

BY-LAW NUMBER 2016/63

BY-LAW NO. 2016/63 is a by-law of the County of Wetaskiwin No. 10 in the Province of Alberta, to authorize the adoption of an Area Structure Plan for the purpose of providing a framework for an Area Structure Plan for Donald Martin within NE 1-45-23-W4M, in accordance with Section 633 of the Municipal Government Act, Chapter M-26.1, Revised Statutes of Alberta 2000, and amendments thereto.

WHEREAS: at the requirements of County Council, as per Policy 6606, an Area Structure Plan has been prepared for NE 1-45-23-W4M.

AND WHEREAS: the proposed Area Structure Plan has been widely circulated and discussed within the County pursuant to Section 230, 606(1), and 633(1) of the Municipal Government Act, 2000, Chapter M-26.1, and amendments thereto.

NOW THEREFORE: the County of Wetaskiwin No. 10, duly assembled, hereby enacts as follows:

- (a) The document attached to this By-law as "Appendix A", together with accompanying maps, is hereby adopted as the Donald Martin Area Structure Plan within NE 1-45-23-W4M.

1. This by-law comes into effect on the date of third reading.

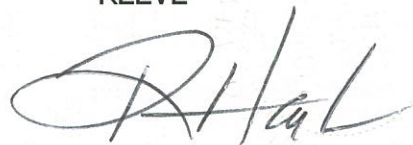
READ: A First time this 8 day of December, A.D., 2016.

READ: A Second time this 8 day of December, A.D., 2016.

READ: A Third time and finally passed this 8 day of December A.D., 2016.



REEVE



SECRETARY-TREASURER

**County of Wetaskiwin
Area Structure Plan
NE 1-45-23-4
Owner: Don Martin
RR 2 Wetaskiwin, Alberta T9A 1W9**

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1 Purpose of this area structure plan

Don Martin has owned NE 1-45-23-4 since 1976, originally in partnership with the late Doug Hutchinson, and then as sole owner.

The Battle River crosses the property. As part of his estate planning, Dr Martin wishes to create three residential lots for family members on the 52 acres of mostly tree covered land east of the river. The land west of the river will remain as a single parcel containing his house.

Map 1 shows the location of the land, Map 2 shows local road access, and Map 3 is a recent air photograph.

2 Land Title

Land covered by the waters of the Battle River is explicitly excepted from the title, leaving an area of 143 acres.

Although the property is near Samson land, it has never been part of the reserve.

3 Municipal policies

The land is in the County of Wetaskiwin, and development is controlled by the County's municipal development plan (MDP), land use bylaw, and planning policies. The most relevant policies are the desire to preserve tree cover in river valleys, and to protect good farm land for agriculture. .

Preserving tree cover: The MDP acknowledges the value of natural tree cover along rivers. To quote that document:

Objective 3.5: Retain existing tree cover

Tree covered and near the major lakes rivers and streams has an important role to protect and filter the water. The County has been encouraging landowners to maintain the tree cover through several conservation districts.

3.5.1 The land within 1.6 km (one mile) from a river, stream, watercourse, or lake is protected for watershed protection and may be re-districted to appropriate land use districts.

In support of this policy the County has created a Rural Conservation district in the land use bylaw:

The purpose of this district is to preserve tree and vegetation cover in the County. The district may be implemented next to significant rivers, streams and lakes...

-- Land use bylaw 95/54, Schedule B, section 8

Rural Conservation allows lots as small as ten acres on land where at least 60% of the area is covered by trees. Experience has shown that most of the land remains undisturbed on lots of this size.

This ASP proposes to subdivide mostly tree-covered land, adjacent to the Battle River, into three parcels under Rural Conservation zoning, while the area with agricultural value west of the river will remain under Agricultural zoning.

Protecting agricultural soils: The Canada Land Inventory (Red Deer sheet, Map 83A) rates the land as 5w. Class 5 soil is described in the CLI notes as having "very severe limitations that restrict their capability to producing perennial forage crops". This low productivity has been further reduced by the County and the Muraca gravel operations (see section 8).

The assessment maps provided by the County were produced in 1984. They appear to be outdated because second growth trees have encroached on to formerly cleared land. The river is also plotted erroneously, which invalidates some of the area calculations. Nevertheless, the soil ratings for each class of use are probably still accurate. The crop land west of the river is rated 65%. Two areas of cleared land east of the river, with a combined area of about eleven acres, now in grass, are rated 59%. Native timber is rated 21%. The old gravel pits, now being taken over by second growth trees, are rated 10%.

Measuring from the latest available air photography, supplied by WCPA (Map 3), the areas east of the river are as follows.

