter)*	K2O		K2O			
Boron						Cl		Cl		Cl			
Zinc						S 5	Band (Trial)	S		S			
Iron						B		B		B			
Manganese						Zn		Zn		Zn			
Copper						Fe		Fe		Fe			
Magnesium		614 ppm	*****			Mn		Mn		Mn			
Calcium		4636 ppm	*****			Cu		Cu		Cu			
Sodium		15 ppm	**			Mg 0		Mg		Mg			
Org.Matter		3.1 %	*****			Lime		Lime		Lime			
Carbonate(CCE)													
Sol. Salts	0-6" 6-24"	0.39 mmho/cm 0.32 mmho/cm	*****			Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
						0-6" 7.6		28.8 meq	% Ca	% Mg	% K	% Na	% H
						6-24" 8.1			(65-75) 80.4	(15-20) 17.7	(1-7) 1.7	(0-5) 0.2	(0-5)

General Comments: Fine Loams (CEC range 21 to 30) (Medium)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 44 K2O = 26 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

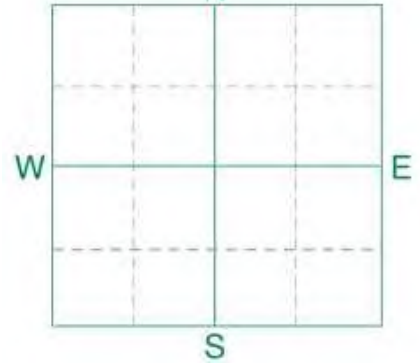


Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID
 SAMPLE ID **P20**
 FIELD NAME
 COUNTY
 TWP **25-26** RANGE
 SECTION **14** QTR **NE** ACRES **150**
 PREV. CROP **Canola-bu**

Field 24



SUBMITTED FOR:
CANMARK FARMS

GRANDVIEW, MB ROL 0Y0

SUBMITTED BY: **GI6968**
GILBERT PLAINS COOP
19 GORDON AVE EAST
GILBERT PLAINS, MB ROL 0X0

REF # **19444714** BOX # **0**
 LAB # **NW19007**

Date Sampled **05/03/2018**

Date Received **05/07/2018**

Date Reported **5/18/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
		VLow	Low	Med	High	Wheat-Spring			Barley-Malting			Canola-bu		
Nitrate	0-6" 20 lb/ac					YIELD GOAL			YIELD GOAL			YIELD GOAL		
	6-24" 33 lb/ac	*****				50 BU			80 BU			50 BU		
	0-24" 53 lb/ac					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
						Band			Band			Band		
						LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION	
Phosphorus	Olsen 7 ppm	*****				N	82		N	71		N	122	
Potassium	165 ppm	*****				P2O5	31	Band *	P2O5	35	Band *	P2O5	45	Band *
Chloride	0-24" 16 lb/ac	*****				K2O	12	Band *	K2O	18	Band *	K2O	5	Band *
Sulfur	0-6" 22 lb/ac	*****				Cl	24	Broadcast	Cl	24	Broadcast	Cl		Not Available
	6-24" 48 lb/ac	*****				S	5	Band (Trial)	S	5	Band (Trial)	S	15	Band
Boron						B			B			B		
Zinc						Zn			Zn			Zn		
Iron						Fe			Fe			Fe		
Manganese						Mn			Mn			Mn		
Copper	1.2 ppm	*****				Cu	0		Cu	0		Cu	0	
Magnesium						Mg			Mg			Mg		
Calcium						Lime			Lime			Lime		
Sodium														
Org.Matter														
Carbonate(CCE)														
						Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)					
									% Ca	% Mg	% K	% Na	% H	
	0-6" 0.34 mmho/cm	*****				0-6" 7.6								
Sol. Salts	6-24" 0.35 mmho/cm	*****				6-24" 8.1								

Crop 1: 52 lbs of 0-0-60 = 24 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 31 K2O = 19 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: 52 lbs of 0-0-60 = 24 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 40 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 3: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

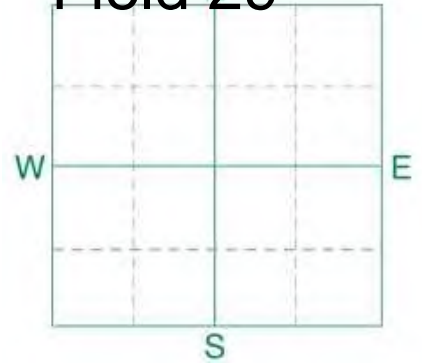


Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID
 SAMPLE ID **P19**
 FIELD NAME
 COUNTY
 TWP **25-26** RANGE
 SECTION **14** QTR **SE** ACRES **120**
 PREV. CROP **Canola-bu**

Field 29



SUBMITTED FOR:
CANMARK FARMS

GRANDVIEW, MB ROL 0Y0

SUBMITTED BY: **GI6968**
GILBERT PLAINS COOP
19 GORDON AVE EAST
GILBERT PLAINS, MB ROL 0X0

REF # **19444713** BOX # **0**
 LAB # **NW19006**

Date Sampled **05/03/2018**

Date Received **05/07/2018**

Date Reported **5/18/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
		VLow	Low	Med	High	Wheat-Spring			Barley-Malting			Canola-bu		
Nitrate	0-6" 6-24"	24 lb/ac 27 lb/ac				YIELD GOAL			YIELD GOAL			YIELD GOAL		
	0-24"	51 lb/ac	*****			50 BU			80 BU			50 BU		
						SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
						Band			Band			Band		
						LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION	
Phosphorus	Olsen	7 ppm	*****			N	84		N	73		N	124	
Potassium		166 ppm	*****			P2O5	31	Band *	P2O5	35	Band *	P2O5	45	Band *
Chloride	0-24"	60 lb/ac	*****			K2O	12	Band *	K2O	18	Band *	K2O	5	Band *
Sulfur	0-6" 6-24"	30 lb/ac 54 lb/ac	*****			Cl	0		Cl	0		Cl		Not Available
Boron						S	5	Band (Trial)	S	5	Band (Trial)	S	15	Band
Zinc						B			B			B		
Iron						Zn			Zn			Zn		
Manganese						Fe			Fe			Fe		
Copper		1.07 ppm	*****			Mn			Mn			Mn		
Magnesium						Cu	0		Cu	0		Cu	0	
Calcium						Mg			Mg			Mg		
Sodium						Lime			Lime			Lime		
Org.Matter						Soil pH			Cation Exchange Capacity			% Base Saturation (Typical Range)		
Carbonate(CCE)						Buffer pH			% Ca	% Mg	% K	% Na	% H	
Sol. Salts	0-6" 6-24"	0.31 mmho/cm 0.27 mmho/cm	*****			0-6" 7.8								
			*****			6-24" 8.3								

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 31 K2O = 19 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 40 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 3: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

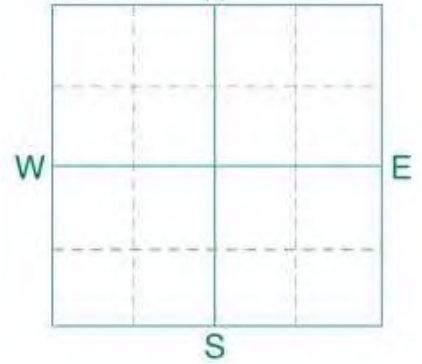


Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID
 SAMPLE ID **W47**
 FIELD NAME
 COUNTY
 TWP **25-26** RANGE
 SECTION **27** QTR **SEC** ACRES **600**
 PREV. CROP **Canola-bu**

Field 33



SUBMITTED FOR:
MISKO FARMS

ROBLIN, MB ROL 1P0

SUBMITTED BY: **GI6968**
GILBERT PLAINS COOP
19 GORDON AVE EAST
GILBERT PLAINS, MB ROL 0X0

REF # **19365684** BOX # **0**
 LAB # **NW87290**

Date Sampled **09/26/2017**

Date Received **09/28/2017**

Date Reported **5/18/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6" 6-24"	18 lb/ac 24 lb/ac				Wheat-High Pro.							
						YIELD GOAL		YIELD GOAL		YIELD GOAL			
	0-24"	42 lb/ac	*****			50 Bu							
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
						Band							
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus	Olsen	12 ppm	*****			N	108	N		N			
Potassium		215 ppm	*****			P2O5	23 Band *	P2O5		P2O5			
Chloride	0-24"	12 lb/ac	*****			K2O	10 Band (Starter)*	K2O		K2O			
Sulfur	0-6" 6-24"	36 lb/ac 54 lb/ac	*****			Cl	28 Broadcast	Cl		Cl			
Boron						S	0	S		S			
Zinc						B		B		B			
Iron						Zn		Zn		Zn			
Manganese						Fe		Fe		Fe			
Copper		0.77 ppm	*****			Mn		Mn		Mn			
Magnesium						Cu	1 Band (Trial)	Cu		Cu			
Calcium						Mg		Mg		Mg			
Sodium						Lime		Lime		Lime			
Org.Matter						Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)			
Carbonate(CCE)						Buffer pH			% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 6-24"	0.33 mmho/cm 0.29 mmho/cm	*****			0-6" 7.6							
			*****			6-24" 8.2							

Crop 1: 61 lbs of 0-0-60 = 28 lbs of Chloride" * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 31 K2O = 19 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

