

East Gull Lake Overview Plan

Adopted by County Council
13 October 2009

The East Gull Lake Area

The first multiple-lot subdivision at Gull Lake in Ponoka County was on the west side of the lake in 1975 at Parkland Beach. Subdivision on the east side of the lake was delayed until a hog operation in NE 8-42-28-4 ceased operations. By the end of 2008, 327 lake lots had been created at Meridian Beach and Raymond Shores, and another 64 lake lots had been approved but not yet registered; 72 acreage lots had been created; and three more quarter sections had been zoned Country Residential but no subdivision applications had yet been made. Other landowners also expressed interest in subdividing. The current zoning and extent of subdivision are shown on Map 1.

Need for an overview plan

Large scale development generates taxes for the municipality, but at the same time it can impose significant costs, notably for roads. It may also conflict with other land uses, especially farming. In the new Municipal Development Plan (MDP), the County has therefore adopted the policy that

Before opening up a new area for residential development, Council will require that an "overview plan" for the district is completed, discussed with the public, and formally adopted as an area structure plan so that the interests of all parties may be considered (Policy 17.1).

An overview plan defines the boundaries of the area, looks at possible conflicts with farming and other existing land uses, considers water supply and sewage disposal, proposes necessary road improvements, and sets out a method by which developers pay for off-site costs such as road construction. The present document addresses these issues.

County policies limiting development

Ponoka County tries to preserve good land for agriculture. This is not an absolute: Policy 1.15 of the MDP allows for subdivision of better land adjacent to water bodies. In the present case, adjacent is interpreted to mean land which drains into Gull Lake, shown on Map 2.

Soil quality is based on the Canada Land Inventory system, under which the best land is Class 1 and the poorest is Class 7. There are no Class 6 soils in this area, and Class 7 is limited to the old lake bottom. In this context, it seems appropriate to consider Class 4 and 5 soils for non-farm use, and these soils are shaded on Map 3.

In addition to protecting good soil, the MDP tries to keep incompatible uses away from farming operations. A field survey in April 2008 found one intensive livestock operation in SW 10-42-28-

4 which might suffer from the proximity to residential subdivisions. There are also at least two cow-calf operations and a deer farm in the area.

Ponoka County tries to preserve important wildlife habitat, so CLI maps were consulted to see if there are any areas of particular value on the east side of Gull Lake.

- **Waterfowl:** The CLI shows an area of Class 1 waterfowl habitat along the shore of an unnamed lake in sections 22 and 26-42-1-5. Most of the rest of the area is rated low because of the lack of small water bodies. No part of the study area is shown as important for migration.
- **Ungulates:** The area proposed for development does contain any Class 1 habitat for deer, moose, or elk. The CLI rates most of the upland areas as Class 2 or 3, and does not show any critical winter range.

Provincial policies limiting development

A number of provincial government policies affect the use of land in the East Gull Lake area.

Setbacks from sewer lagoons: Meridian Beach and Raymond Shores will use a mechanical sewage treatment system, and the treated effluent will be stored in a pond on NW 8-42-28-4 until it is applied to farm land. Because the pond will contain only treated effluent, Alberta Environment has relaxed the normal 300 metre setback to 150 metres. The design of subdivisions in NE, SE and SW 8 has taken this into account. The system also requires land where the treated effluent can be disposed of by irrigation. Up to 261 acres will be required to accommodate the treated effluent from developments at Meridian Beach, Raymond Shores, and the land between them.

Setbacks from waste management sites: There are no landfills and waste transfer stations in the study area, so no setbacks are required.

Setbacks from oil and gas operations: Provincial regulations require that residences be set back from oil and gas installations. The distances vary depending on the risk. Generally, houses must be 100 metres or more from an operating or shut-in well, and outside the right of way of a pipeline. Sour wells and lines may require larger setbacks, but there are none in the area. These setbacks can be accommodated through proper subdivision design.

There is a compressor station in NE 9-42-28-4 and a battery site in SE 3-42-28-4. They may require fairly large setbacks, so those quarters and some nearby land have been excluded from the potential development area.

There are a number of abandoned wells in the area. The ERCB says they do not present any hazard, but an area 10 metres square should be left undeveloped around them to allow to access by service rigs in case any more work needs to be done in future. If the land is to be subdivided, the County will normally put the ten metre square into a utility lot or reserve lot, so abandoned wells must be identified on any subdivision application.

Water supply: The east side of Gull Lake is a long way from any municipal water system, and it must be assumed that, in the foreseeable future, all demand will be met from groundwater. The Water Act requires that, where there will be six or more lots on a quarter section, any new development using groundwater must show that there is sufficient supply to meet the new

demand without depleting the supply to existing users. All multi-lot developments in the area have done this.