<u>Use</u>	<u>Soil rating</u>	<u>Acres</u>	<u>Percentage of all land east of river</u>
Cleared land in grass	Rated 59%	11	21%
Native timber	Rated 21%	16	31%
Former gravel pits	Rated 10%	23	44%
Yard site	Not rated	2	4%
Total		52	100%

Soils with a farmland assessment rating (FAR) of more than 30% are generally reserved for agriculture under section 1.2.1 of the MDP. As the table shows, about eleven acres falls into this category, while the remaining 41 acres (79% of the total) has a FAR of under 30%.

Section 9 below discusses how this affects the design of the subdivision.

4 Provincial policies

Although land use is a municipal responsibility, the County must also consider provincial regulations set out in provincial legislation, and particularly in the Subdivision and Development Regulation, AR 43/2002.

Sewer lagoons:	Residences must be at least 300 metres away from sewer lagoons.
	The closest sewer lagoon is on the Samson reserve, south-east of the Maskwacis townsite, about 10 km distant.
Waste disposal sites:	Residences must be at least 300 metres away from a waste disposal site, and no water wells for human consumption may be drilled within 450 metres of such a site.
	The closest waste disposal site is the County waste transfer station (and closed landfill) on SW 29-45-23-4, about 8 km metres north-west.
Proximity to highways:	A municipality must not approve a residential subdivision within 800 metres of a provincial highway without the prior approval of Alberta Transportation.
	The closest highways to the Martin property are Highway 611, 4 km south, and Highway 822, 4 km west. Subdivision is therefore not restricted by proximity to highways.
Airports:	The Martin property is about 19 km south-east of Wetaskiwin Regional Airport. Subdivision will not affect flight operations. Under Transport Canada regulations, this is Class G (uncontrolled) air space up to 9,500 feet above sea level (about 7,040 feet or 2,145 metres above ground).
	The 1971 1:50,000 scale NTS sheet 83A/14 shows an "airfield, condition unknown" in SE 7-45-22-2, about a thousand metres east of the Martin property. Nothing of the sort can be seen on current air photos or on the ground, so it must be assumed that the airfield has been abandoned, and will not affect any development on the Martin property.

Sour oil and gas installations: A proposal to build a residence within 1,500 metres of any sour gas well or pipeline must be referred to the ERCB for comments.

There are no sour oil or gas installations within 1,500 metres of the property.

Other oil and gas installations: Residences are not allowed within 100 metres of a sweet oil or gas well, or within the right-of-way of a sweet oil or gas pipeline.

There are no wells or pipelines on the property. The closest pipeline is 382 metres east, and the well is 509 metres east. These are shown on Map 4.

Both the houses on the property are served by local gas co-op lines, but these are not covered by the regulations.

Abandoned wells: ABADATA maps show no abandoned oil or gas wells on the property.

Historical resources: The Alberta government's Historical Resources Management Branch (HRMB) has the right to require a historical or archaeological assessment of land which is to be developed. As discussed in section 8, the land has been disturbed by gravel extraction, so it is not likely that there are any surviving archaeological resources. Nevertheless, the developer asked HRMB for an opinion.

On 28 September 2016, HRMB gave approval and stated that no site investigation is required (their file 4835-16-0070-001).

In summary, there are no provincial policies which prevent residential development on the Martin property.

5 Other local jurisdictions

The subject quarter lies 4.8 km west of the Camrose County boundary, and 5.7 km east of the boundary of the Samson Reserve. The closest urban municipality is the City of Wetaskiwin, 15 km north-east. None of these are close enough to require a referral under section 7.1.2 of the County's MDP.

6 Possible conflict with confined feeding operations

The NRCB identifies three confined feeding operations within 5 km of the Martin property. They are shown on Map 1.

- The closest is Feather Fantasy, authorized for 38,000 broilers, on SE 36-44-23-4. The NRCB approval documents show a minimum distance separation of 847 metres to any multi-lot residential area. The actual distance to the Martin property is 1,620 metres.
- The Lambrecht broiler operation, authorized for 35,000 birds, is situated on NW 33-44-23-4. The MDS is unknown but it may be assumed to be similar to the similar size Feather Fantasy operation, between 800 and 900 metres. The actual distance is 5,500 metres.
- The Reimer broiler operation, approved for 81,000 birds, is on SW 20-44-22-4. This is 4,400 metres away.

There does not appear to be any conflict between the proposed development and any of these approved feeding operations.

7 Slope, drainage, and flood risk

Map 5 shows contours across the quarter, with a vertical interval of one metre.

The land proposed for subdivision generally lies in the bottom of a wide valley incised as much as 23 metres into the surrounding uplands. The Battle River itself is incised further two metres into the broad valley bottom. In normal high water events, the river is contained in this lower channel, but heavy spring runoff (such as in 1974 and 1982) or extreme summer storms (such as in 1990) can cause it to overflow.

Alberta Environment has no photography of the 1974 flood in this part of the river, but photography is available for the 1982 event. The flood peak appears to have been slightly below 742 metres.