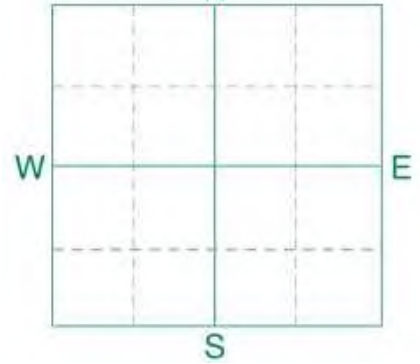


Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID
 SAMPLE ID **W49**
 FIELD NAME
 COUNTY
 TWP **25-26** RANGE
 SECTION **28** QTR **SEC** ACRES **530**
 PREV. CROP **Peas-Field**

Field 34



SUBMITTED FOR:
MISKO FARMS

ROBLIN, MB ROL 1P0

SUBMITTED BY: **GI6968**
GILBERT PLAINS COOP
19 GORDON AVE EAST
GILBERT PLAINS, MB ROL 0X0

REF # **19365686** BOX # **0**
 LAB # **NW87292**

Date Sampled **09/26/2017**

Date Received **09/28/2017**

Date Reported **5/18/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High									
Nitrate	0-6" 15 lb/ac					Canola-bu								
	6-24" 15 lb/ac	*****				YIELD GOAL		YIELD GOAL		YIELD GOAL				
	0-24" 30 lb/ac					50 BU								
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
						Band								
Phosphorus	Olsen 11 ppm	*****	*****	*****	*****	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Potassium	226 ppm	*****	*****	*****	*****	N 130		N		N				
Chloride						P ₂ O ₅ 35	Band *	P ₂ O ₅		P ₂ O ₅				
						K ₂ O 0		K ₂ O		K ₂ O				
Sulfur	0-6" 24 lb/ac	*****	*****	*****	*****	Cl		Cl		Cl				
	6-24" 60 lb/ac	*****	*****	*****	*****	S 15	Band	S		S				
Boron						B		B		B				
Zinc						Zn		Zn		Zn				
Iron						Fe		Fe		Fe				
Manganese						Mn		Mn		Mn				
Copper						Cu		Cu		Cu				
Magnesium						Mg		Mg		Mg				
Calcium						Lime		Lime		Lime				
Sodium														
Org.Matter														
Carbonate(CCE)						Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
								% Ca	% Mg	% K	% Na	% H		
Sol. Salts	0-6" 0.27 mmho/cm	*****				0-6" 7.8								
	6-24" 0.3 mmho/cm	*****				6-24" 8.3								

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

MMPP - Variety Yield Data Browser

Select Municipalities or MASC Risk Areas

Tip: Click or touch the 'X' (at right) in these tip balloons to hide them permanently. ■

Tip: Click or touch the button below to select Municipalities or MASC Risk Areas. ■

Municipalities

Tip: Click or touch in the select boxes (below) to select at least one item from each list. Click or touch the ✕ icon to clear all selected items. ■

HILLSBURG-ROBLIN-SHELL RIVER



Select Crop(s)

Tip: If more than one crop is selected, the Yield Variety Data will be returned, but 'Top Varieties by Acres' and 'Top Varieties by Yield' charts won't be generated. ■

ALFALFA/GRASS MIX.



Select Varieties

All Varieties



Select Year Range



2008

to

2017

Search Summary

78 records returned

787 farm varieties grown on **76,424.0** acres

Average Yield

1.056 Tonnes (**1.164** Tons) per acre

Summary includes aggregate data from 'below minimum tolerance' records

Variety Yield Data

'Below Minimum Tolerance' records contain data from fewer than 3 producers or 500 acres, marked as such to retain producer anonymity. Data from these records is included in the Search Summary totals.

Copy to Clipboard

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Showing 1 to 50 of 78 entries

First Previous Next Last

Year	Risk Area / R.M.	Crop	Variety	Farms	Acres	Yield/acre (Metric)
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (VARIETY TYPE UNKNOWN)	39	4,404.0	1.789 Tonnes
+ 2011	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (VARIETY TYPE UNKNOWN)	31	3,297.0	1.701 Tonnes
+ 2010	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (VARIETY TYPE UNKNOWN)	28	3,147.0	1.661 Tonnes
+ 2008	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (VARIETY TYPE UNKNOWN)	21	1,556.0	1.587 Tonnes
+ 2010	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (ALF & TIM)	11	663.0	1.475 Tonnes
+ 2013	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (ALF & UNKNOWN PERENNIAL GRASS)	5	512.0	1.273 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (ALF & TIM)	11	1,148.0	1.268 Tonnes
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (ALFALFA & BROME)	15	1,510.0	1.177 Tonnes
+ 2008	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (ALF BRM TIM)	7	710.0	1.157 Tonnes
+ 2012	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (VARIETY TYPE UNKNOWN)	31	3,201.0	1.115 Tonnes
+ 2014	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (ALF & UNKNOWN PERENNIAL GRASS)	6	562.0	1.112 Tonnes
+ 2014	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (VARIETY TYPE UNKNOWN)	28	3,192.0	1.093 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	ALFALFA/GRASS MIX.	NO VAR (VARIETY TYPE UNKNOWN)	40	4,814.0	1.091 Tonnes

MMPP - Variety Yield Data Browser

Select Municipalities or MASC Risk Areas

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Municipalities

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HILLSBURG-ROBLIN-SHELL RIVER



Select Crop(s)

Tip: If more than one crop is selected, the Yield Variety Data will be returned, but 'Top Varieties by Acres' and 'Top Varieties by Yield' charts won't be generated. ■

BARLEY



Select Varieties

All Varieties



Select Year Range



2008

to

2017

Search Summary

109 records returned

367 farm varieties grown on **44,784.0** acres

Average Yield

1.439 Tonnes (**66.1** Bushels) per acre

Summary includes aggregate data from 'below minimum tolerance' records

Variety Yield Data

'Below Minimum Tolerance' records contain data from fewer than 3 producers or 500 acres, marked as such to retain producer anonymity. Data from these records is included in the Search Summary totals.

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Showing 1 to 50 of 109 entries

First Previous Next Last

Year	Risk Area / R.M.	Crop	Variety	Farms	Acres	Yield/acre (Metric)
+ 2009	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	CONLON	4	661.0	2.112 Tonnes
+ 2013	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	BENTLEY (TR05669)	4	754.0	2.041 Tonnes
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	BENTLEY (TR05669)	3	522.0	1.961 Tonnes
+ 2013	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	LEGACY (BT950)	6	895.0	1.950 Tonnes
+ 2008	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	CDC YORKTON (BT459)	6	550.0	1.925 Tonnes
+ 2009	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	LEGACY (BT950)	5	575.0	1.890 Tonnes
+ 2013	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	CDC YORKTON (BT459)	15	1,404.0	1.847 Tonnes
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	CDC AUSTENSON (TR06389)	13	1,992.0	1.822 Tonnes
+ 2014	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	BENTLEY (TR05669)	3	626.0	1.790 Tonnes
+ 2015	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	CDC AUSTENSON (TR06389)	8	2,397.0	1.691 Tonnes
+ 2008	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	AC RANGER (EX467-5)	5	646.0	1.636 Tonnes
+ 2009	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	AC METCALFE (TR 232)	8	995.0	1.624 Tonnes
+ 2009	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	CDC YORKTON (BT459)	5	513.0	1.611 Tonnes
+ 2008	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	LEGACY (BT950)	3	1,178.0	1.561 Tonnes
+ 2008	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	NO VAR	3	648.0	1.549 Tonnes
+ 2010	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	CDC YORKTON (BT459)	10	1,041.0	1.487 Tonnes
+ 2015	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	AC METCALFE (TR 232)	5	520.0	1.484 Tonnes
+ 2010	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	CONLON	6	818.0	1.435 Tonnes
+ 2010	HILLSBURG-ROBLIN-SHELL RIVER	BARLEY	CDC COWBOY	8	940.0	1.411 Tonnes

MMPP - Variety Yield Data Browser

Select Municipalities or MASC Risk Areas

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Municipalities

Tip: Click or touch in the select boxes (below) to select at least one item from each list. Click or touch the ✕ icon to clear all selected items. ■

HILLSBURG-ROBLIN-SHELL RIVER



Select Crop(s)

Tip: If more than one crop is selected, the Yield Variety Data will be returned, but 'Top Varieties by Acres' and 'Top Varieties by Yield' charts won't be generated. ■

ARGENTINE CANOLA



Select Varieties

All Varieties



Select Year Range



2008

to

2017

Search Summary

347 records returned

1,862 farm varieties grown on **592,610.0** acres

Average Yield

1.018 Tonnes (**44.9** Bushels) per acre

Summary includes aggregate data from 'below minimum tolerance' records

Variety Yield Data

'Below Minimum Tolerance' records contain data from fewer than 3 producers or 500 acres, marked as such to retain producer anonymity. Data from these records is included in the Search Summary totals.