Proposed development area

Map 4 shows the area where Council will consider applications for multiple lot residential subdivisions on the east side of Gull Lake. It was defined using the following criteria:

- The land is close to or drains into Gull Lake.
- Most of the proposed lots in each development have a view of the lake.
- The soil is generally Class 4 or 5, although some Class 3 is included where it lies between the poorer soil and the lake shore, or where development has already started, or where rezoning has been approved.
- No important wildlife habitat is included.
- Development will not adversely affect any confined animal operation.
- Land close to compressor stations and battery sites has been excluded.

Land shown on Map 4 will not automatically be approved for development. Before approval is given, landowners must prepare more detailed plans for their property, showing the general scheme of development, roads and drainage, lot sizes, how water and sewer will be provided to the lots, and how the development will relate to surrounding lands. This plan must be accepted by Council before any of the land is rezoned for residential use. Council may choose to adopt the plan by bylaw as an area structure plan.

Council will be reluctant to approve development which will adversely affect any nearby livestock operation, even if it is inside the area shown on Map 4.

Council is also aware of the need to preserve level land for the disposal of treated waste water through irrigation. The design of subdivisions must take this in account (see below, Subdivision Design Guidelines).

Development Density

The County's new MDP allows a maximum of 48 residential lots per quarter section where those lots have individual water and sewer systems. Higher densities are allowed if piped water and sewer are provided. If all the land shown on Map 4 is developed to 48 lots per quarter section, about 1,700 lots could be created, an increase of about 1,300 from those now existing. It is reasonable to assume, based on experience elsewhere, that not all these lots will be created; a more likely number is about a thousand new lots, with development spread over a number of years.

Lake access

Most of the new lots contemplated in this overview plan will be view properties situated some distance from the lake. Residents of these lots are not likely to use the lake to the same extent

as people living within walking distance of the shore. Nevertheless, the new lots will put extra pressure on lake access points. It is not fair to people in Meridian Beach and Raymond Shores to have large numbers of outsiders using their facilities, so new lake accesses must be developed.

As shown on Map 5, there are sizeable tracts of Crown and municipal land along the lake shore north of Meridian Beach. In the southern part of the study area, land must be acquired. This may be by dedication as reserve through the subdivision process, or by purchase.

Raw land has little value for public lake access. Access roads must be built, and the land must be developed to create boat launches, mooring areas, beaches, and parking. The County has the option of taking money in place of reserves when property is subdivided. In practice, reserve land in upland subdivisions is rarely used. The County will therefore consider taking money in place of land in upland subdivisions, and using it to develop lake access points. However, land which has value for trail systems or walking trails will continue to be taken as municipal reserve.

Roads

More lots will also require improved roads. TR 422 has recently been rebuilt and paved from Highway 792 (Lincoln Road) west to the lake shore. This is being paid for by a per-lot levy on all new development in the area. Map 6 shows other roads which will need upgrading to take the increased traffic. In total, another 12.5 miles of road will need improvement or construction. Road construction at present runs at about \$200,000 per mile, so the total cost of road upgrading to serve the whole area will be about \$2.6 million. It may also be necessary to rebuild the highway intersections to take heavier traffic. If turning lanes are required, this will probably cost another million dollars, so the total cost of road improvements will be about \$3.6 million. As with TR 422, the cost will be recovered, in part, by a levy on all new lots in the development area.

It was estimated above that about 1,000 new lots could be created in the study area, so a levy of \$3,500 per lot will cover the County's road-building costs. This is in addition to the TR 422 levy of \$2,000, so the total road levy per lot will be \$5,500.

Not all roads will be built immediately. Council will set priorities based on existing and expected traffic patterns.

Internal subdivision roads will continue to be built at the developer's expense.

The cost of maintaining roads will be met from the County's general revenues.

Subdivision design guidelines

People designing multiple lot subdivisions in the East Gull Lake area should bear in mind the following design guidelines.

Effect on nearby farming operations

Council is unlikely to approve multiple lot subdivisions which may conflict with nearby farming operations. Developers are encouraged to contact adjacent landowners at an early stage to discuss any possible conflicts, and how these may be resolved.