The 1990 flood was photographed in the Ponoka and Gwynne areas, but there is no coverage in Township 44. However, Dr Martin recorded the flood peak at several points. It appears that the high water mark was between 741 and 742 metres. The existing house (marked A on Map 5) on the east side of the river was not flooded, nor was a cabin about 200 metres north (marked B). A mobile home on the adjacent quarter (marked C) was close to the flood line but not under water.

Houses without basements therefore appear to be safe from flooding at historic levels if they are above 742 metres. However, houses with basements need to be higher because water is likely to percolate horizontally through gravel-rich subsoil. If the

basement is 1.5 metres below ground, any location below 743.5 metres ($742 + 1.5$) could be at risk.

The way to deal with this risk is to register a covenant or similar encumbrance on the titles of the lots, requiring that the lowest floor, basement, or crawl space of any dwelling be at an elevation of at least 743 metres. The encumbrance can be registered by the developer, or by the municipality through an agreement under section 655 of the Municipal Government Act. It will run with the land to warn future owners.

8 Present and former uses of the land

Air photography from the 1950s shows most of the land east of the river as a single large hay field. In 1959 the County purchased 18.11 acres to extract gravel at the north end. This was registered as Plan 6033 KS. Muraca also took gravel from leased land to the south of the County property.

Air photography from the 1970s suggests that the excavations were not deep. This inference is supported by the fact that even in the 1990 flood the only area under water was at the very north end of the property.

Gravel extraction had ceased before Dr Martin bought the land in 1976. The land was roughly levelled but the area was not reclaimed to present-day standards. Poplars and other native trees have since taken over much of the old working areas in the past 40+ years. Plan 6033 KS was cancelled in 1996, and the land was consolidated back into the quarter.

9 Proposed design and zoning

The subdivision is designed to be consistent with Rural Conservation zoning. In this district, the minimum parcel size is 10 acres, and 60% of each lot must be tree covered.

Map 6 shows the proposed design. Land west of the river will remain a single parcel with Agricultural zoning. There will be three lots east of the river, ranging in size from 15.6 acres to 18.1 acres. All three lots have building sites which are above the 1982 and 1990 flood elevations.

On a strict reading of the land use bylaw, Lot 1 does not qualify for Rural Conservation zoning because only 44% is covered by trees. There are two ways of dealing with this:

- The County could use its discretion under section 640(6) of the MGA to relax the requirement for 60% tree cover for Lot 1.
- Alternatively, the tree cover on Lot 1 could be raised to 60% by introducing an additional three acres of trees. Trees naturally colonize open land, and the three

acre deficiency could be made up by natural processes in a few years. (A development agreement, registered at the time of subdivision, could ensure this is done.) To speed up the process, trees from the west parcel of the river could be moved across the river over an existing shallow ford.

10 Road access

Range Road 230 runs adjacent to the proposed lots. It is a well maintained gravel road which adequately serves local farm traffic and is a school bus route.

This road will be upgraded in future to accommodate traffic to and from a new gravel operation planned for NW 6-44-22-4 by Border Paving Ltd. County staff have indicated that, as a condition of issuing a development permit, Border Paving will be required to upgrade the road south to TR 450. In particular, the steep hill immediately south of the Martin property will be lowered to reduce the gradient and to improve sight lines.

Border Paving has indicated that the road upgrade will not require a wider right-of-way. However, if the County wishes, the landowner is willing to enter into a five metre road acquisition agreement that would be caveated on the titles of the three lots adjacent to the range road.

As required by County Policy 6615, Dr Martin will contribute \$2,000 per lot, \$6,000 in total, towards the cost of upgrading County roads.

The three subdivided lots will have individual approaches. Lot 1, the south lot, contains an existing house and yard. It will use the existing approach on to RR 230. Lot 1 also includes the original approach used to access all land east of the river prior to gravel extraction; that approach was also used to access the Muraca site located on proposed Lot 2. It will be abandoned, and a new approach constructed further north on Lot 2. Lot 3, the north lot, will use the approach constructed by the County for access to its old gravel pit. All approaches will be built or upgraded to current County standards.

As suggested by the Director of Public Works, a 20 metre panhandle will be created across the north side of Lot 3 to provide additional legal access to the remainder of the quarter west of the river.

11 Reserves

When land is subdivided into multiple lots, the municipality has the right to take ownership of all undevelopable land as environmental reserve, and up to 10% of the developable land as municipal reserve (Municipal Government Act, sections 664 and 665).

No reserves are due on agricultural parcels of 40 acres or more (MGA s.663(b)). Although that section of the Act speaks only of "reserves", an appeal decision by the Alberta Planning Board (now the MGB) in the Eggleston case (RW/81/021) ruled that the exemptions under section 663 apply equally to municipal and environmental reserves. The 91 acres west of the river will remain agricultural, so reserves only need be addressed on the land to be subdivided east of the river.

In preliminary discussions with the landowner, County staff suggested that a six metre strip of environmental reserve should be dedicated adjacent to the river.