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Showing 1 to 50 of 347 entries

First Previous Next Last

Year	Risk Area / R.M.	Crop	Variety	Farms	Acres	Yield/acre (Metric)
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	L252 (INVIGOR) (LT)	28	15,895.0	1.342 Tonnes
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	45H75 CL (PIONEER) (ST)	5	697.0	1.308 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	L233P (BAYER) 5CN0130 (LT)	13	5,840.0	1.306 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	L252 (INVIGOR) (LT)	29	10,615.0	1.294 Tonnes
+ 2013	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	46H75 (PIONEER) (ST)	3	540.0	1.292 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	L140P (INVIGOR) (LT)	16	6,193.0	1.282 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	45H33 (PIONEER) (RT)	6	1,316.0	1.273 Tonnes
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	45H33 (PIONEER) (RT)	13	2,014.0	1.265 Tonnes
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	L140P (INVIGOR) (LT)	14	5,406.0	1.257 Tonnes
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	5440 (INVIGOR) PHS04-690 (LT)	19	9,763.0	1.246 Tonnes
+ 2013	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	6060 RR (BRETT YOUNG) (RT)	3	897.0	1.245 Tonnes
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	45H29 (PIONEER) (RT)	5	1,644.0	1.242 Tonnes
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	ARGENTINE CANOLA	75-45 RR (DEKALB) (RT)	3	569.0	1.235 Tonnes

MMPP - Variety Yield Data Browser

Select Municipalities or MASC Risk Areas

Tip: Click or touch the 'X' (at right) in these tip balloons to hide them permanently. ■

Tip: Click or touch the button below to select Municipalities or MASC Risk Areas. ■

Municipalities

Tip: Click or touch in the select boxes (below) to select at least one item from each list. Click or touch the ✕ icon to clear all selected items. ■

HILLSBURG-ROBLIN-SHELL RIVER



Select Crop(s)

Tip: If more than one crop is selected, the Yield Variety Data will be returned, but 'Top Varieties by Acres' and 'Top Varieties by Yield' charts won't be generated. ■

FIELD PEAS



Select Varieties

All Varieties



Select Year Range



2008

to

2017

Search Summary

26 records returned

61 farm varieties grown on **15,274.0** acres

Average Yield

1.509 Tonnes (**55.5** Bushels) per acre

Summary includes aggregate data from 'below minimum tolerance' records

Variety Yield Data

'Below Minimum Tolerance' records contain data from fewer than 3 producers or 500 acres, marked as such to retain producer anonymity. Data from these records is included in the Search Summary totals.

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Showing 1 to 26 of 26 entries

First

Previous

Next

Last

Year	Risk Area / R.M.	Crop	Variety	Farms	Acres	Yield/acre (Metric)
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	ABARTH	3	747.0	1.834 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	CDC AMARILLO	6	3,230.0	1.645 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	CDC MEADOW (653-8)	7	1,809.0	1.582 Tonnes
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	CDC MEADOW (653-8)	8	1,891.0	1.555 Tonnes
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	ABARTH	4	1,246.0	1.392 Tonnes
+ 2015	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	CDC MEADOW (653-8)	5	1,644.0	1.131 Tonnes
+ 2008	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	CDC TUCKER (CDC 1096-8)	Below	Minimum	Tolerance
+ 2008	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	DELTA (CEBECO 1431)	Below	Minimum	Tolerance
+ 2008	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	SW CAPRI (SW955142)	Below	Minimum	Tolerance
+ 2009	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	NO VAR	Below	Minimum	Tolerance
+ 2009	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	NO VAR (MARROWFAT)	Below	Minimum	Tolerance
+ 2010	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	CDC MEADOW (653-8)	Below	Minimum	Tolerance
+ 2010	HILLSBURG-ROBLIN-SHELL RIVER	FIELD PEAS	POLSTEAD (CEB 4132)	Below	Minimum	Tolerance

MMPP - Variety Yield Data Browser

Select Municipalities or MASC Risk Areas

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Tip: Click or touch the button below to select Municipalities or MASC Risk Areas. ■

Municipalities

Tip: Click or touch in the select boxes (below) to select at least one item from each list. Click or touch the ✕ icon to clear all selected items. ■

HILLSBURG-ROBLIN-SHELL RIVER



Select Crop(s)

Tip: If more than one crop is selected, the Yield Variety Data will be returned, but 'Top Varieties by Acres' and 'Top Varieties by Yield' charts won't be generated. ■

RED SPRING WHEAT



Select Varieties

All Varieties



Select Year Range



2008

to

2017

Search Summary

130 records returned

773 farm varieties grown on **317,699.0** acres

Average Yield

1.520 Tonnes (**55.9** Bushels) per acre

Summary includes aggregate data from 'below minimum tolerance' records

Variety Yield Data

'Below Minimum Tolerance' records contain data from fewer than 3 producers or 500 acres, marked as such to retain producer anonymity. Data from these records is included in the Search Summary totals.

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Showing 1 to 50 of 130 entries

First Previous Next Last

Year	Risk Area / R.M.	Crop	Variety	Farms	Acres	Yield/acre (Metric)
+ 2013	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	HARVEST (BW259)	25	10,154.0	2.162 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	AAC ELIE(BW931)	4	1,039.0	2.142 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	AAC REDWATER (PT457)	4	1,141.0	2.123 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	AAC BRANDON (BW 932)	20	8,013.0	2.119 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	HARVEST (BW259)	4	752.0	2.036 Tonnes
+ 2013	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	CARBERRY (BW874)	18	9,140.0	2.012 Tonnes
+ 2013	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	CDC STANLEY (BW880)	17	7,052.0	1.989 Tonnes
+ 2008	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	AC SPLENDOR (BW 191)	4	2,282.0	1.911 Tonnes
+ 2017	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	CDC PLENTIFUL (PT580)	5	4,315.0	1.906 Tonnes
+ 2013	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	CDC UTMOST (BW 883)	10	1,943.0	1.852 Tonnes
+ 2013	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	GLENN	13	7,133.0	1.844 Tonnes
+ 2016	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	CARBERRY (BW874)	6	2,319.0	1.807 Tonnes
+ 2008	HILLSBURG-ROBLIN-SHELL RIVER	RED SPRING WHEAT	INFINITY (BW 799)	6	1,742.0	1.802 Tonnes

MMPP - Fertilizer Data Browser

Select Municipalities or MASC Risk Areas

Tip: Click or touch the 'X' (at right) in these tip balloons to hide them permanently. ■

Tip: Click or touch the button below to select Municipalities or MASC Risk Areas. ■

Risk Areas

Tip: Click or touch in the select boxes (below) to select at least one item from each list. Click or touch the ✖ icon to clear all selected items. ■

RISK AREA 09



Select Crop(s)

WINTER WHEAT



Select Soil Type(s)

SOIL TYPE D, SOIL TYPE E



Select Year Range

1993

1998

2003

2007

2012

2017

2008

to

2017

Search Summary

20 records returned

215 farm varieties grown on **34,251.0** acres

Average Yield

1.380 Tonnes (**50.7** Bushels) per acre

Average Fertilizer Application

Nitrogen: **88.8** lbs per acre

Phosphorus: **33.2** lbs per acre

Potassium: **13.4** lbs per acre

Sulphur: **3.1** lbs per acre

Summary includes aggregate data from 'below minimum tolerance' records

Fertilizer Data

'Below Minimum Tolerance' records contain data from fewer than 3 producers or 500 acres, marked as such to retain producer anonymity. Data from these records is included in the Search Summary totals.

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Showing 1 to 20 of 20 entries

First Previous Next Last

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)	Potassium (lbs)
+ 2016	RISK AREA 09	WINTER WHEAT	D	4	1,332.0	68.1 Bushels	107.5	29.9	0.6
+ 2008	RISK AREA 09	WINTER WHEAT	D	19	2,679.0	63.9 Bushels	87.2	32.2	12.9
+ 2008	RISK AREA 09	WINTER WHEAT	E	16	2,648.0	63.7 Bushels	87.9	33.0	14.5
+ 2013	RISK AREA 09	WINTER WHEAT	D	11	1,902.0	58.0 Bushels	91.4	35.3	21.1
+ 2016	RISK AREA 09	WINTER WHEAT	E	6	1,442.0	57.2 Bushels	95.8	33.7	15.8
+ 2012	RISK AREA 09	WINTER WHEAT	D	31	4,200.0	55.9 Bushels	88.0	35.2	13.5
+ 2012	RISK AREA 09	WINTER WHEAT	E	37	5,939.0	55.4 Bushels	95.7	36.3	18.9
+ 2009	RISK AREA 09	WINTER WHEAT	D	5	1,186.0	47.8 Bushels	79.0	31.7	3.5

BURNS MAENDEL
CONSULTING ENGINEERS LTD.