- Cluster design:** On Class 3 soil without lake views, developments should be clustered, leaving large areas unsubdivided. This will preserve agricultural land, create green belts between developed areas, and provide areas where treated waste water can be disposed of by irrigation.
- Road systems:** Multiple lot subdivisions should have more than one entrance so that emergency vehicles have access even if one road is blocked.
- Road continuity is encouraged, but the layout should discourage people from using internal subdivision roads as a short cut from one range road to the next.
- Drainage:** Runoff should normally be retained on site and allowed to soak in to the ground, instead of being channelled into the lake.
- Lot sizes:** The County encourages a mixture of lot sizes. Land with lake views, or which is tree covered, should generally be subdivided into small lots. Large lots should be limited to open land without views. Developers are encouraged to consider mixes of zoning to allow this sort of diversity.
- Wildlife:** The design of subdivisions must bear in mind the needs of wildlife, and should preserve travel corridors and wetlands.
- Trails:** Developers are encouraged to create systems of walking trails which connect to walkways on adjacent quarters.
- Reserves:** Where there is no need to take land for wildlife habitat or trails, the County is open to taking money in place of reserves, and will use this money to buy or develop land on the lake shore to provide lake access for use by back lot owners.

Water supply

Using groundwater to supply five thousand people is not unusual. Until recently the Town of Ponoka used wells to supply over six thousand people plus industry in an area of only about four square miles. However, it is necessary to prove supply before development is approved.

If a multiple lot residential subdivision is to use groundwater, the Water Act requires the developer to provide an engineer's report, certifying that there is enough water for the new lots without depleting the supply to existing farms and residences. Engineers' reports submitted with existing subdivisions show that there is generally a good supply of groundwater in the area, but these tests look only at the effect of the incremental development. They do not consider cumulative effects. The County therefore engaged Hydrogeological Consultants Ltd (HCL), a firm of consulting engineers, to answer three questions:

- o How much groundwater is available, on a sustainable basis, to supply residential development in the study area, without depleting the supply to existing households, licensees, and traditional agricultural users?
- o Will the extraction of this much groundwater affect natural systems such as the state of wetlands, and the quality and quantity of inflows to the lake?

- o Will the change from agriculture to residential use affect infiltration rates, either positively or negatively, and is it possible or desirable to increase infiltration through surface engineering measures, or by control of land cover?

HCL constructed a water balance model which estimated precipitation, infiltration rates, evapotranspiration, aquifer replenishment, and human consumption. They concluded that there is ample water for the proposed lots without depleting the supply to existing users, and without affecting natural systems or lake levels. Further, the conversion of land from crops to grass should have no adverse effect on groundwater recharge. The full 23 page report is available at the County office.

Sewage disposal

The minimum lot size under the County's Country Residential zoning is two acres, or four times the provincial minimum for on-site treatment and disposal.

Smaller lots may be allowed under Lake Resort or Recreational Vehicle Resort zoning, but the County will require, as a condition of subdivision approval, that they be connected to piped water and sewer systems. The County does not insist on owning and operating these systems: provided they meet Alberta Environment's standards, they may be owned and operated by a condominium association, a residents' association, or a private company.

The County will use its land use control powers to protect any existing water and sewer facilities, including effluent holding ponds and disposal areas.

Commercial services

If the east side of Gull Lake develops as suggested in this document, there could eventually be a summer population of five thousand people, and they will need stores and other commercial outlets. Initially this demand will be met from Rimbey, Ponoka, and Lacombe, but we should plan for a local commercial centre. Experience at Pigeon Lake suggests that about ten acres is needed. Map 4 shows two possible locations. If none of those landowners are interested, the County will consider other locations, preferably on TR 422.

Intermunicipal considerations

People tend to use the shortest route to their destination, so those travelling from the south to developments in sections 33, 34, and 36-41-28-4 may choose to use TR 414 and RR 282 and 283 in Lacombe County. However, if Ponoka upgrades TR 420, people will probably use that road instead of TR 414, reducing the pressure on Lacombe to upgrade its roads.