Environmental reserve land is not cost-free to the municipality. It has to be maintained so it does not become a fire hazard. It is legally open to all, so there may be problems with abuse, and this can expose the County to legal liability.

The MGA implicitly recognizes these problems and gives municipalities an alternative way of protecting sensitive areas. Instead of taking full ownership, municipalities may register an environmental reserve easement which limits the use of the land, requiring it to be left in its natural state. Easements are allowed by section 661(2) of the MGA and under Policy 3.1.7 of the County's MDP. They run with the title and are binding on future owners. They have worked very well around Battle Lake and Coal Lake in the County of Wetaskiwin, and at Chain Lakes in Ponoka County. Map 6 therefore shows the land along the river remaining in the subdivided lots, but subject to an ER easement in favour of the County.

Environmental reserve applies only to undevelopable land. Additionally, the municipality may require that up to 10% of the developable land being subdivided is dedicated as municipal reserve for parks, schools, and buffer strips separating different land uses (MGA section 666.1).

There is no need for parks or school sites in this part of the municipality. The developer therefore proposes to pay out reserves in cash under section 667 of the MGA, using the values set out in County Policy 6602. Alternatively, if the County prefers, reserves could be deferred.

The landowner acknowledges that the County, in its role as subdivision authority, will make a decision on environmental and municipal reserves at the time of subdivision, after seeking the advice of provincial departments.

12 Water supply

The three lots will take their domestic water from the local groundwater, so the developer engaged Envirowest, a firm of consulting engineers, to evaluate the supply.

After examining provincial hydrogeological maps and the drilling logs of 17 wells in the vicinity, Envirowest

concluded, based on the information reviewed, that the proposed development of three new residential parcels would not have significant impact on the local groundwater resources. Water use was estimated from published information and the assessment was based primarily on the data for area wells.

*The estimated water use for the proposed development is 3,750 m³/year based on the predicted withdrawal rate of 1,250 m³ per household per year. **This withdrawal rate represents 9.7 percent of the predicted long term safe pump rate for wells located in the assessment area.** If the wells are assumed to be completed in confined aquifers, as is likely, the percentage of the long term safe pump rate would be **6.8 percent.** The long term safe pump rate is one that would unlikely impact water resources in the area and was based on a conservative estimate of 2/3 of the drawdown of the well being available for exploitation. An additional factor of 0.7 was applied to the safe withdrawal rate.*

*It is concluded that adequate water resources likely exist in the area of the proposed development. **The predicted water withdrawal rate is not expected to adversely impact water quantity in wells in close proximity to the site.*** (Envirowest report, page 8)

The full report has been forwarded to the County under separate cover.

It should also be noted that although Envirowest's report speaks of three new lots, there is already a well serving the house on Lot 1 (tested at 5 gallons per minute) so only two new wells will be needed.

13 Sewage treatment

The residences on the property will use individual private sewer systems. They are large enough to allow open discharge sewer systems (which require a 90 metre separation between the discharge point and any property boundary), but it is expected that the owners will install septic tanks and tile disposal fields.

A tank and field system must be installed with a vertical separation of not less than 1.5 metres from the surface of the ground to the standing water table if the effluent that has had primary treatment, or 1.0 metres in the case of secondary treatment (Alberta Private Sewer Systems Standard of Practice, section 8.1.1.4)

Four test holes were drilled on 15 September 2016 at the probable locations of the houses (two for each location). Holes were initially drilled to more than two metres and were dry. The bottoms of the holes collapsed because of the gravel nature of the subsoil, but in all cases remained open to at least 1.5 metres.

The next day all holes were dry to 1.5 metres, indicating that septic tanks and tile fields can be installed. The sizes of the fields will be determined by the installer following percolation tests.

14 Storm water management

Development with a lot of hard surfaces may increase the amount and intensity of runoff from snow melt and heavy rainfall, and this can damage downstream watercourses. Alberta Environment therefore requires that the rate of runoff be no higher than it was before development. Section 7.1 of the County of Wetaskiwin's engineering design guidelines has a similar requirement. The intensity of runoff is normally reduced by running the flow through a detention pond.

In this case the area of hard surfaces will be very low. They are estimated at:

House and outbuildings	300 m ²	per lot
200m driveway	600 m ²	per lot
Parking area	200 m ²	per lot
Total	1,100 m ²	per lot
Times 3 lots	3,300 m ²	total hard surface

The total hard surface is just 1.5% of the title area. This is so small as to have no significant impact of the volume of runoff. Additionally, the porous gravel soils in the area easily absorb any runoff from adjacent hard surfaced areas. For that reason, no storm water detention pond is proposed.

15 Fire protection

The County normally requires that residential subdivisions have a source of water for fire suppression. If a pond is used, the required volume is 4,000 gallons (18 m³) per house, so three lots require 54 m³. It is not known if the County applies this to very small subdivisions. If so, there are several possibilities.

