
Detailed Soil Survey for the RM of De Salaberry and its Application in Land Use Planning



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Manitoba 

What is a Soil Survey?

- Inventory of soil properties and landscape characteristics.

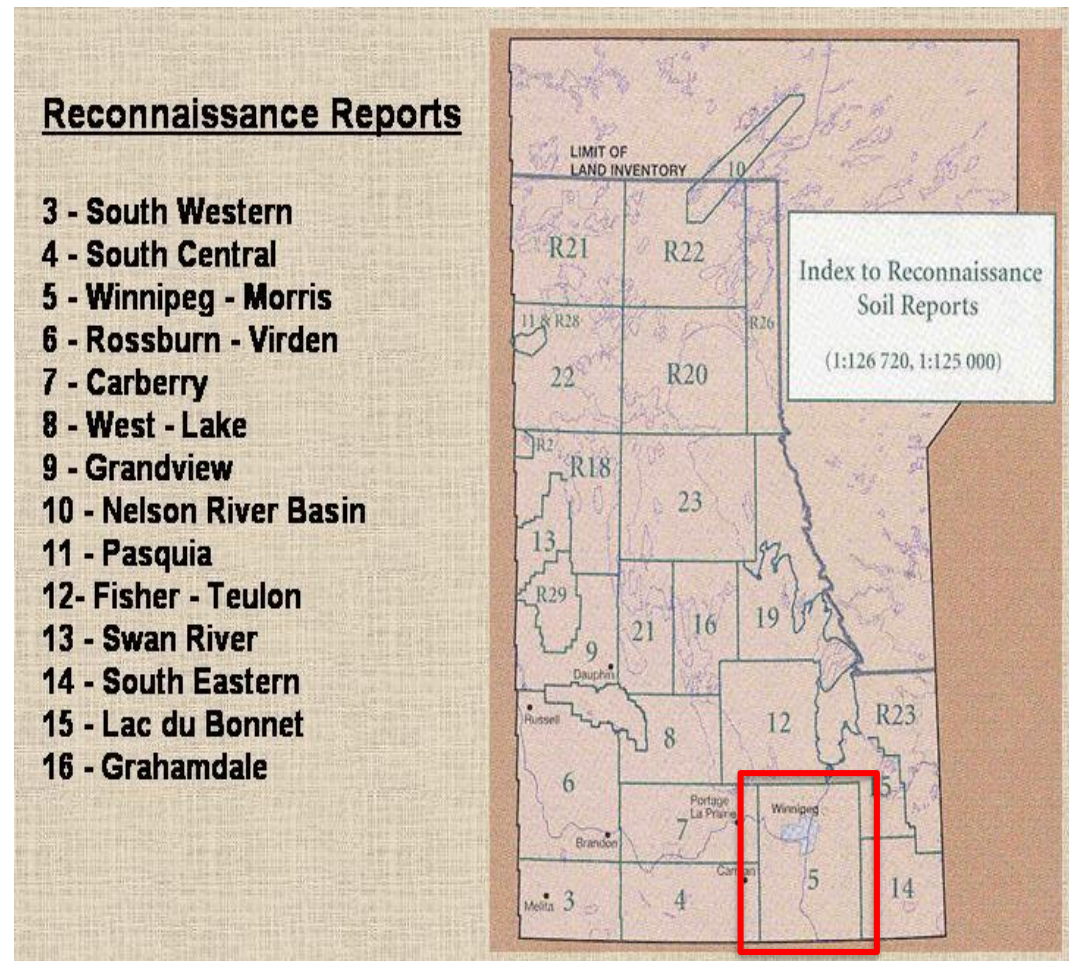


- Texture
- Horizons
- Drainage
- Carbonates
- Parent Material



Soil Surveys in Manitoba:

- Almost all of Manitoba has been surveyed at the Reconnaissance level (1:126,720 – 1:63,630).
- 6 inspection pits / section.
- Provides only general information on soils across the region.



Detailed Soil Surveys (1:50,000 or 1:20,000)

- 16 – 32 inspection pits / section.

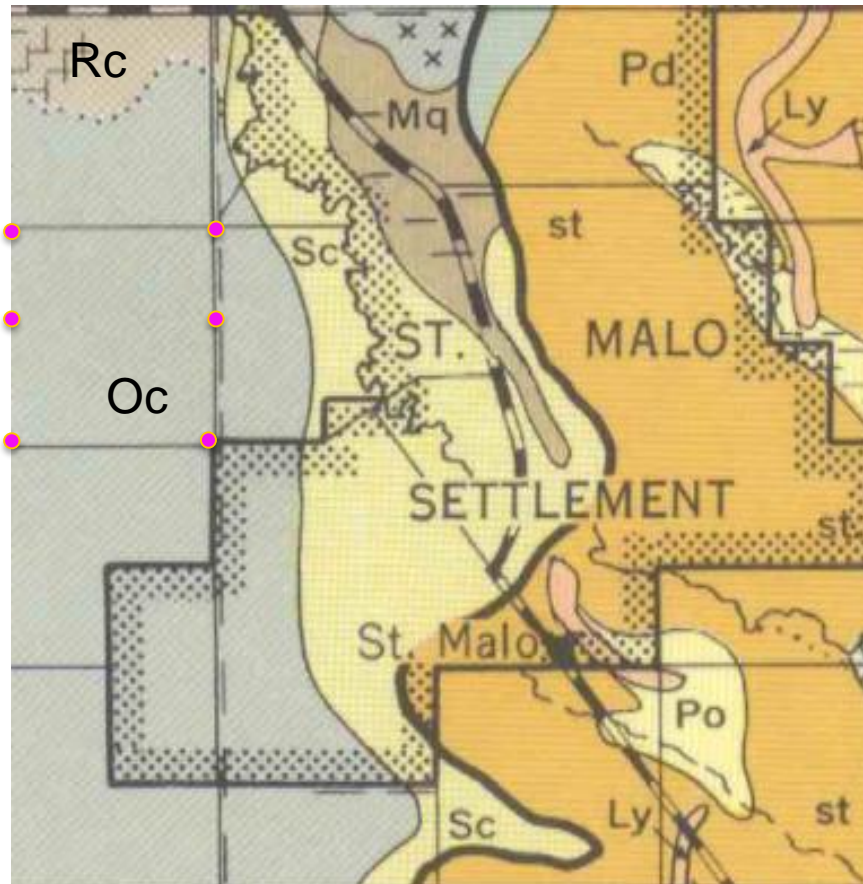


Image: Report of Reconnaissance Soil Survey of Winnipeg and Morris Map Sheet Area