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



**CANMARK FAMILY
FARMING LTD.
EMS EXPANSION
ROBLIN, MB**



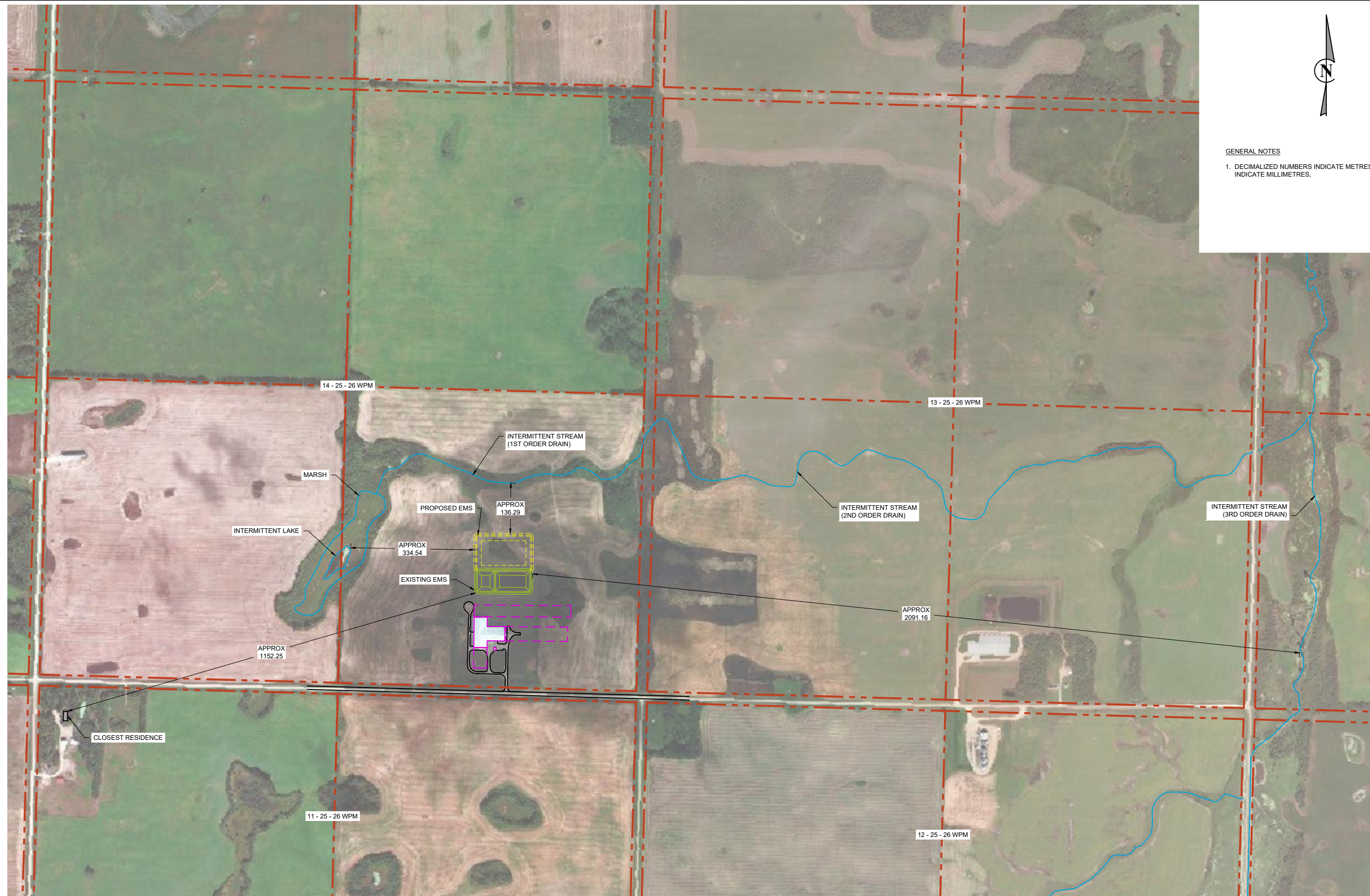
CIVIL DRAWINGS		
DWG NO.	DRAWING NAME	REV
C1.1	AREA PLAN	C
C1.2	PROPOSED SITE PLAN	E
C1.3	PROPOSED EMS CELL PLAN	C

DATE	PROJECT NO:
JUNE 29, 2018	BMCE18-040



GENERAL NOTES

1. DECIMALIZED NUMBERS INDICATE METRES AND WHOLE NUMBERS INDICATE MILLIMETRES.



NO.	DATE	APP.	BY	DESCRIPTION
C	JUNE 29, 2018	D.B.	C.R.	ISSUED FOR TAC REVIEW
B	MAY 24, 2018	D.B.	J.K.	ISSUED FOR PRELIMINARY REVIEW AND COMMENT
A	APR 20, 2018	D.B.	J.K.	ISSUED FOR PRELIMINARY REVIEW AND COMMENT
REVISIONS				

PRELIMINARY
 FOR REVIEW AND COMMENT ONLY

DESIGNED BY: K.D.	REVIEWED BY: D.B.
DRAWN BY: J.K.	
PROJECT START DATE: MAR 2018	
PLOT SIZE: A1 (594x841)	
SCALE: 1:5000	

PROJECT NAME:
CANMARK FAMILY FARMING LTD.
EMS EXPANSION
ROBLIN, MB



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

DRAWING TITLE: AREA PLAN	
PROJECT NUMBER: BMCE18-040	DRAWING NO.: C1.1



GENERAL NOTES
 1. DECIMALIZED NUMBERS INDICATE METRES AND WHOLE NUMBERS INDICATE MILLIMETRES.

NO.	DATE	APP.	BY	DESCRIPTION
E	JUNE 29, 2018	D.B.	C.R.	ISSUED FOR TAC REVIEW
D	MAY 24, 2018	D.B.	J.K.	ISSUED FOR PRELIMINARY REVIEW AND COMMENT
C	APR 20, 2018	D.B.	J.K.	GENERAL REVISIONS - ISSUED FOR PRELIMINARY REVIEW AND COMMENT
B	APR 18, 2018	D.B.	J.K.	REVISED VOL. - ISSUED FOR PRELIMINARY REVIEW AND COMMENT
A	APR 17, 2018	D.B.	J.K.	ISSUED FOR PRELIMINARY REVIEW AND COMMENT
REVISIONS				

PRELIMINARY
 FOR REVIEW AND COMMENT ONLY

DESIGNED BY:
K.D.

REVIEWED BY:
D.B.

DRAWN BY:
J.K.

PROJECT START DATE:
MAR 2018

PLOT SIZE:
A1 (594x841)

SCALE:
1:1000

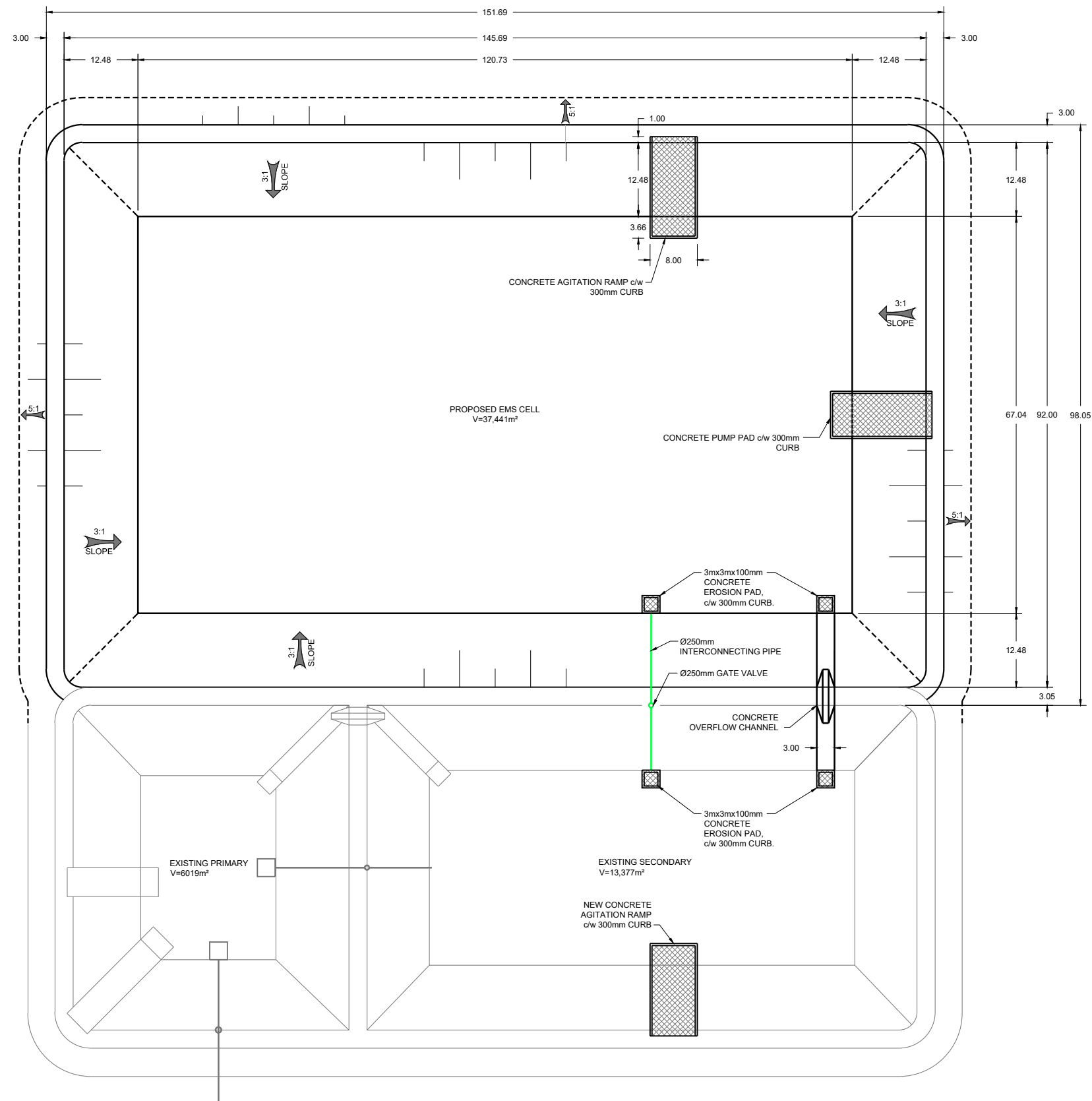
PROJECT NAME:
CANMARK FAMILY FARMING LTD.
EMS EXPANSION
ROBLIN, MB

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

DRAWING TITLE:
PRELIMINARY SITE PLAN

PROJECT NUMBER:
BMCE18-040

DRAWING NO.:
C1.2



GENERAL NOTES


1. DECIMALIZED NUMBERS INDICATE METRES AND WHOLE NUMBERS INDICATE MILLIMETRES.
2. ESTIMATED MANURE PRODUCTION HAS BEEN CALCULATED AS PER "FARM PRACTICES GUIDELINES FOR PIG PRODUCERS IN MANITOBA" (2007) FOR EXPANSION TO 5500 SOWS FARROW TO FINISH, 1500 GILTS AND 700 WEANLINGS.
3. STORAGE STRUCTURE DESIGN INCLUDES RESERVE CAPACITY TO CONTAIN A MAJOR RAIN EVENT. DESIGN FREEBOARD IS 0.5m.
4. DESIGN STORAGE CAPACITY FOR TOTAL NETWORK IS 413 DAYS.