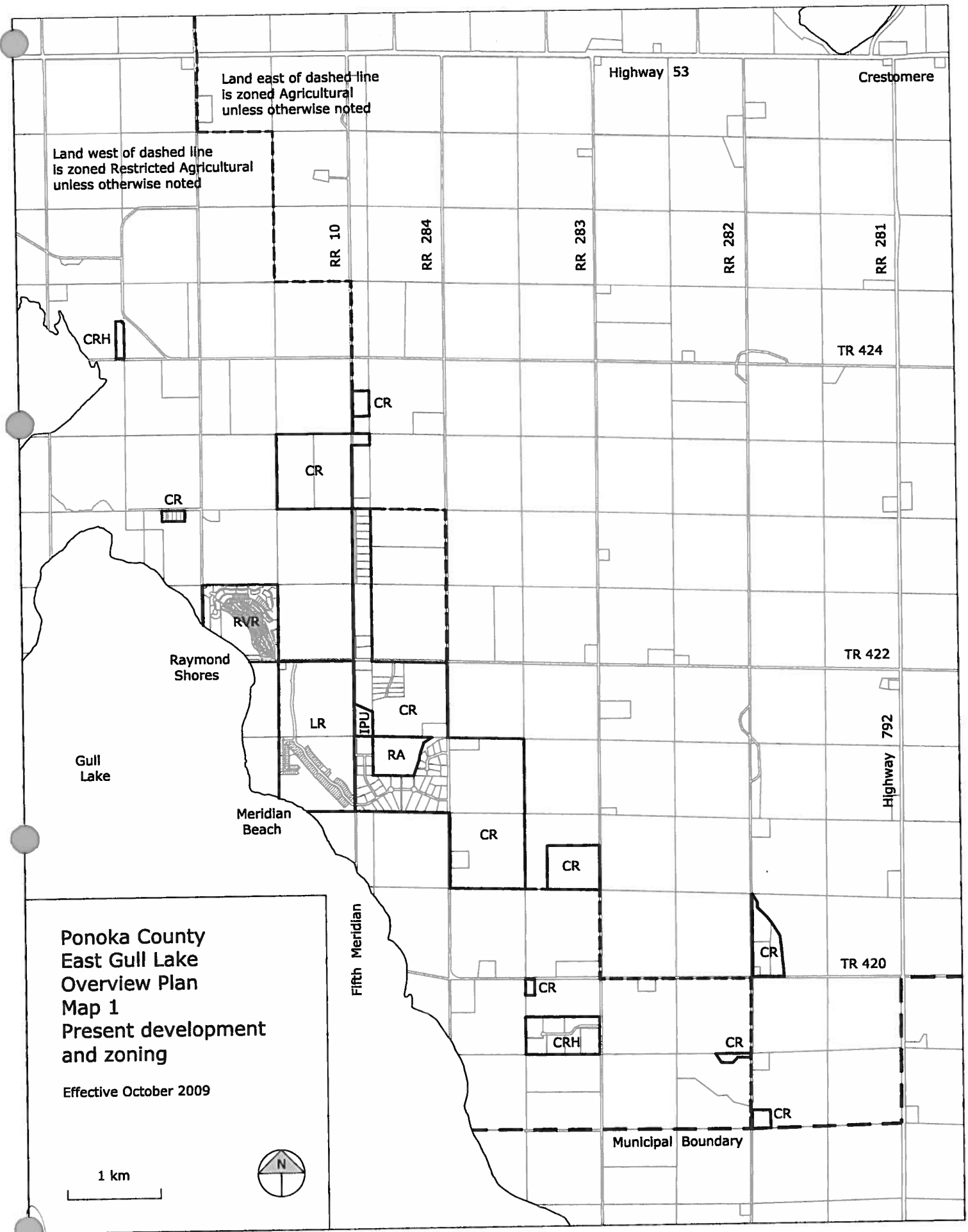
Ponoka will consult with Lacombe on this issue before deciding on its road construction priorities.

Future public input

This document will guide development in the area, but neighbours will still have the opportunity for input on the use of particular quarter sections when landowners bring detailed development proposals to Council.

References and sources

- Legal base mapping: ALTALIS, September 2009
- Topography and drainage: National Topographic Series, Maps 83A12 (Ponoka) and 83B9 (Rimbey), 1:50,000 (both maps 1975)
- Agricultural capability: Canada Land Inventory: Soil Capability for Agriculture, Maps 83A12 and 83B9, 1:250,000: Department of Regional Economic Expansion, Ottawa (1970)
- Ungulate capability: Canada Land Inventory: Land Capability for Ungulates, Maps 83A (Red Deer) and 83B9 (Rock Mountain House), 1:250,000: Department of Regional Economic Expansion, Ottawa (1970)
- Waterfowl capability: Canada Land Inventory: Land Capability for Waterfowl, Maps 83A (Red Deer) and 83B (Rocky Mountain House), 1:250,000: Department of Regional Economic Expansion, Ottawa (1970)
- (NTS and CLI maps listed above may be downloaded as PDF files from www.geogratis.ca, a website maintained by Natural Resources Canada, www.nrccan.gc.ca)*
- County documents: The Municipal Development Plan, Ponoka County, Bylaw 6-08-MDP (2008)
- The Land Use Bylaw, Ponoka County, Bylaw 7-07-LUB (2008)
- Development setbacks: Subdivision and Development Regulation, AR 43/2002
- Oil and gas installations: sections 10 and 11
 - Waste water treatment facility: section 12
 - Landfill sites: section 13
- Abandoned wells: Advisory Land Use Planning Notes: Abandoned oil and Gas Wells: Energy Resources Conservation Board, Calgary (2009)
- Water testing: The requirement for proof of water supply is in section 23(3) of the Water Act.
- Regional water model: Groundwater Supply at Gull Lake: Hydrogeological Consultants Ltd, file 09-526.00 (August 2009)