Image: Soils of the Municipality of De Salaberry D94

The RM of De Salaberry: Location and Extent

- South eastern Manitoba
 - Annual avg temp 2.8C
 - Annual avg precipitation 580mm
 - 1,753 GDD (>5C) & 110 frost free days
- Townships (TWP) 4, 5 and 6 ranges 3E, 4E and 5E (TWP 4 only)
 - 67,410 ha (166,574 ac)
- Surveyed at 1:20,000



Image: Soils of the Municipality of De Salaberry D94

Soil Development in the RM of De Salaberry

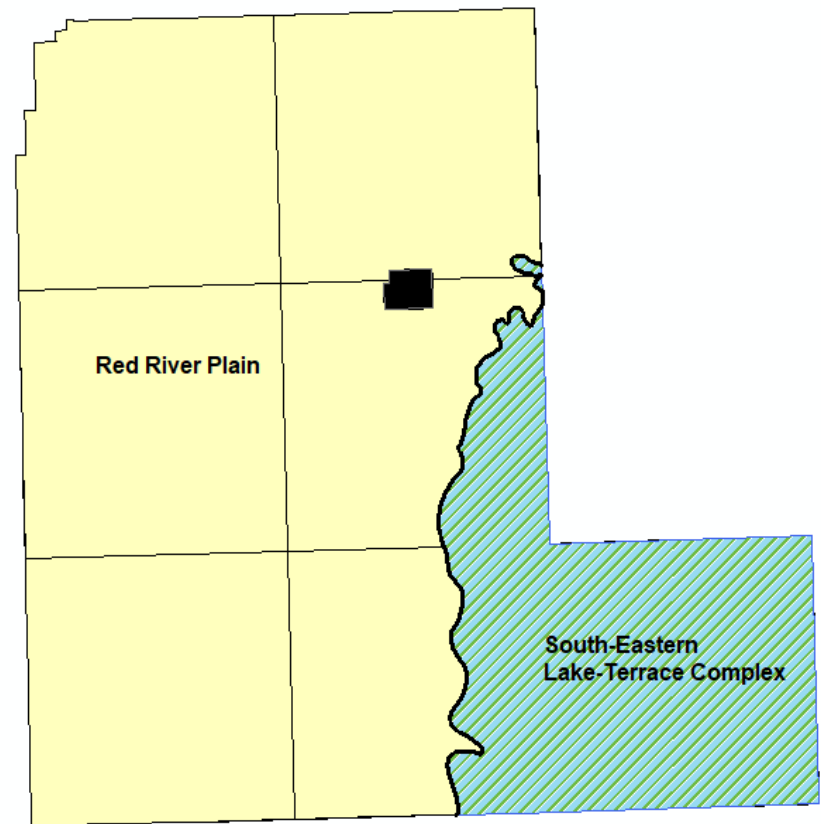
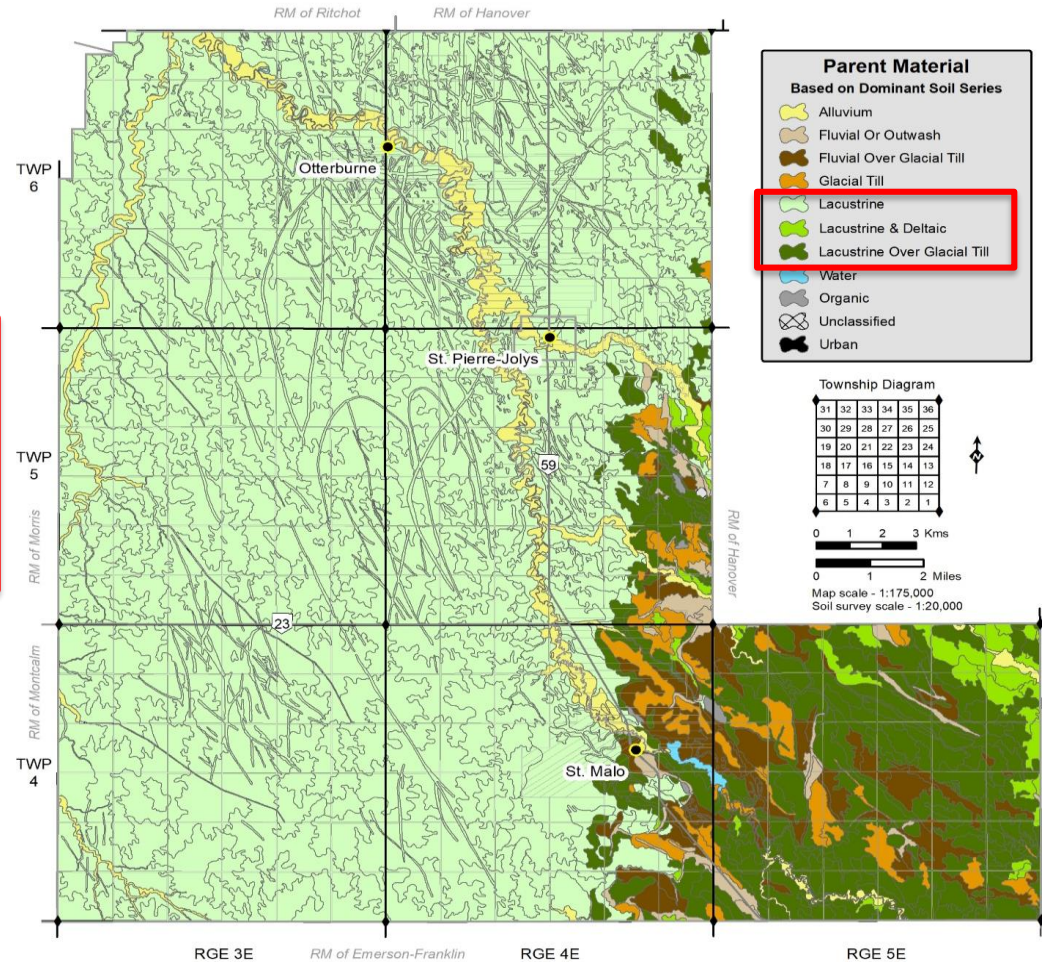