There is currently a large pond centrally located on Lot 2. This is visible on the air photograph (Map 3) and has been plotted on Map 6. It was created as part of the Muraca gravel operation. It is spring fed and is full even in dry summers, so it can be relied on as a source of water for fire fighting.

If the County requires an on-site source of water, the developer will construct a dry hydrant and all-weather access to this pond. Both will be built to County standards, and protected by an easement registered on the title of the lot.

Additionally, the river can be accessed at a ford on the west side of Lot 2, and at the Todd bridge, half a mile south on TR 450.

16 Subsequent changes to County policies

The developer recognizes that, pursuant to County policy 6606, should development not be started (defined as at least one lot registered) within three years of the adoption of this ASP, the plan may be subject to any new policy or bylaw adopted by Council after the date of ASP approval. Further, the developer acknowledges that if the subdivision is registered in phases, all policies and bylaws at the time of registration shall apply.

17 Request for approval

The landowner requests the County to adopt this area structure plan by bylaw. Once that is done, he will apply for appropriate zoning as set out in section 9. An application for subdivision approval will then follow.

Appendix: public consultation

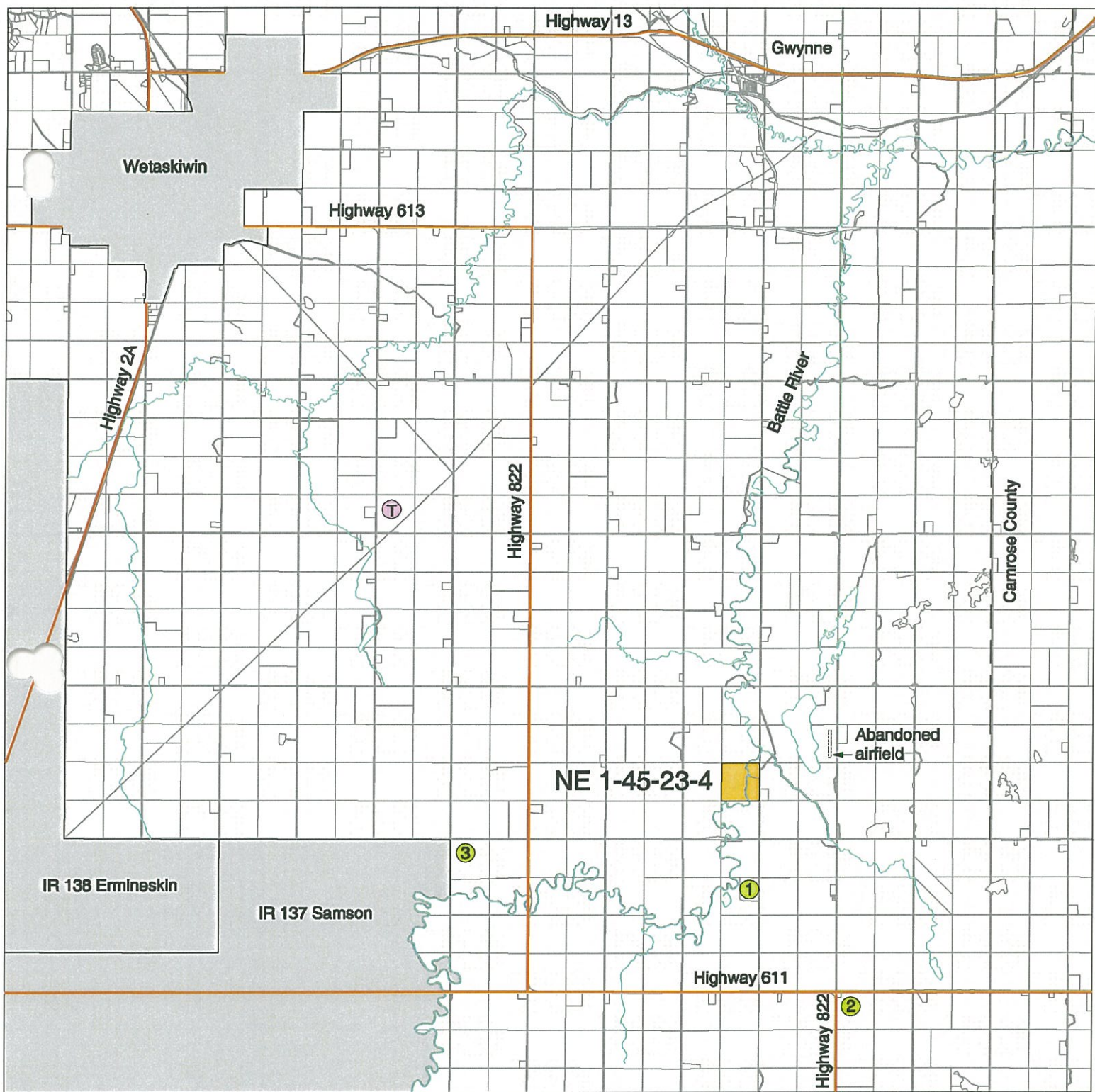
Twenty neighbouring landowners were mailed a summary of the proposed ASP and invited to an open house to discuss it. The open house was held in the evening of Tuesday 8 November at the Angus Ridge Hall.