Land east of dashed line
is zoned Agricultural
unless otherwise noted

Land west of dashed line
is zoned Restricted Agricultural
unless otherwise noted

Highway 53

Crestomere

RR 10

RR 284

RR 283

RR 282

RR 281

CRH

TR 424

CR

CR

CR

RVR

Raymond
Shores

TR 422

Gull
Lake

LR

IPU

CR

RA

Highway 792

Meridian
Beach

CR

CR

**Ponoka County
East Gull Lake
Overview Plan
Map 1
Present development
and zoning**

Fifth Meridian

TR 420

CR

Effective October 2009

CR

CRH

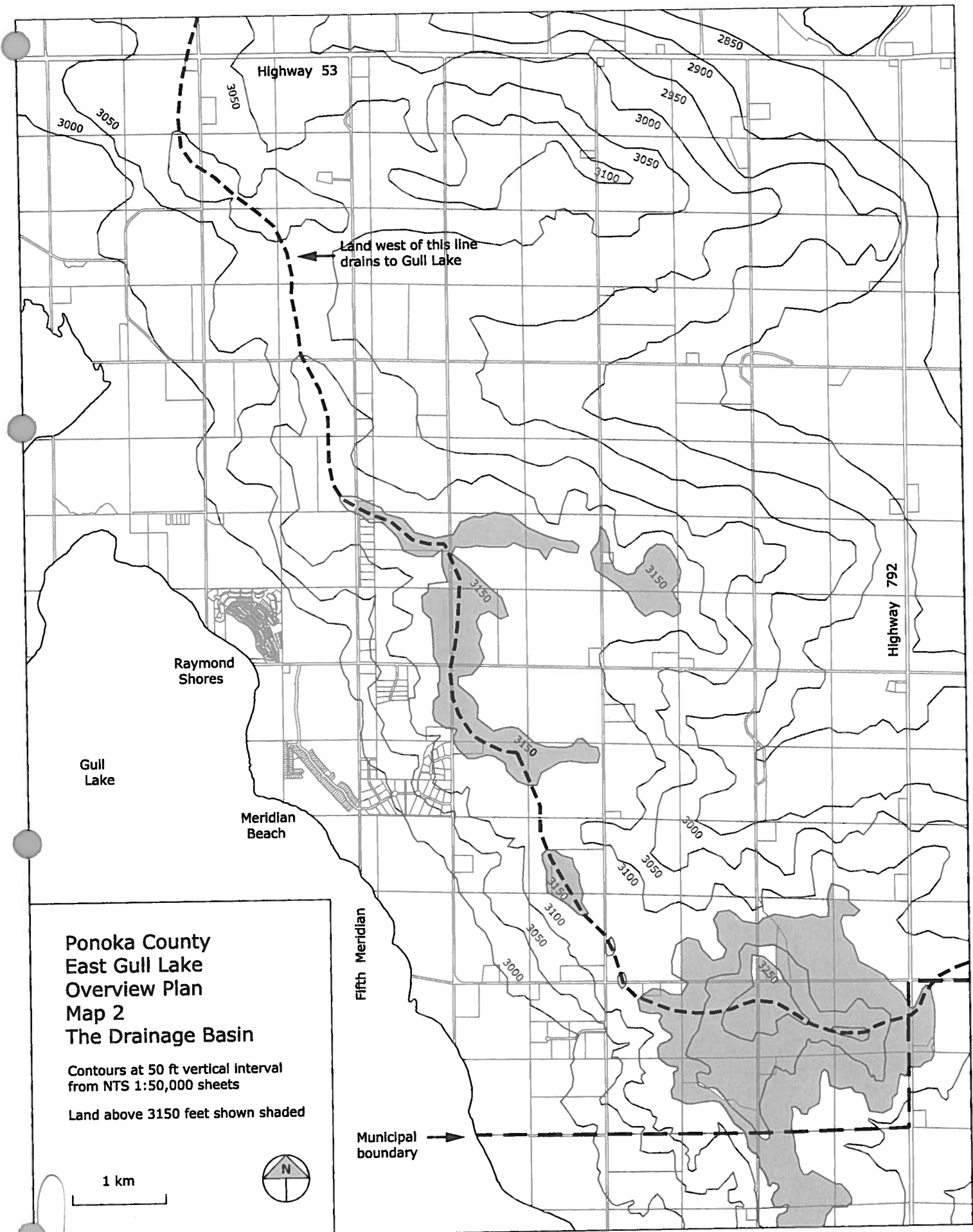
CR

CR

Municipal Boundary

1 km





Highway 53

Land west of this line
drains to Gull Lake

Raymond
Shores

Gull
Lake

Meridian
Beach

Highway 792

Fifth Meridian

Municipal
boundary

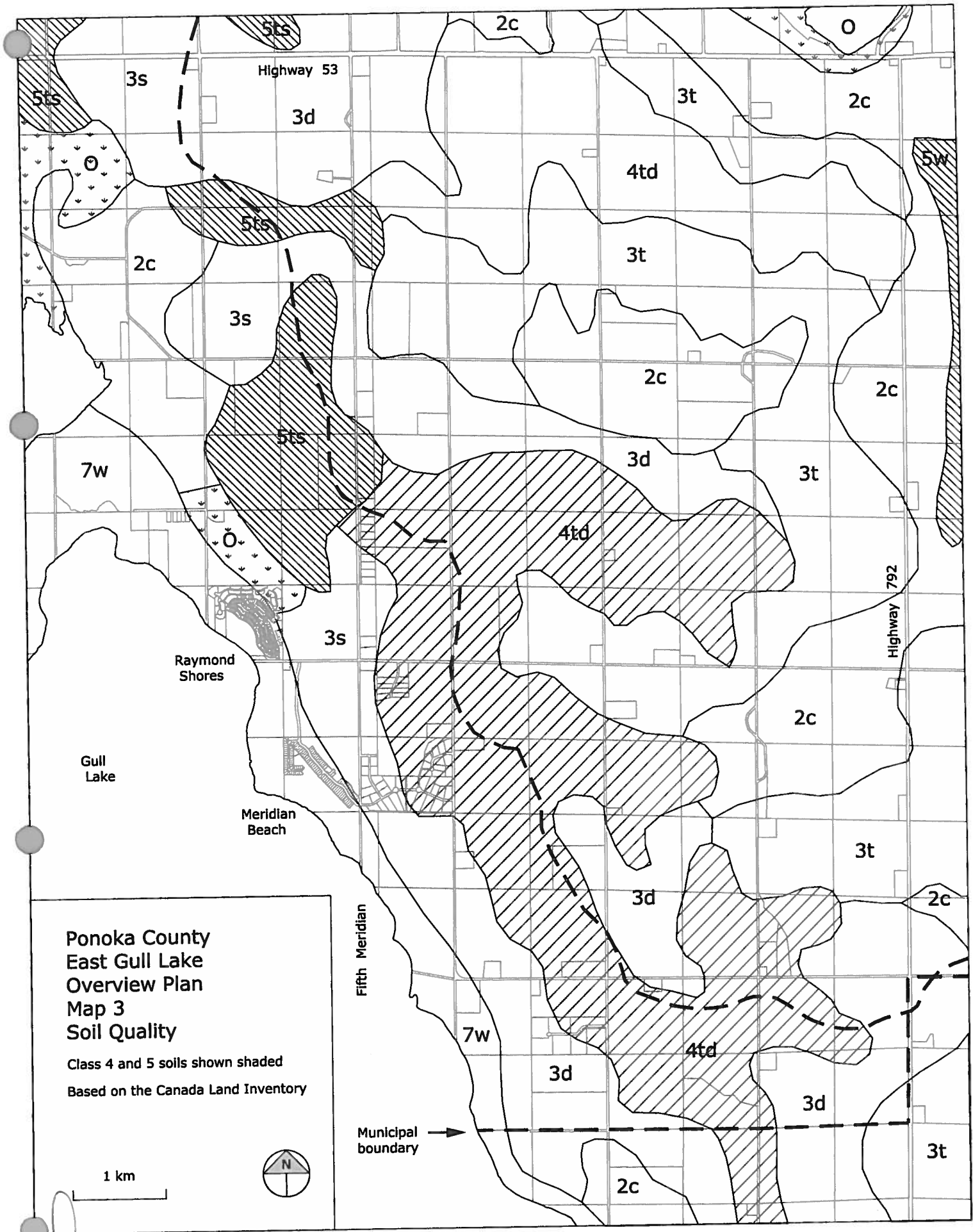
**Ponoka County
East Gull Lake
Overview Plan
Map 2
The Drainage Basin**