Image: Soils of the Municipality of De Salaberry D94

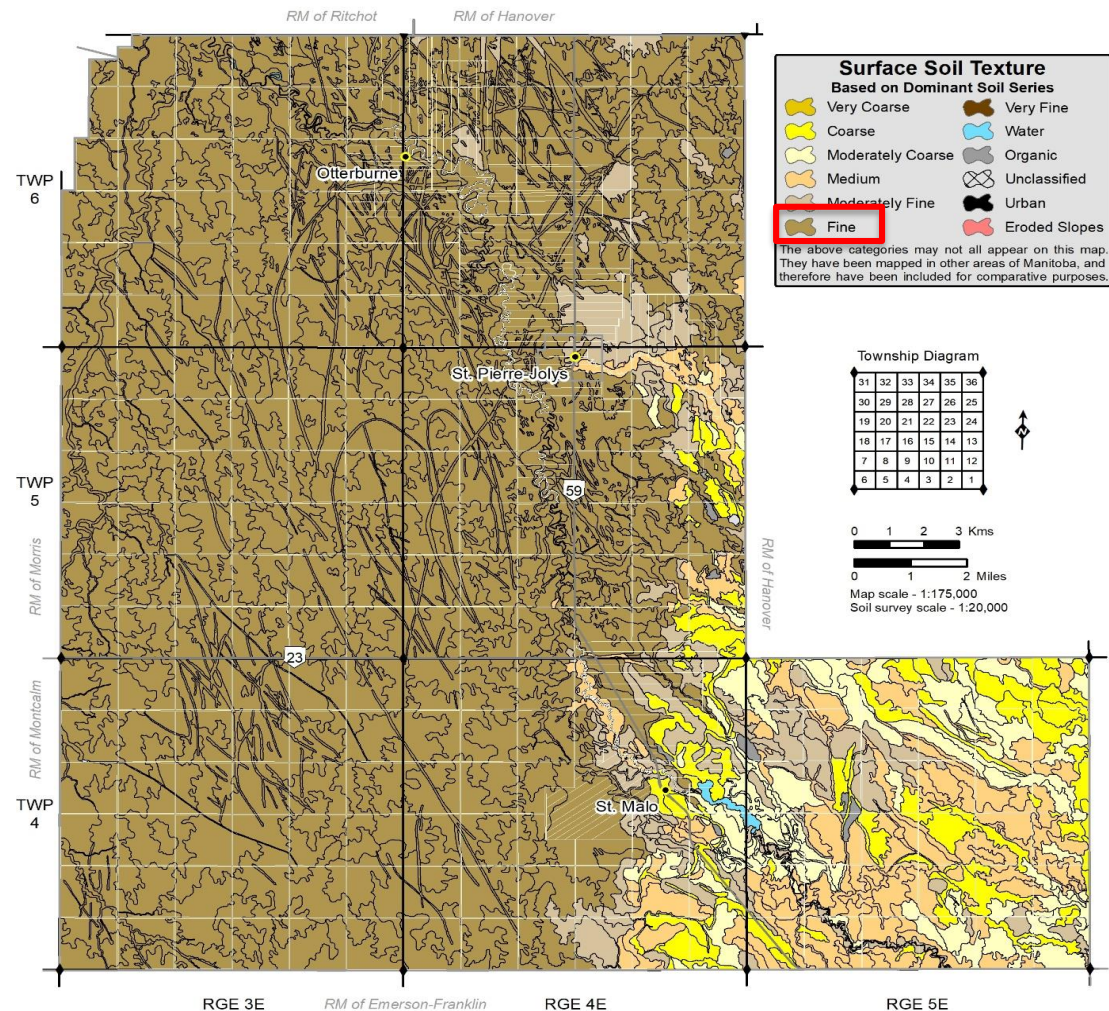
Soils in the RM of De Salaberry

Parent material (0 to 100 cm)	Total area		% of RM
	ha	ac	
Alluvium	2,636	6,514	3.91
Glacial till	1,687	4,168	2.50
Lacustrine	50,351	124,421	74.69
Lacustrine & deltaic	1,097	2,710	1.63
Lacustrine over glacial till	7,965	19,683	11.82
Organic soils	82	202	0.12
Fluvial or outwash	915	2,261	1.36
Fluvial over till	2,420	5,980	3.59
Water body, marsh, urban & unclassified	257	635	0.38



Soils in the RM of De Salaberry

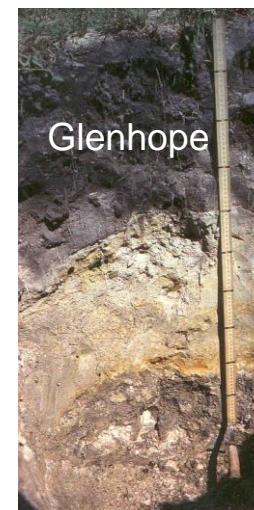
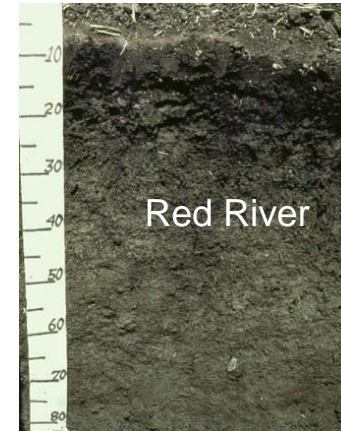
Texture group	Texture	Total area		% of RM
		ha	ac	
Very coarse (0.24%)	CS	6	15	0.01
Coarse (5.07%)	FS	591	1,461	0.88
	LS	1,912	4,724	2.84
	LFS	917	2,267	1.36
Mod. coarse (4.88)	FSL	2,302	5,687	3.41
	LVFS	14	35	0.02
Medium (7.22%)	SL	971	2,400	1.44
	L	1,476	3,648	2.19
	SiL	18	44	0.03
Mod. fine (6.72%)	VFSL	3,372	8,334	5.00
	CL	2,634	6,510	3.91
	SCL	1,431	3,536	2.12
Fine (75%)	SiCL	463	1,145	0.69
	C	47,189	116,603	70.0
Organic (0.23%)	M	155	382	0.23
Unclassified, eroded slope, urban & water		257	635	0.38