NO.	DATE	APP.	BY	DESCRIPTION
C	JUNE 29, 2018	D.B.	C.R.	ISSUED FOR TAC REVIEW
B	MAY 24, 2018	D.B.	J.K.	ISSUED FOR PRELIMINARY REVIEW AND COMMENT
A	APR 20, 2018	D.B.	J.K.	ISSUED FOR PRELIMINARY REVIEW AND COMMENT
REVISIONS				

PRELIMINARY
 FOR REVIEW AND COMMENT ONLY

DESIGNED BY: K.D.
 REVIEWED BY: D.B.
 DRAWN BY: J.K.
 PROJECT START DATE: MAR 2018
 PLOT SIZE: A1 (594x841)
 SCALE: 1:400

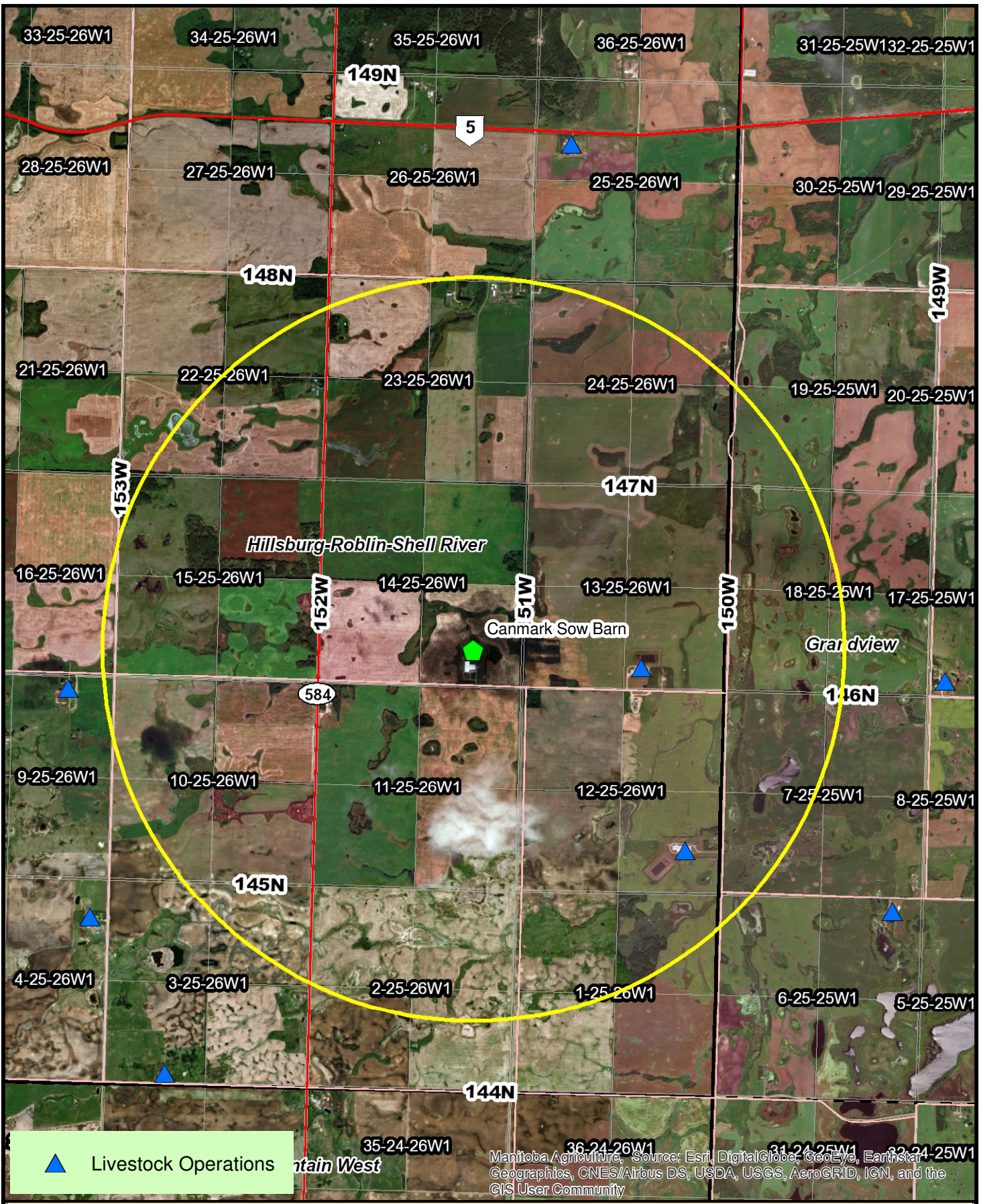
PROJECT NAME:
CANMARK FAMILY FARMING LTD.
EMSF EXPANSION
ROBLIN, MB


BURNS MAENDEL
 CONSULTING ENGINEERS LTD.

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

DRAWING TITLE:
PROPOSED EMS CELL PLAN

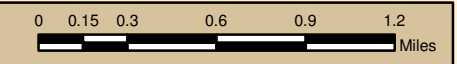
PROJECT NUMBER: **BMCE18-040**
 DRAWING NO.: **C1.3**



Manitoba Agriculture, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

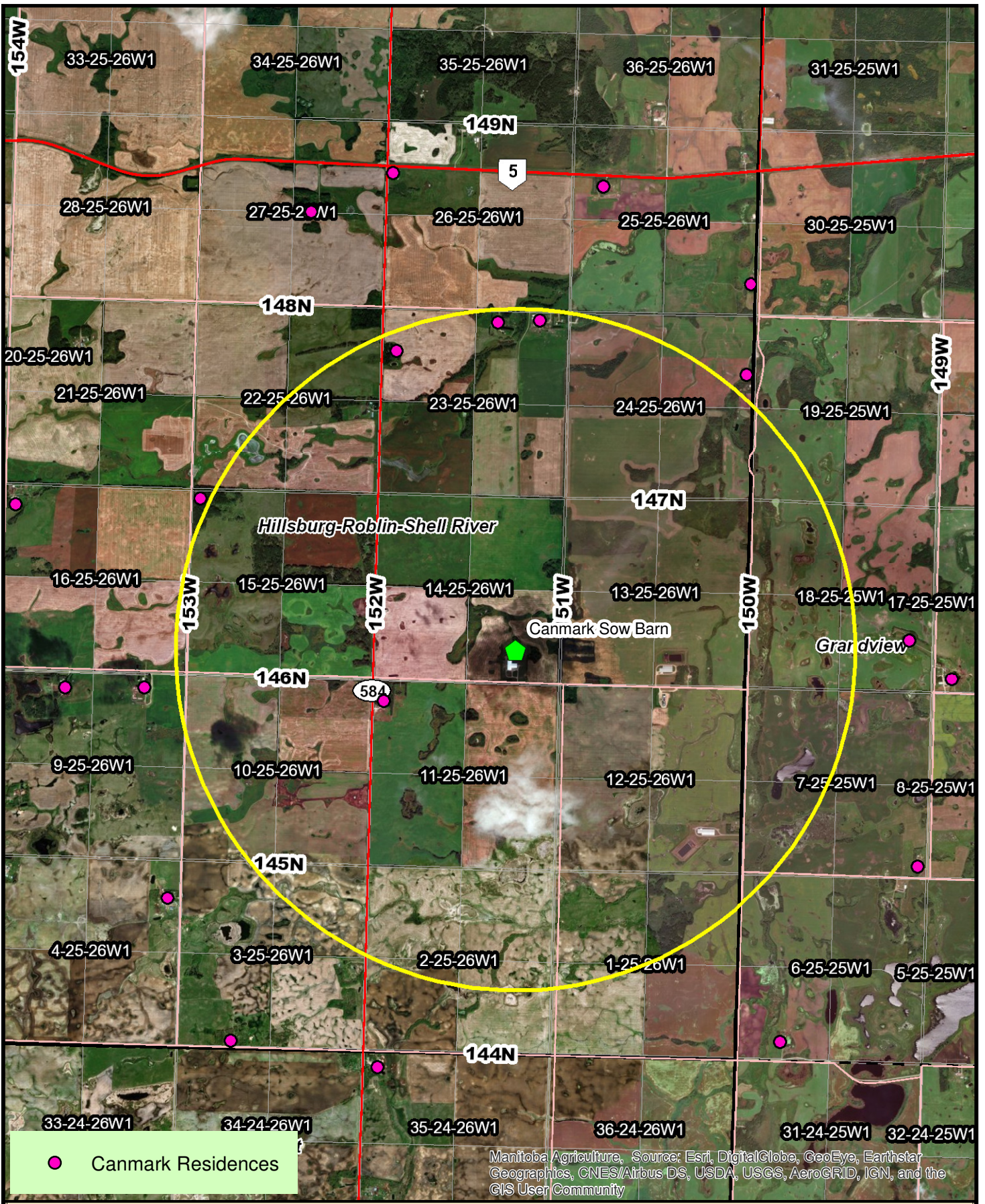


Canmark Sow Farm Livestock Operations Map



Coordinate System: Transverse Mercator
 Central Meridian: 99°0'0"W
 1st Std Parallel: 0°0'0"
 2nd Std Parallel: 0°0'0"
 Latitude of Origin: 0°0'0"

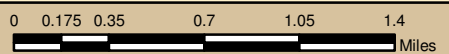




Manitoba Agriculture, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Canmark Sow Farm Residence Map



Coordinate System: Transverse Mercator
 Central Meridian: 99°0'0"W
 1st Std Parallel: 0°0'0"
 2nd Std Parallel: 0°0'0"
 Latitude of Origin: 0°0'0"



From: Friesen, Chris (SD)
Sent: April 16, 2018 9:29 AM
To: Peter Mah
Subject: (Canmark Family Farming Sow Farrow to Isowean Expansion Project

Peter

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 Sustainable Development.