Contours at 50 ft vertical interval
from NTS 1:50,000 sheets

Land above 3150 feet shown shaded

1 km





**Ponoka County
East Gull Lake
Overview Plan
Map 3
Soil Quality**

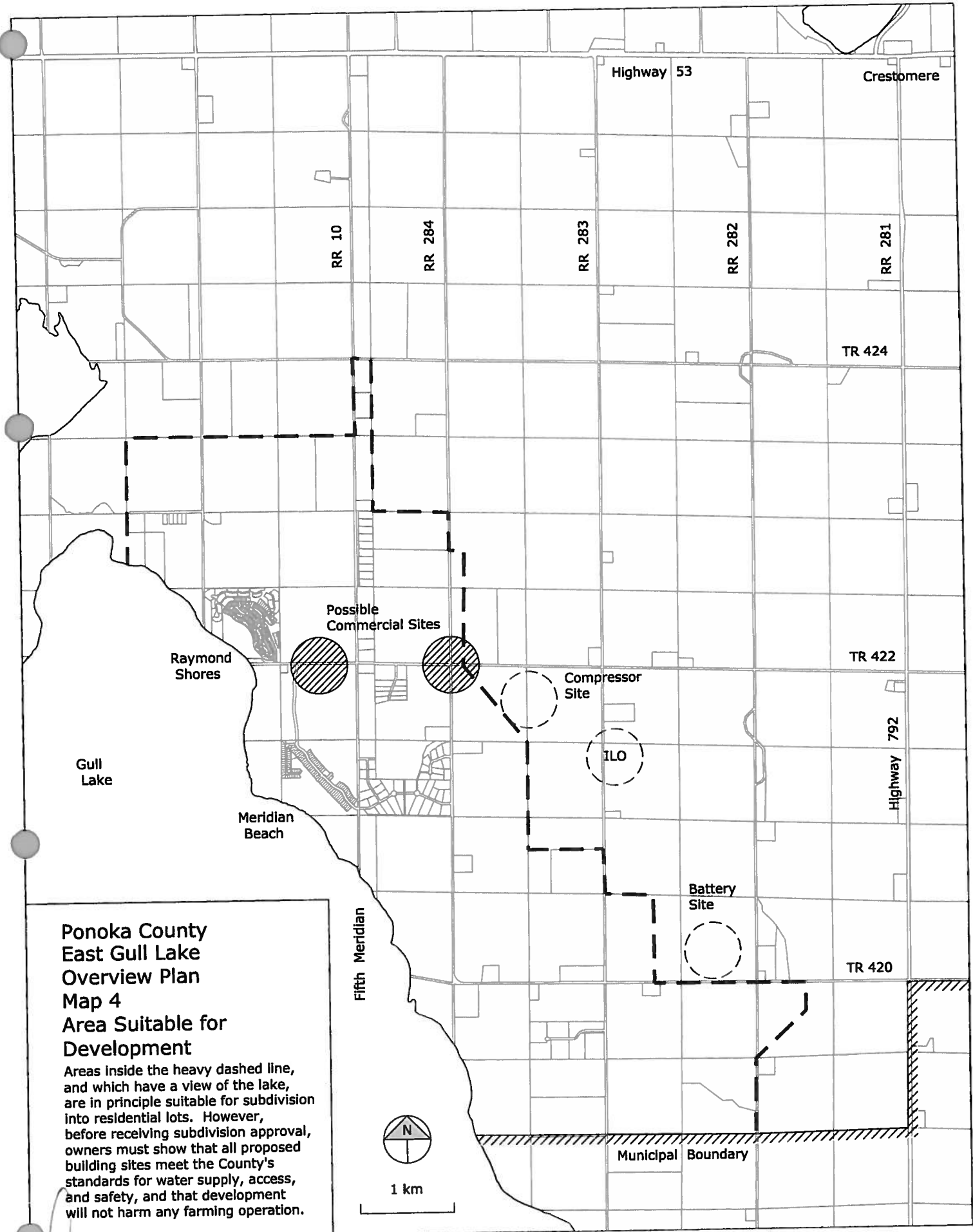
Class 4 and 5 soils shown shaded
Based on the Canada Land Inventory

1 km



Municipal boundary →

h



**Ponoka County
East Gull Lake
Overview Plan
Map 4
Area Suitable for
Development**

Areas inside the heavy dashed line, and which have a view of the lake, are in principle suitable for subdivision into residential lots. However, before receiving subdivision approval, owners must show that all proposed building sites meet the County's standards for water supply, access, and safety, and that development will not harm any farming operation.