Soils in the RM of De Salaberry

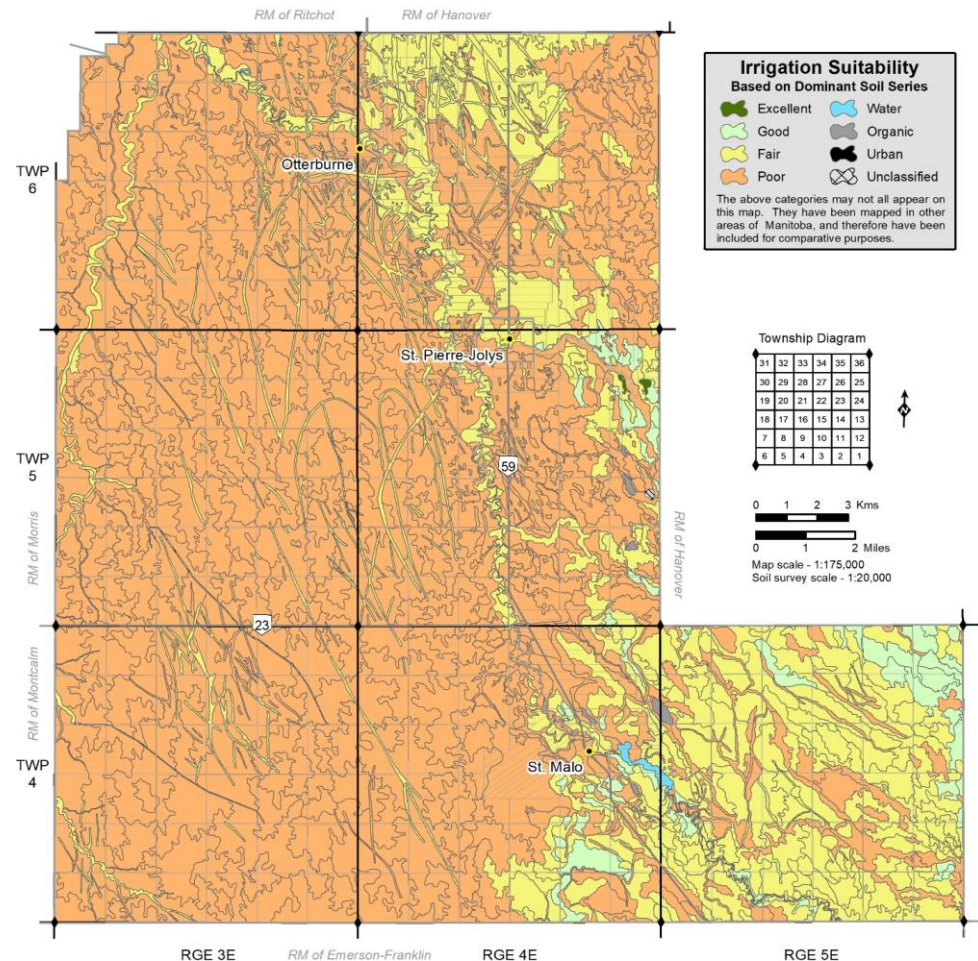
- Top 10 soil series.

Soil Classification	Soil Series	Total		% of RM
		ha	ac	
Rego Humic Gleysol	Osborne	18,858	46,598	27.97
Gl. Rego Bl. Chernozem	Red River	15,846	39,157	23.51
Gl. Bl. Chernozem	Scanterbury	7,777	19,217	11.54
Gl. Rego Bl. Chernozem	Dencross	3,655	9,032	5.42
Gl. Rego Bl. Chernozem	Glenhope	2,136	5,279	3.17
Gl. Drk. Chernozem	Pelan	1,538	3,800	2.28
Rego Humic Gleysol	Glenmoor	1,252	3,094	1.86
Gl. Rego Bl. Chernozem	Niverville	1,189	2,938	1.76
Gl. Cumulic Regosol	Seine River	1,170	2,891	1.73
Gl. Drk. Gray Chernozem	Beaverdam	971	2,400	1.44

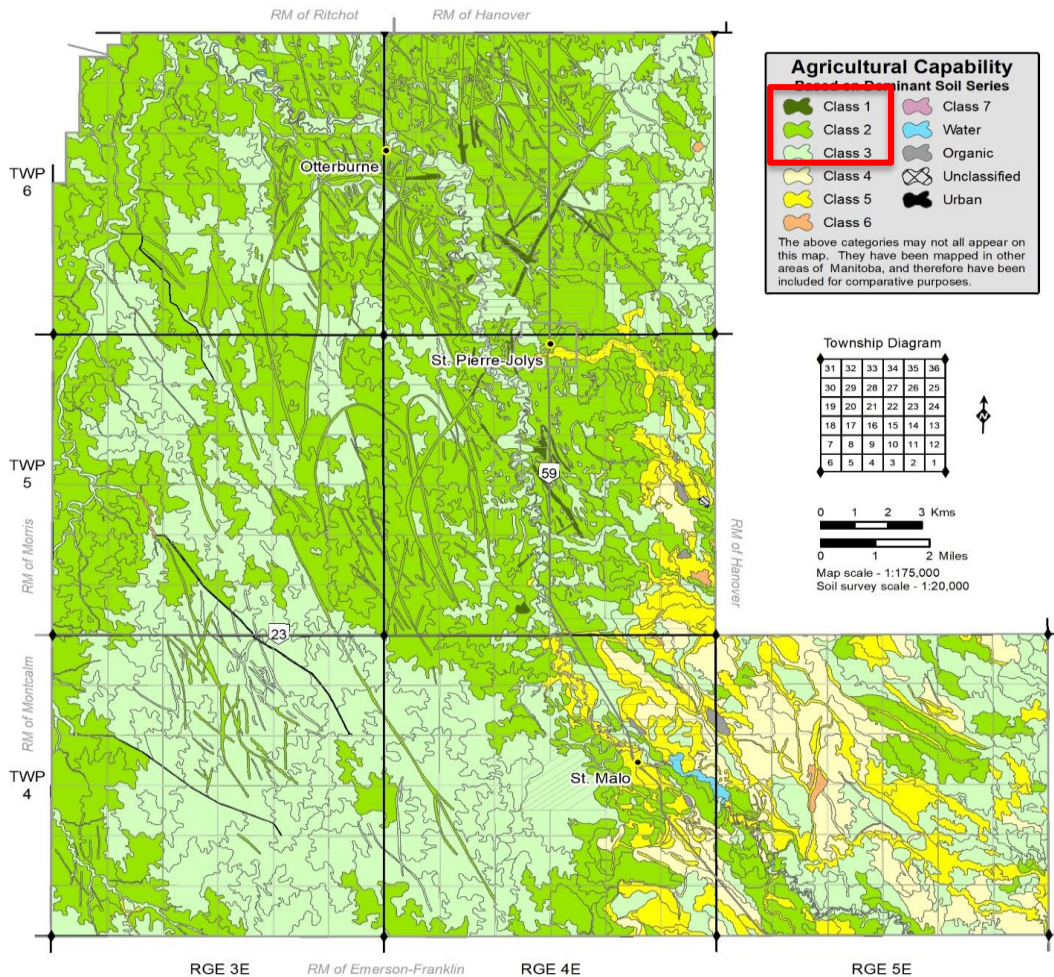


Soil Interpretations

- Agricultural Capability
- Irrigation Suitability
- Irrigated Potato Suitability
- Engineering and Recreational Suitability



Agricultural Capability



- 87% of land is prime agricultural land (Class 1, 2 & 3).
- 12% classified as lower class lands, but still viable for forage and pasture (4, 5 & 6).
- Major Limitations:
 - 2W, 2WP, 2WT
 - 3W, 3MW, 3NW & 3P, 3MP
 - 4M & 4DP
 - 5IW & 5M

Land Use in the RM of De Salaberry

- The majority of the land use in De Salaberry is for agricultural purposes.
 - Annual cropping
 - Forage / pasture
 - Livestock (hogs and dairy)
- Parks and protected spaces
 - St. Malo Provincial Park
- Residential and Rural and Parkland Residential
 - Towns of St. Pierre-Jolys, St. Malo, Otterburne
 - Cottages surrounding St. Malo Lake.