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/sd/cdc/

Animal Units Calculator

A	B	C	Current Operation		Proposed Operation	
			D	E	F	G
Operation Type	Animal Categories	Animal Units per Head	Current Number of Animals ¹	Current Animal Units	Proposed Number of Animals ²	Proposed Number of Animal Units
Dairy ³	Mature cows (lactating and dry) including associated livestock	2		-		-
	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 weaning (up to 11 lbs)	0.25	1,800	450	3,700	925
	Sows - farrow to nursery (51 lbs)	0.313		-		-
	Boars (artificial insemination units)	0.2		-		-
	Weanlings, Nursery (11-51 lbs)	0.033		-	700	23
	Growers / Finishers (51-249 lbs)	0.143		-	1,500	215
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 Current:				450	Total Proposed:	1,163

Footnotes:

¹ Enter the current number of animals on the farm based on the operation's capacity (animal places) or previous Conditional Use Approval.

² Enter the total number of animals associated with the operation post construction or expansion.

³ 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 the Manitoba Agriculture Contacts](#)



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) (F x G x H)	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				-	0.0
			Solid	3.4				-	
			Liquid ⁵	3.5				-	0.0
	Tie Stall		Semi-Solid ⁵	3.6				-	0.0
			Solid	3.5				-	
			Liquid ⁵	3.6				-	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	0.8	400.00	5,500	1,760,000.00	10,964,800.0
	Sows - farrow to nursery (51 lbs)		Liquid	1				-	0.0
	Weanlings, Nursery (11 - 51 lbs)		Liquid	0.1	0.1	400.00	700	28,000.00	174,440.0
	Grower / Finisher (51 - 249 lbs)		Liquid	0.25	0.25	400.00	1,500	150,000.00	934,500.0
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 ⁶			0.99				-	
	Roasters – floor ⁶			1.16				-	
	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 ⁶			0.75				-	
	Pullets – solid pack ⁹							-	
Turkeys	Broilers ⁶	Table 3, pg 85, FPGs for Poultry 2000		2.83				-	
	Heavy toms ⁶			5.58			-		
	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 column 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 300 days.
- 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/ft³
- 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/ft³
- ⁸ Manure removed from barn at 90% moisture content with a density of 59 lb/ft³
- ⁹ Poultry operations using litter (solid pack) must provide an estimate of yearly manure production

Water Requirement Calculation Table

Livestock	Number	IG/day per animal in winter	IG/day per animal in summer	IG/day (Imperial gallons per day)
Beef/Dairy/Bison *				
Feeder/heifer/steer (600 lb.)		5	9	-
Feeder (900 lb.)		7	12	-
Feeder (1250 lb.)		10	15	-
Cow/calf pair		12	15	-
Dry milking cow **		10	12	-
Lactating cow **		25	30	-
Bison		8	10	-
Horses				
Horses		8	11	-
Hogs				
Sow (Farrow/wean)	3,700	6.5		24,050
Dry Sow/Boar		4		-
Feeder	1,500	3		4,500
Nursery (33 lb.)	700	2		1,400
Chickens				
Broilers		0.035		-
Roasters/Pullets		0.04		-
Layers		0.055		-
Breeders		0.07		-
Turkeys				
Turkey Growers		0.13		-
Turkey Heavies		0.16		-
Sheep/Goats				
Sheep/Goats		2		-
Ewes/Does		3		-
Lambs/Kids (90 lb.)		1.6		-
TOTAL (IG/day)				29,950
TOTAL with 10% wash water				32,945

* 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.

** For intensive Dairy operations, please use the Dairy Barn Water Requirement Estimator found on separate sheet.

Enter this number on page 7 of Application Form.

*** 10% of the total is added to allow for wash water

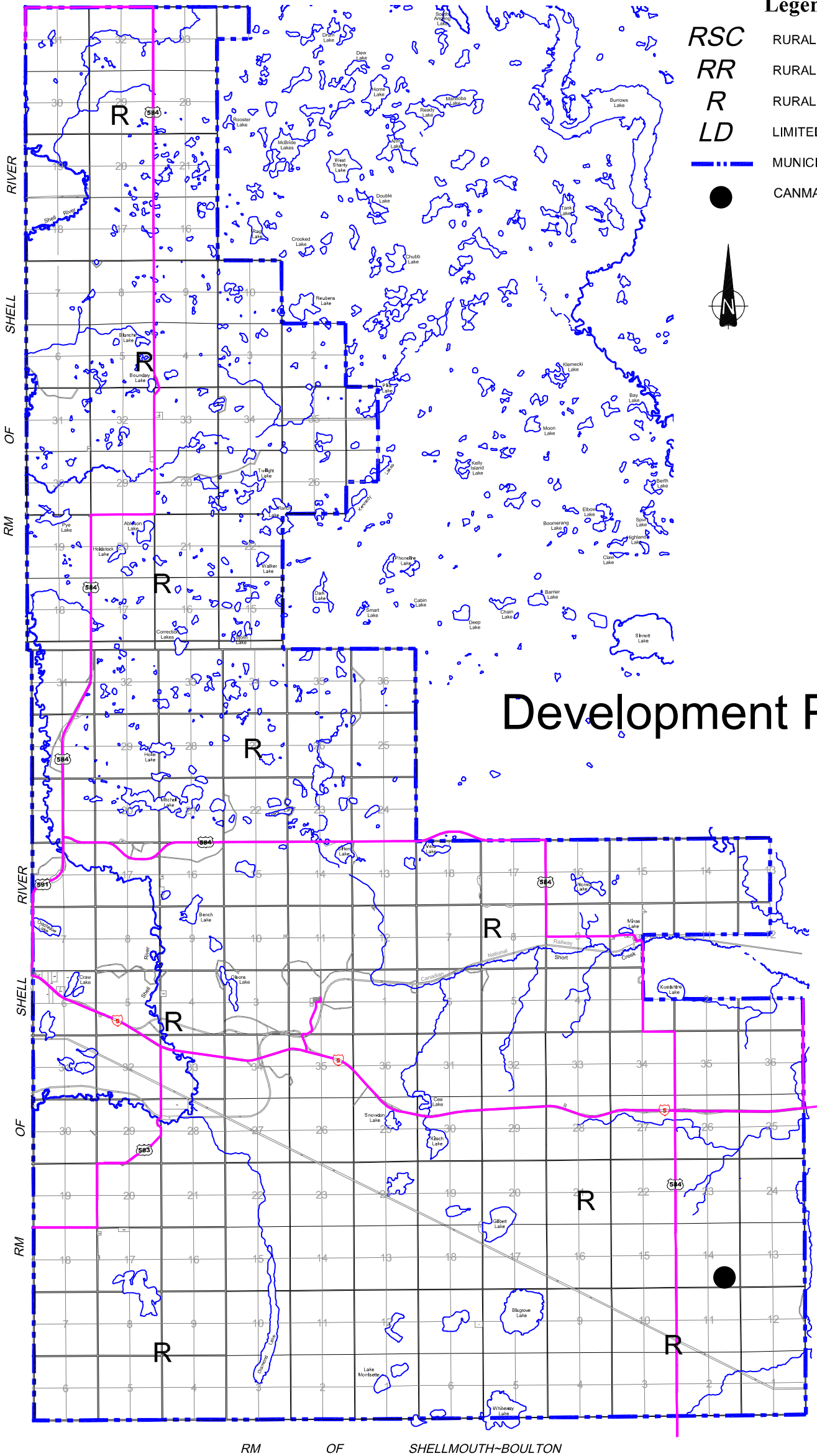
Other consumption:
Normal household consumption:
60-75 IG/day per person or
(272-340 l/day/person)

Unit Conversions		
Total per day	Total per year	Unit
32,945	12,024,925	IG
136,153	49,695,736	litres
0.136	50	cubic decametres (dam ³)

Enter this number on page 7 of Application Form.