In addition to Dr Martin, his wife and son, and his planning consultant, four landowners attended the open house. None of the neighbours expressed any opposition to the proposed subdivision. One wanted assurance that there would be enough water for two new families. He suggested that a domestic well should be able to yield 5 gallons per minute.

Dr Martin's consultant explained that a professional engineer had been engaged to assess the water supply. The summary report was made available to those present. It included drillers' logs for 17 nearby wells. The existing well on the proposed Lot 1 had been pumped at 5 gallons per minute.

As noted in section 12 of the ASP, the consultant said that three new lots would take only about 6.8% of the sustainable long-term yield of the local aquifer.

As well as hosting an open house, Dr Martin spoke to most of the adjacent landowners one-on-one. None had expressed any opposition.



County of Wetaskiwin Area Structure Plan NE 1-45-23-4 Map 1: Location

Amended 10 Nov 2016

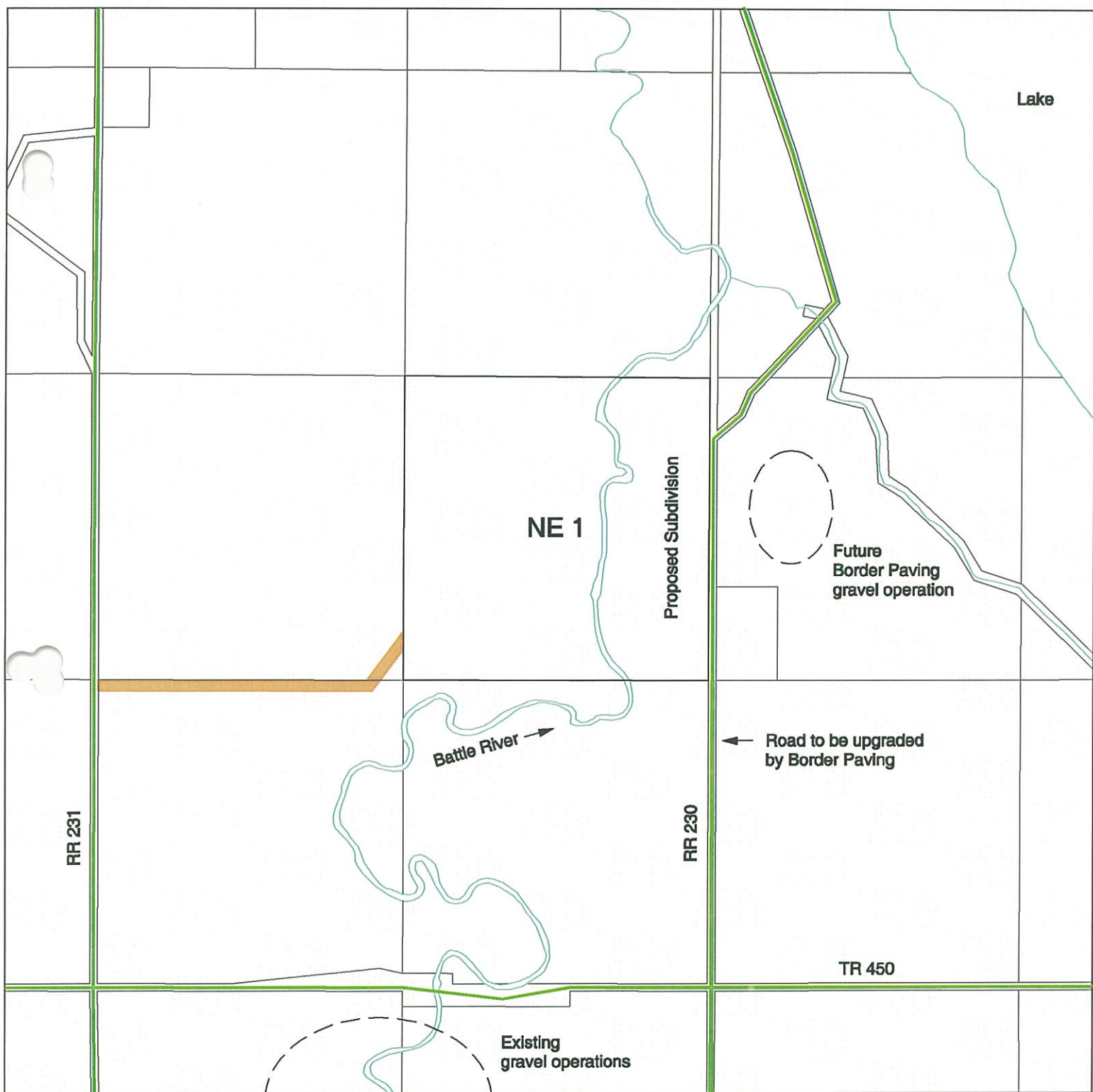
- CFOs within 5 km:
 - 1 Feather Fantasy
 - 2 Reimer
 - 3 Lambrecht