1 km

Highway 53

Ponoka County
East Gull Lake
Overview Plan
Map 5
Lake Access

■ Crown and municipal land

1 km



Fifth Meridian

Raymond
Shores

RR 11
Undeveloped

TR 422

Meridian
Beach

RR 10
Undeveloped

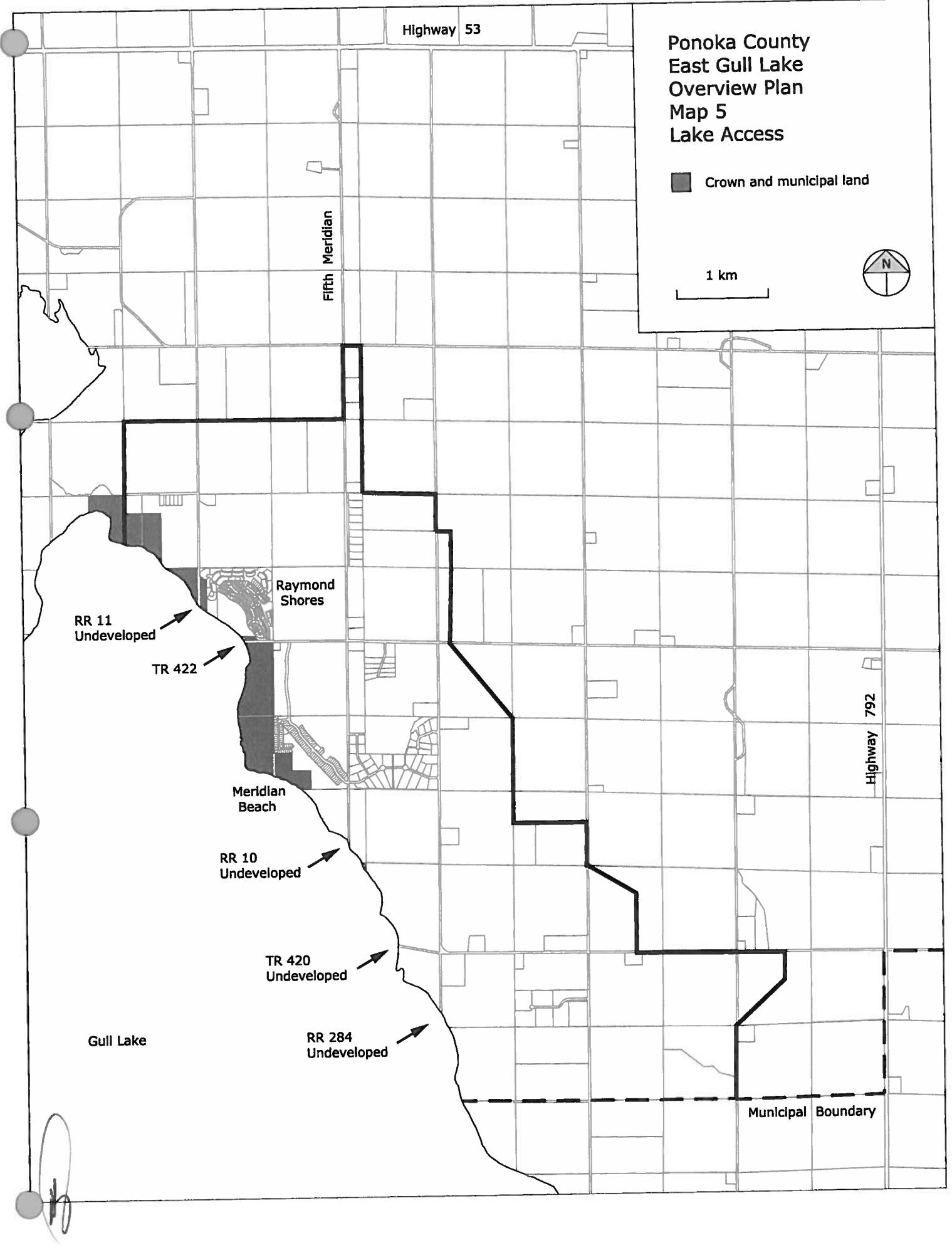
TR 420
Undeveloped

Gull Lake



RR 284
Undeveloped

Highway 792

Municipal Boundary



Ponoka County
East Gull Lake
Overview Plan
Map 6
Required Road Upgrading

-  Roads to be upgraded
-  Highway intersection will require future improvement

1 km