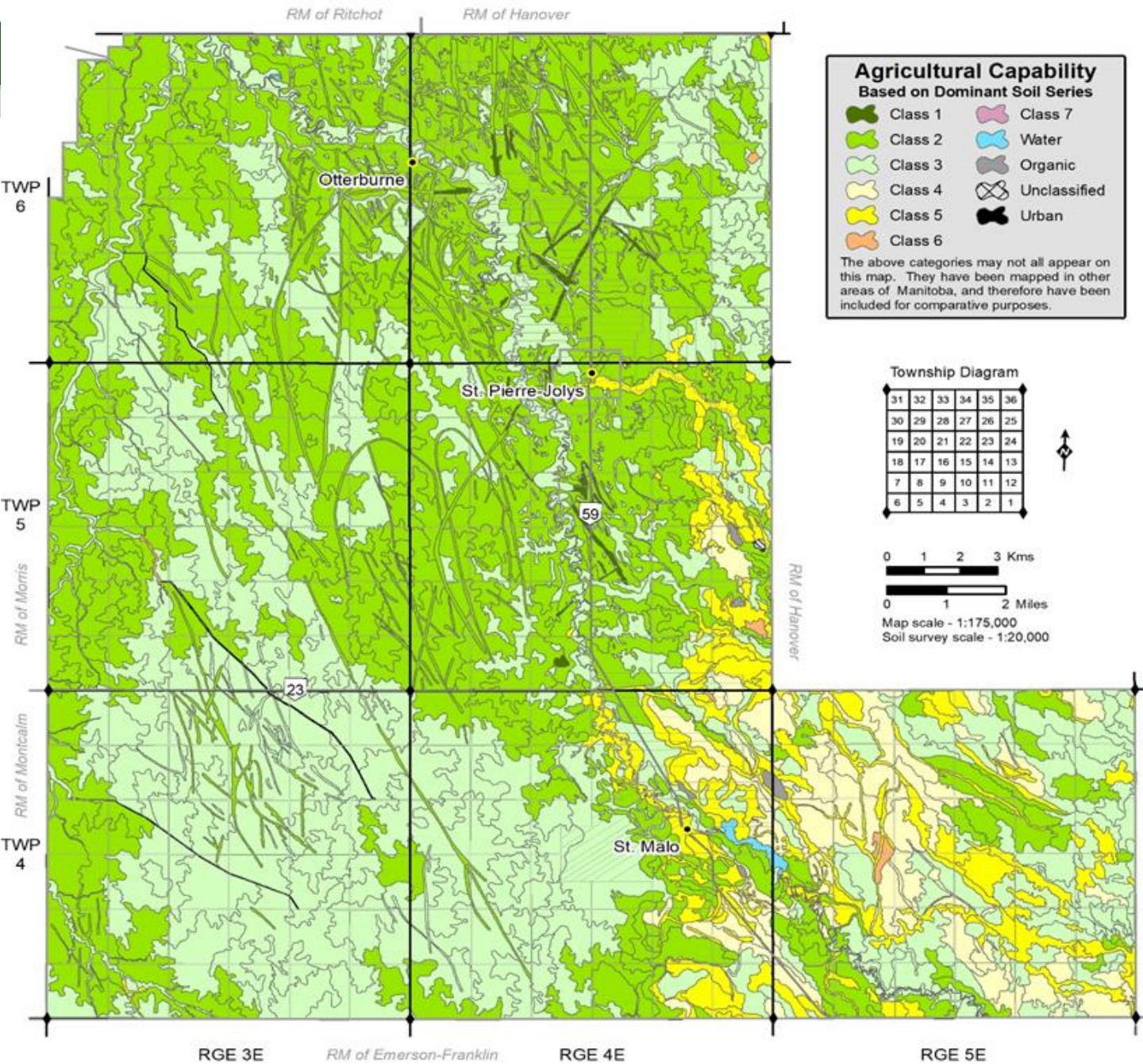


Land Use Planning in Manitoba.....











- Is legislated by the Planning Act
- Guided by The Provincial Land Use Policies (PLUPs)
 - Nine broad policy areas that outline the provincial & public interests in land use
 - Serve as a guide for Municipalities when creating their **development plans**
- Policy Area #3: Agriculture
 - Protect agricultural land for present and future food production
 - Protect agricultural operations from encroachment and disturbance by land uses that are not compatible
 - Keep this land intact by minimizing fragmentation

Policy Area #3: Agriculture

- Designate **prime agricultural** and **viable lower class agricultural land** for agricultural use
 - A map of **soil capability for agriculture** will inform the planning authority of where prime and viable lower class land can be found throughout the planning area
- Include a Livestock Operation Policy
 - Where in the planning area livestock development or expansion can or cannot occur
 - Rationale for any restrictions i.e. compatibility, proximity to sensitive areas, an area's **soil capability for agriculture**, risk of flooding.



Agricultural Capability Based on Dominant Soil Series

-  Class 1
-  Class 2
-  Class 3
-  Class 4
-  Class 5
-  Class 7
-  Water
-  Organic
-  Unclassified
-  Urban

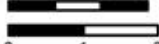
The above categories may not all appear on this map. They have been mapped in other areas of Manitoba, and therefore have been included for comparative purposes.

Township Diagram

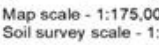
31	32	33	34	35	36
30	29	28	27	26	25
19	20	21	22	23	24
18	17	16	15	14	13
7	8	9	10	11	12
6	5	4	3	2	1