- Ⓣ Closest waste transfer station






1 km

Base map is ALTALIS rotated 1.5 degrees clockwise round 0,0



**County of Wetaskiwin
Area Structure Plan
NE 1-45-23-4
Map 2
Roads and Access Easements**

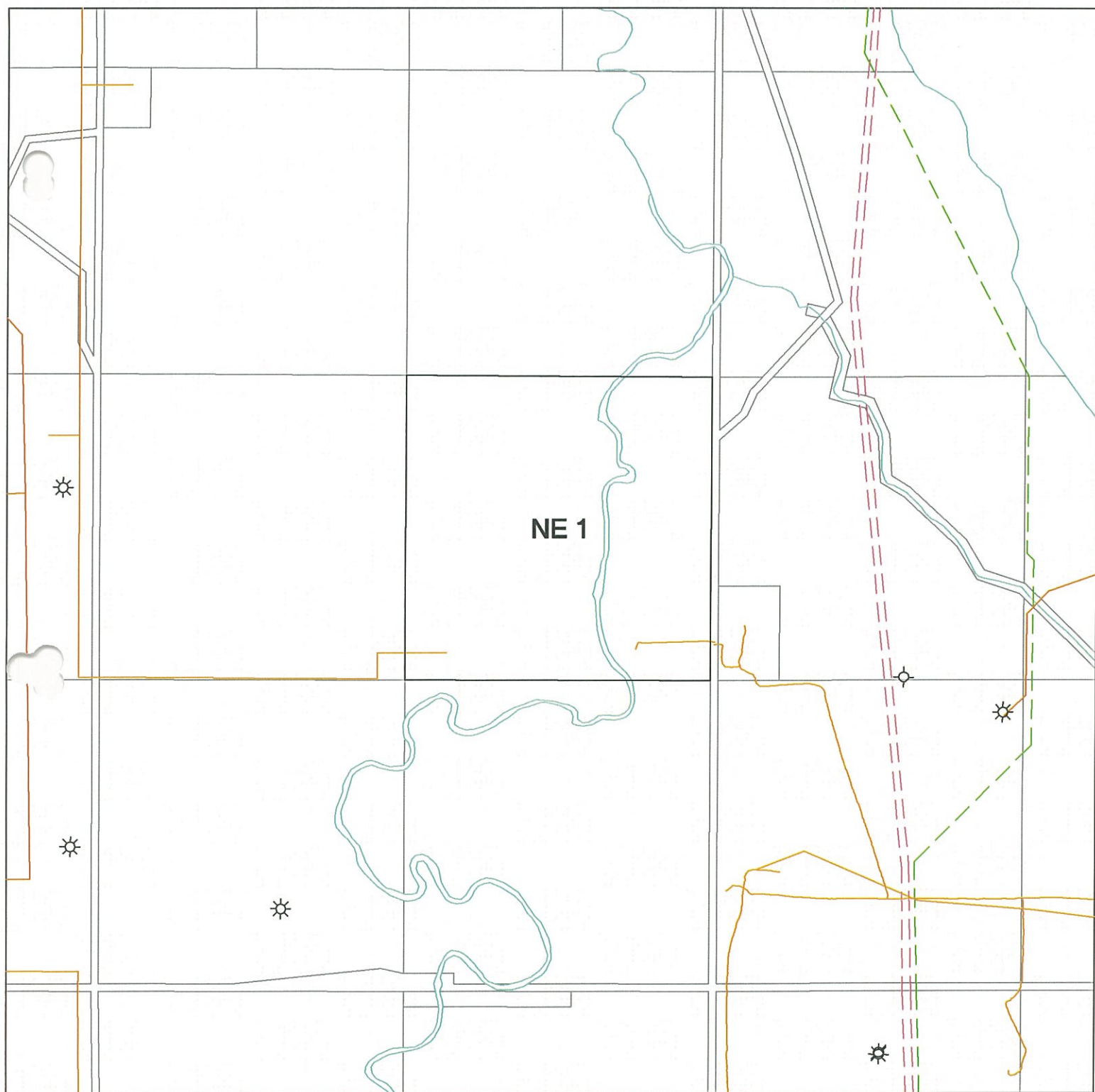
-  County road, gravel surface
-  County road, dedicated but not built
-  Registered access easement



County of Wetaskiwin
Area Structure Plan
NE 1-45-23-4
Map 3
Recent Air Photograph