Conversion Factor: 1 IGPM = 4.546 l/m

DUCK MOUNTAIN PROVINCIAL PARK & PROVINCIAL FOREST



Legend :

- RSC** RURAL SETTLEMENT CENTRE POLICY AREAS
- RR** RURAL RESIDENTIAL POLICY AREAS
- R** RURAL POLICY AREAS
- LD** LIMITED DEVELOPMENT POLICY AREAS
- MUNICIPAL BOUNDARY
- CANMARK BARN EXPANSION SITE



Development Plan Map 5

WARDROP
Engineering Inc.

Landmark
Planning & Design Inc.

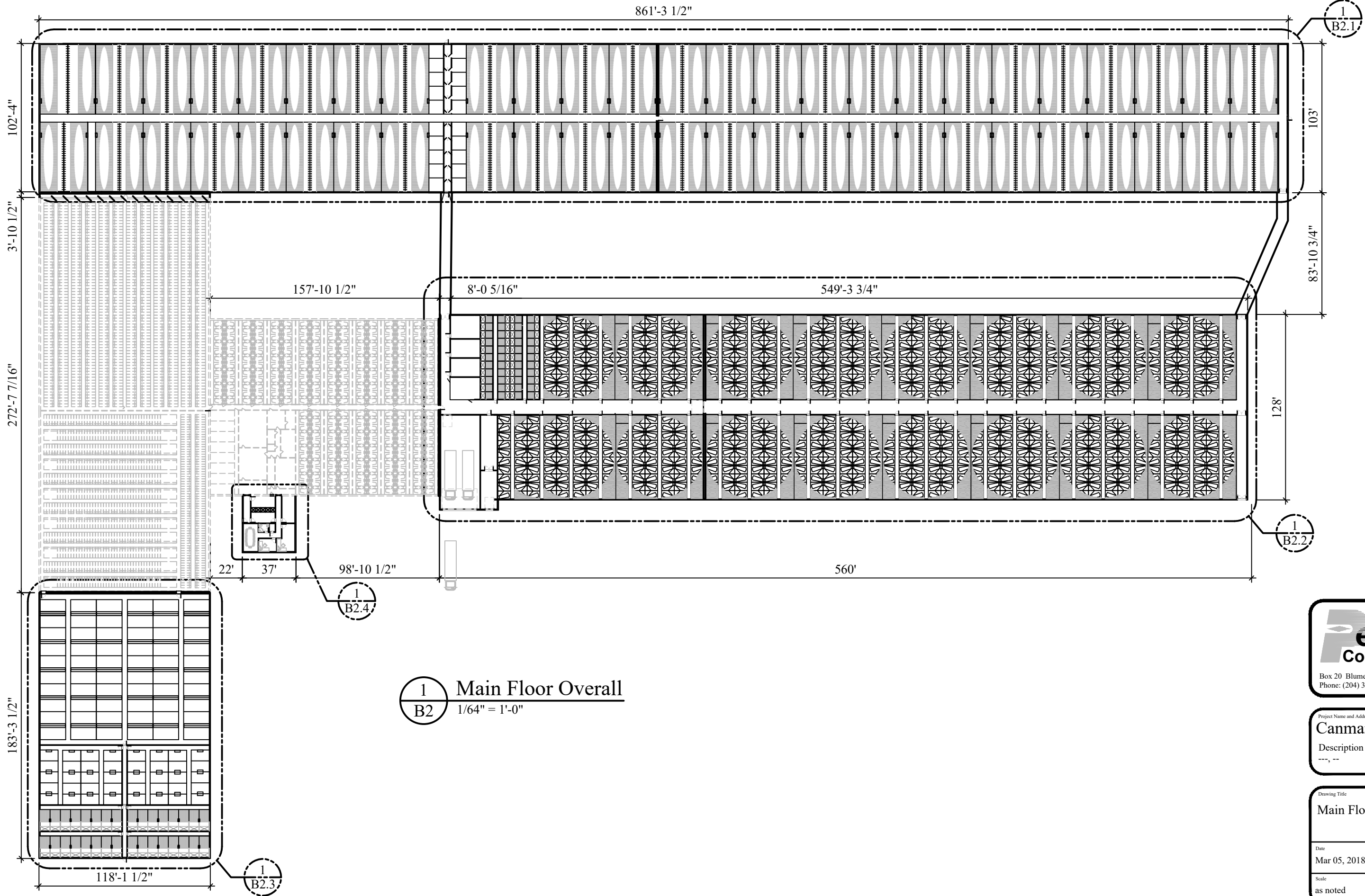
THE ROBLIN PLANNING DISTRICT DEVELOPMENT PLAN BY-LAW NO. 29-05

RM OF HILLSBURG LAND USE POLICY AREAS

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DESIGNED BY:	DRAWN BY:
CHECKED BY:	DATE:

MAP 5



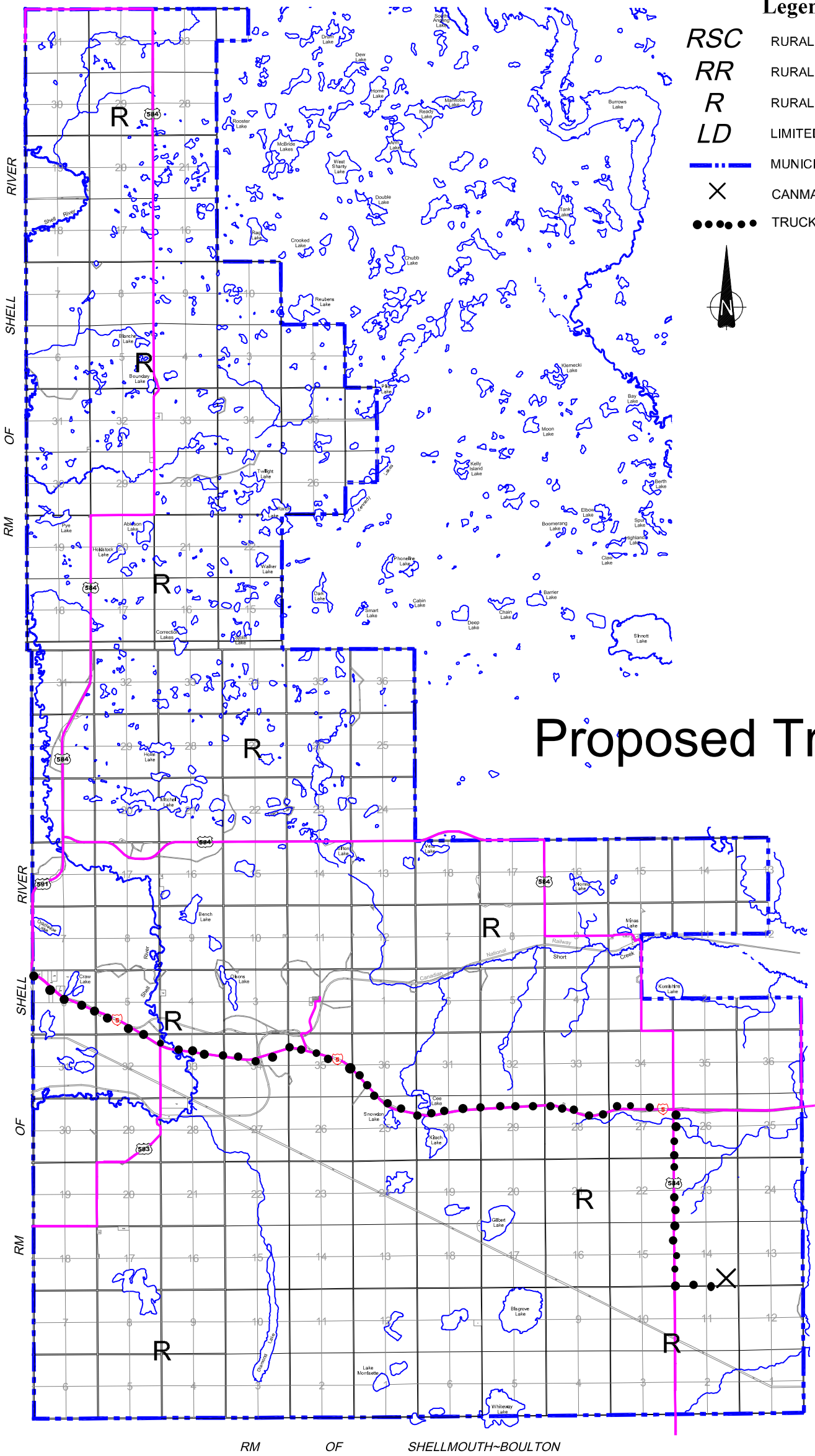
1 Main Floor Overall
 B2 1/64" = 1'-0"

Penfor Construction
 Box 20 Blumenort, Manitoba R0A 0C0
 Phone: (204) 326-6313; Fax: (204) 346-1313

Project Name and Address
Canmark Family Farm
 Description
 ---, --

Drawing Title Main Floor Plan - Overall		
Date Mar 05, 2018	Drawn By DD	Sheet B2
Scale as noted	Checked By NB	

DUCK MOUNTAIN PROVINCIAL PARK & PROVINCIAL FOREST



Legend :

- RSC** RURAL SETTLEMENT CENTRE POLICY AREAS
- RR** RURAL RESIDENTIAL POLICY AREAS
- R** RURAL POLICY AREAS
- LD** LIMITED DEVELOPMENT POLICY AREAS
- MUNICIPAL BOUNDARY
- X** CANMARK BARN EXPANSION SITE
- TRUCK ROUTE



Proposed Truck Route

WARDROP
Engineering Inc.

Landmark
Planning & Design Inc.