0 1 2 3 Kms



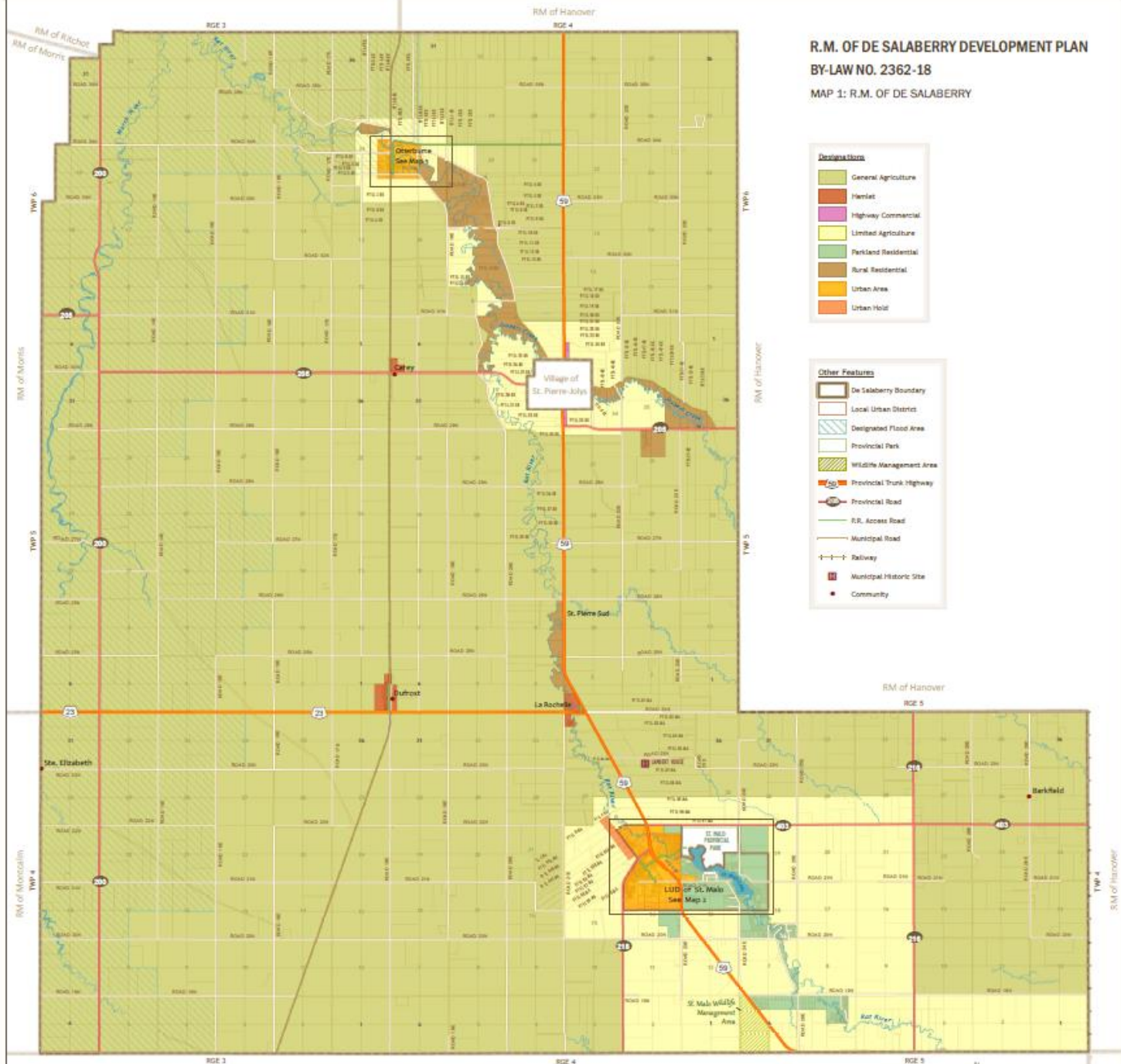
0 1 2 Miles











Map scale - 1:175,000

Soil survey scale - 1:20,000


R.M. OF DE SALABERRY DEVELOPMENT PLAN
BY-LAW NO. 2362-18
MAP 1: R.M. OF DE SALABERRY

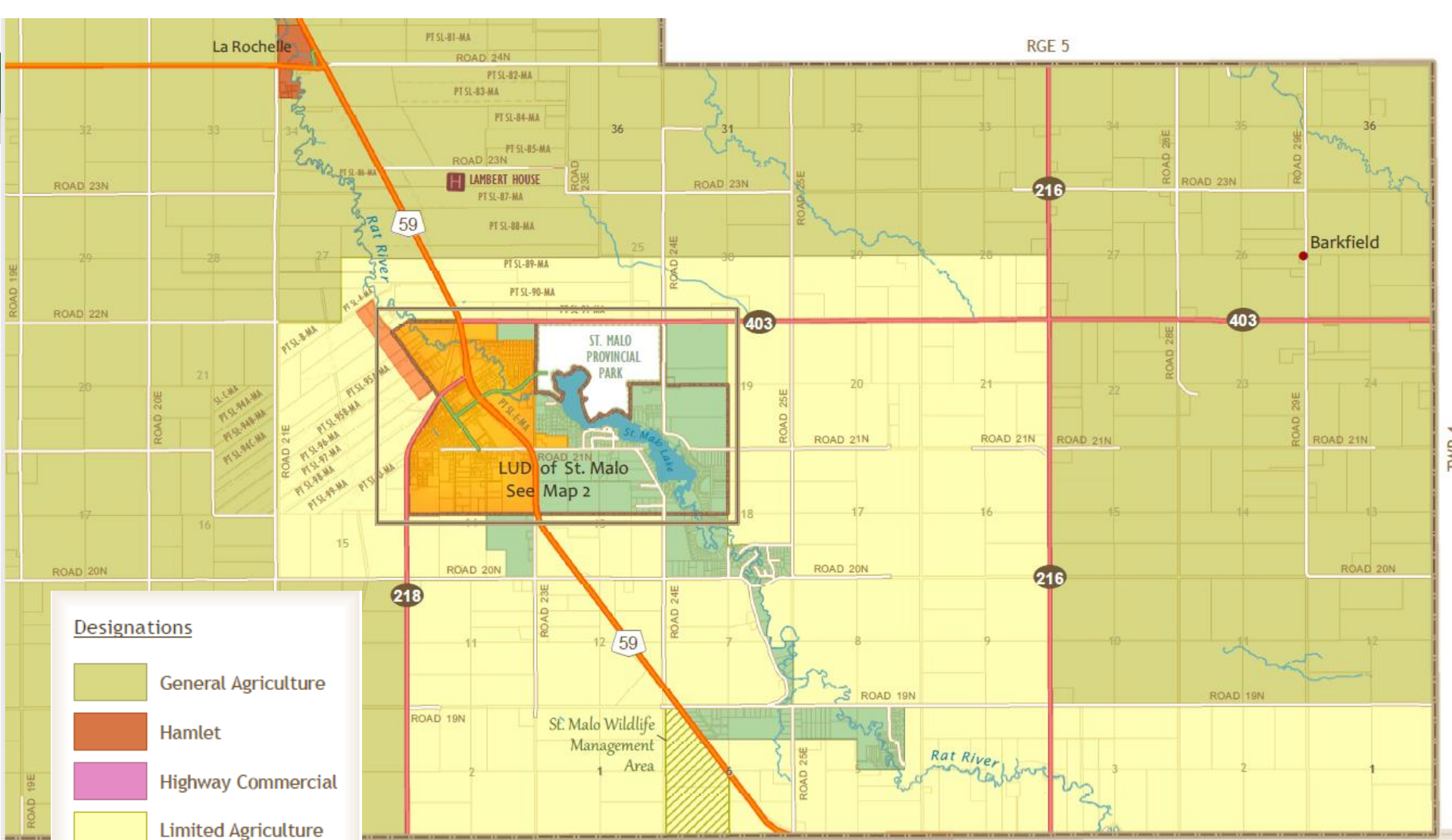


Designations

-  General Agriculture
-  Hamlet
-  Highway Commercial
-  Limited Agriculture
-  Parkland Residential
-  Rural Residential
-  Urban Area
-  Urban Hold