100m



**County of Wetaskiwin
Area Structure Plan
NE 1-45-23-4
Map 4
Oil and Gas Installations**

Source: Abadata



-  Pipeline HV
-  Pipeline ML
-  Pipeline NG
-  Pipeline LP (Gas Co-op)
-  Flowing Gas Wellhead
-  Abandoned Well



250m

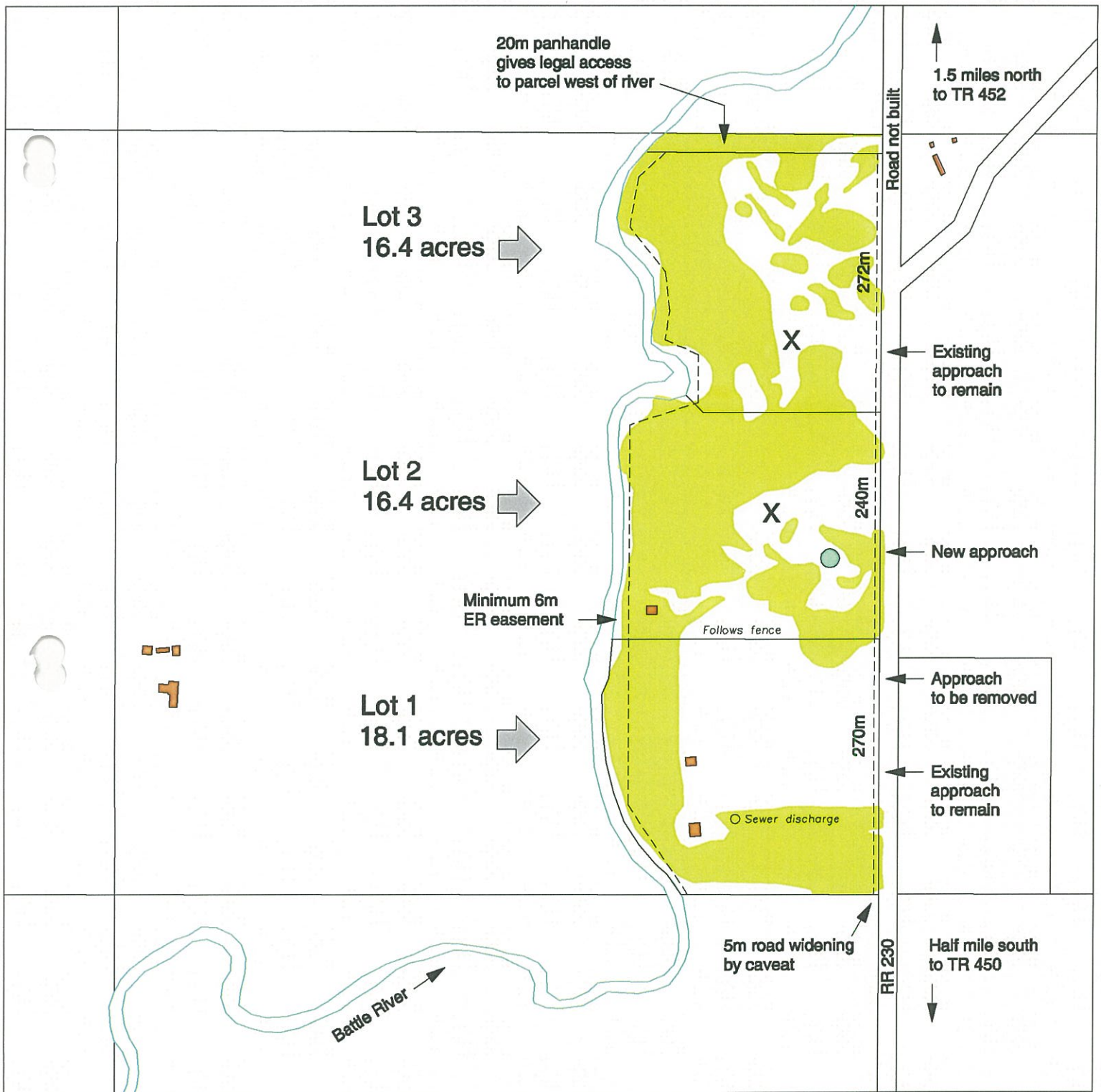


**County of Wetaskiwin
Area Structure Plan
NE 1-45-23-4
Map 5
Contours and Flood Prone Areas**

-  Areas below the 742 metre contour
-  Existing buildings
- ABC Buildings referred to in section 7 of the text



100m



Amended 14 October 2016

County of Wetaskiwin Area Structure Plan NE 1-45-23-4 Map 6 Proposed Subdivision

- X Tested building sites
- Existing buildings
- Tree cover east of river
- Fire pond (if required)

Lot areas include ER easement and future road dedications

Boundaries may be adjusted slightly at the time of survey

River location from air photography, not survey



100m