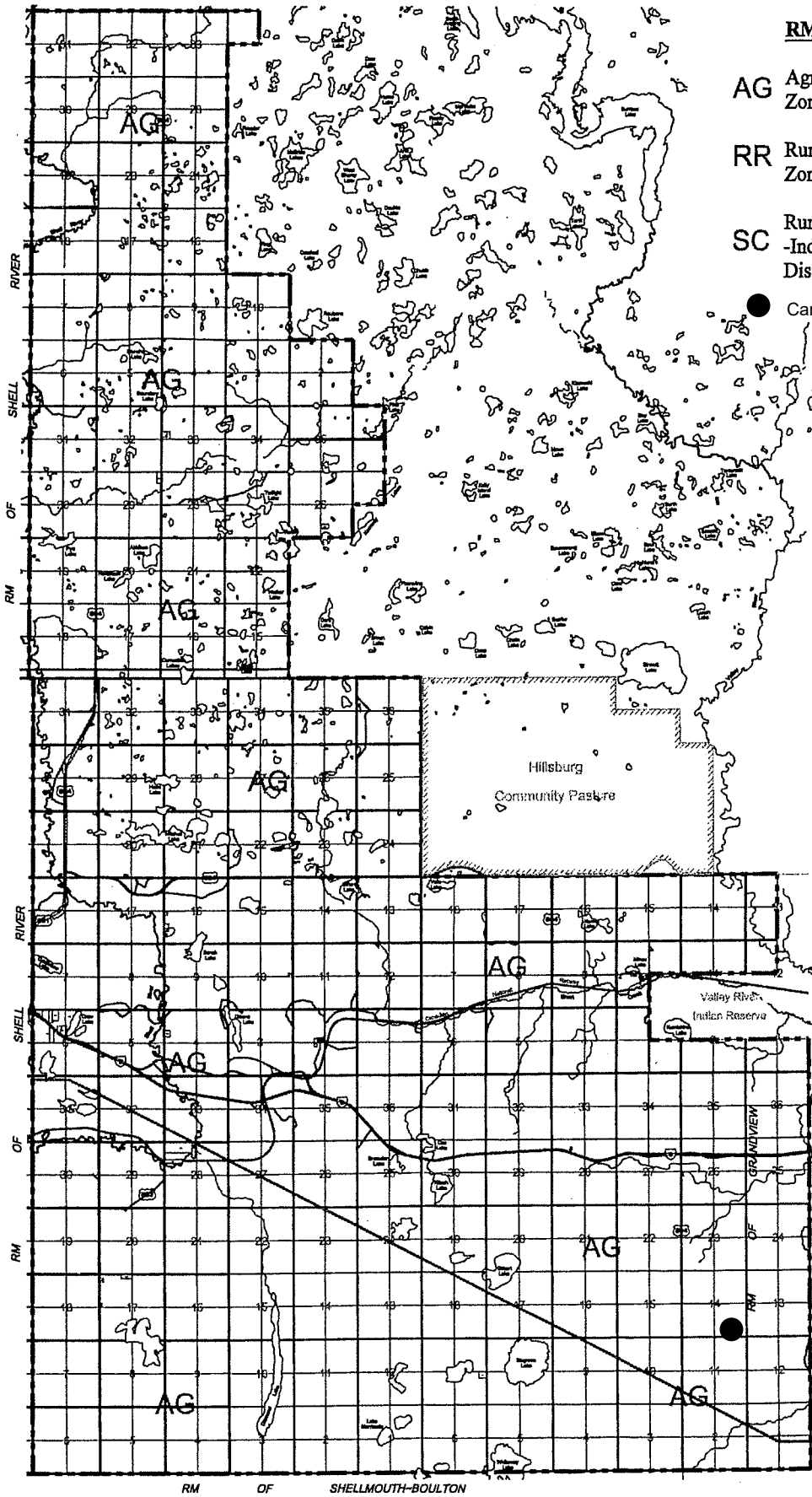
THE ROBLIN PLANNING DISTRICT DEVELOPMENT PLAN BY-LAW NO. 29-05

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DESIGNED BY:	DRAWN BY:
CHECKED BY:	DATE:

MAP 5



RM of Hillsburg

- AG** Agriculture General Zoning District
- RR** Rural Residential Zoning District
- SC** Rural Commercial-Industrial Zoning District

● Canmark Project Site



Landmark
Planning & Design Inc.

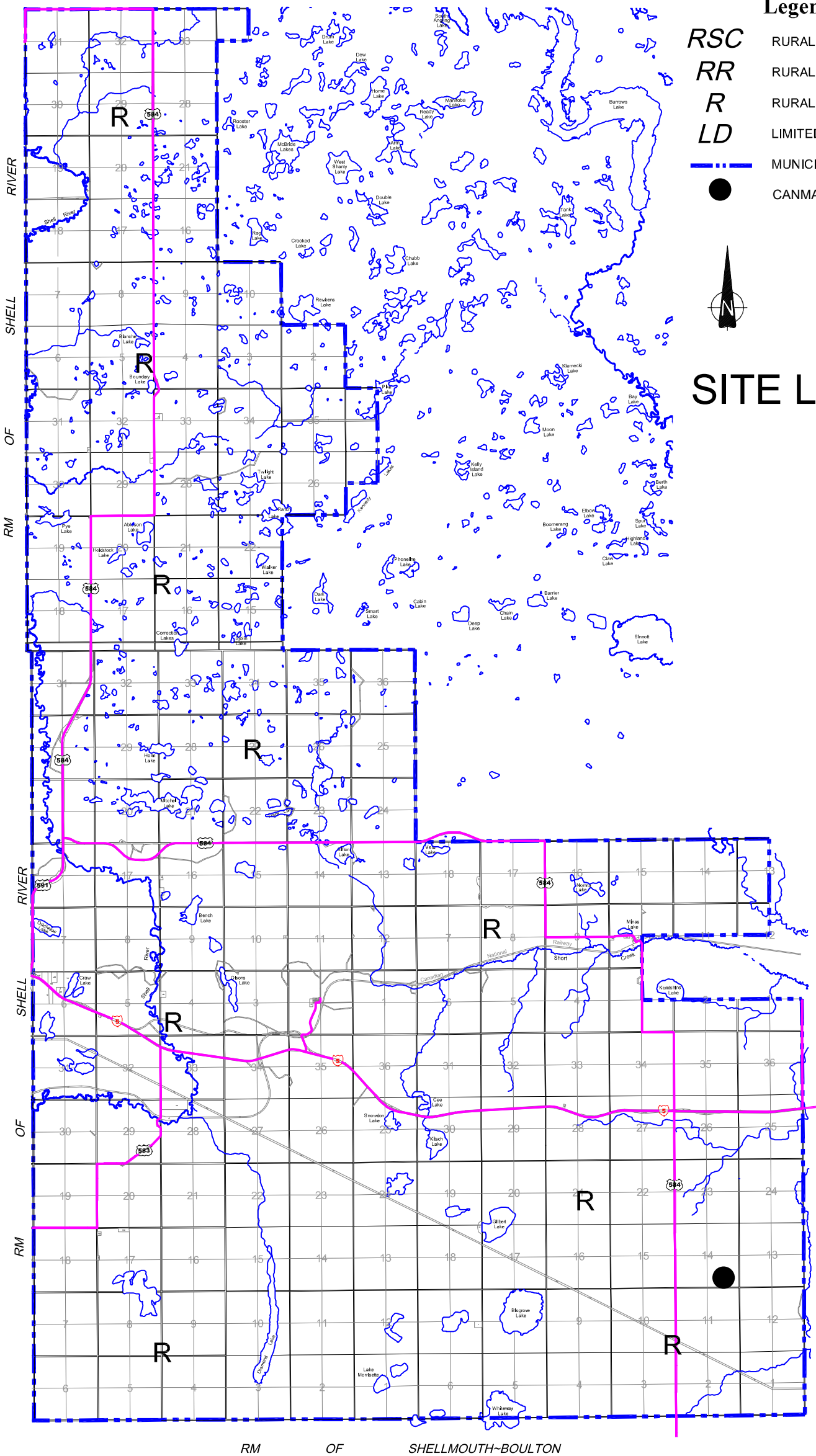
RM OF HILLSBURG ZONING BY-LAW No. 04/08

ZONING MAP

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DESIGNED BY:	DRAWN BY:
CHECKED BY:	DATE:

DUCK MOUNTAIN PROVINCIAL PARK & PROVINCIAL FOREST



Legend :

- RSC** RURAL SETTLEMENT CENTRE POLICY AREAS
- RR** RURAL RESIDENTIAL POLICY AREAS
- R** RURAL POLICY AREAS
- LD** LIMITED DEVELOPMENT POLICY AREAS
- MUNICIPAL BOUNDARY
- CANMARK BARN EXPANSION SITE



SITE LOCATION MAP

WARDROP
Engineering Inc.

Landmark
Planning & Design Inc.

THE ROBLIN PLANNING DISTRICT DEVELOPMENT PLAN BY-LAW NO. 29-05

RM OF HILLSBURG LAND USE POLICY AREAS

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DESIGNED BY:	DRAWN BY:
CHECKED BY:	DATE:

MAP 5

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	301.84ft	477.99ft	13 ft	3 ft *	1:3	1:5 *	272
Circular Tank		Diameter	Height	Depth			
		ft	ft	ft			

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

*to be confirmed upon detailed design