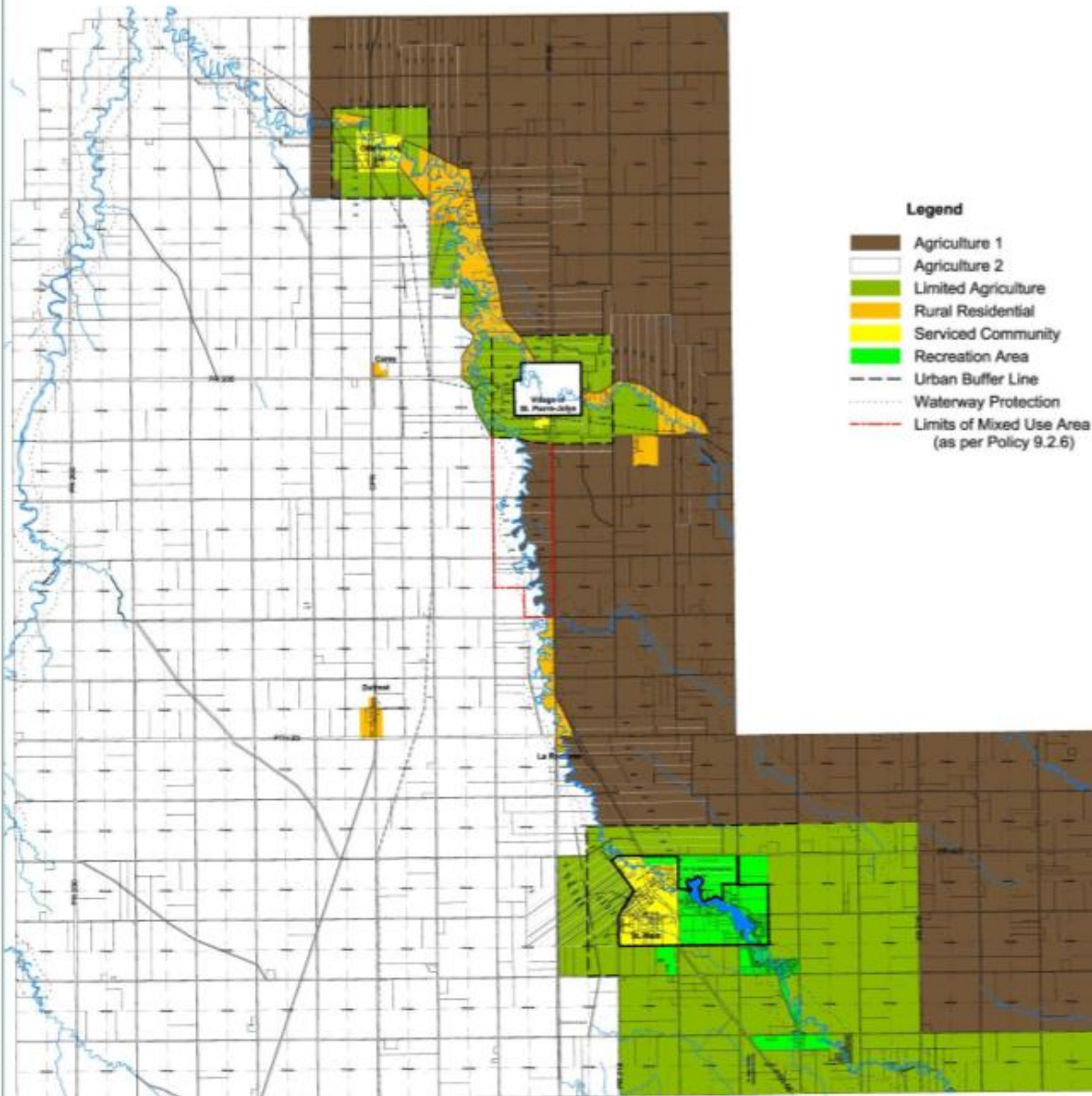
Other Features

-  De Salaberry Boundary
-  Local Urban Districts
-  Designated Flood Area
-  Provincial Park
-  Wildlife Management Area
-  Provincial Trunk Highway
-  Provincial Road
-  R.R. Access Road
-  Municipal Road
-  Railway
-  Municipal Historic Site
-  Community



Designations

- General Agriculture
- Hamlet
- Highway Commercial
- Limited Agriculture
- Parkland Residential
- Rural Residential
- Urban Area
- Urban Hold



Where to find land use planning information:



- **Gov of MB's Land Use and Development website:**

https://web22.gov.mb.ca/mao/LandUseDev_Map/index.html

Manitoba Land Use and Development

Esri World Geocoder

Queries Results

- Development Plan Designations
- Zoning Bylaws
- No Dwelling Units
- Single Dwelling Units
- Multiple Dwelling Units

Layer List

Operational layers

- Property Assessment Information
- Municipal Boundaries
- Manitoba Boundary
- Development Plan Designations

- Rural/Agricultural
- Rural Residential
- Residential
- Settlement Centre
- Commercial
- Industrial

- **Your local Rural Municipality's website**

Where to find soil survey information:



- **Gov of MB's Soil Survey Website**

<https://www.gov.mb.ca/agriculture/soil/soil-survey/>

- **Agri-Maps**

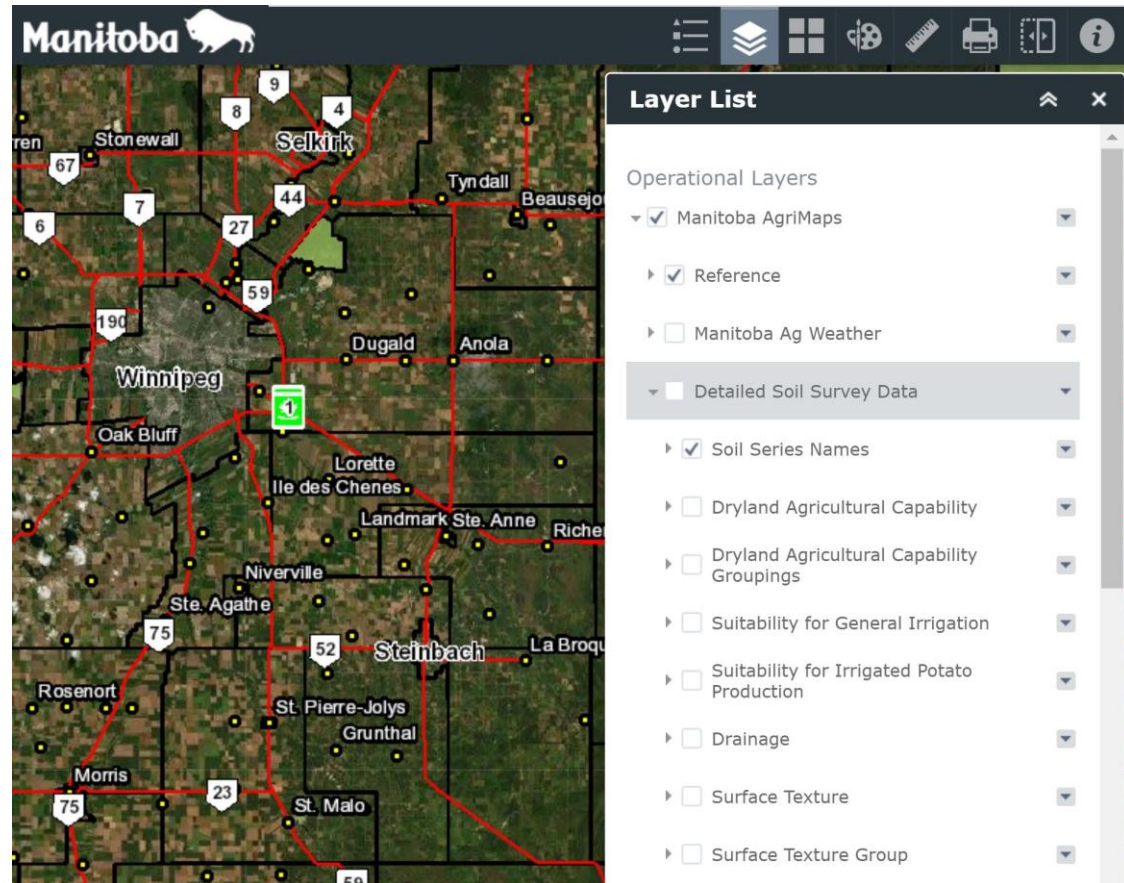
<https://agrimaps.gov.mb.ca/agrimaps/>

- **Manitoba Land Initiative**

http://mli2.gov.mb.ca/soils/index_soilsdetailed.html

- **Soils Viewer**

<https://manitoba.maps.arcgis.com/apps/MapSeries/index.html?appid=68ec07ca9da241e4a3d0e9cfb5ec87cf>



Thank you!

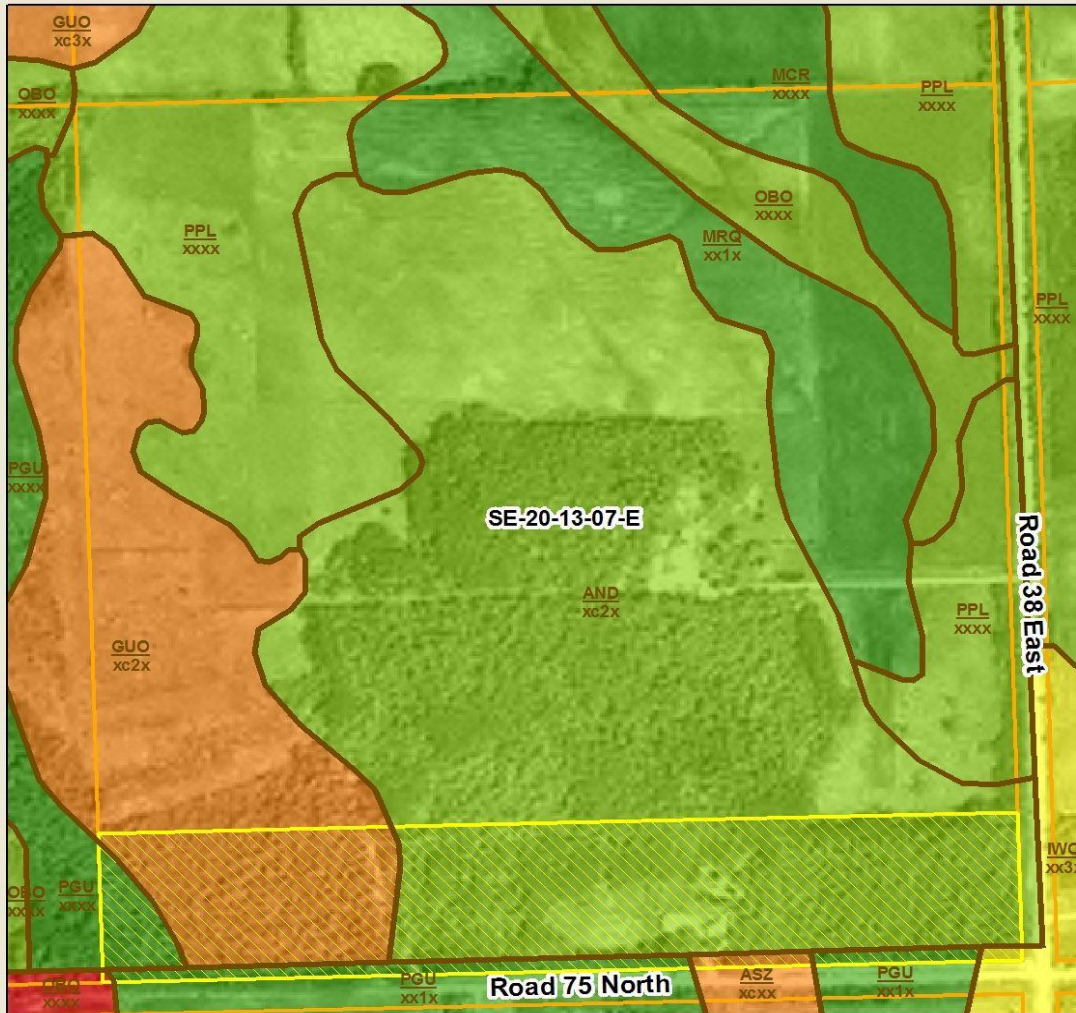


Any Questions??


PLUP Definition of Prime Agricultural Land

- Land composed of mineral soil determined by Manitoba Agriculture to be of dryland Agricultural Capability Class 1, 2 or 3 and **includes a land unit of one quarter section or more or a river lot, 60% or more of which is comprised of land of dryland Agricultural Capability Class 1, 2, or 3.**

Prime Agricultural Land








Legend

-  Affected Area

Soil Layer

Ag Capability

-  Class 2
-  Class 3
-  Class 4
-  Class 5
-  Class 6

PLUP Definition of Prime Agricultural Land, cont.

- Land composed of organic soil determined by Manitoba Agriculture to be of dryland Agricultural Capability Class O1, O2 or O3
- Land determined by Manitoba Agriculture to be of Irrigation Suitability Class 1A, 1B, 2A or 2B