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**WINDROSE  
AREA STRUCTURE PLAN  
CITY OF LEDUC**

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## **1.0 INTRODUCTION**

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### **1.1 Purpose**

The purpose of this Area Structure Plan is to provide a framework for residential development of a quarter section of land in southwest Leduc. As defined in Section 633 of the *Municipal Government Act*, the purpose of an Area Structure Plan is to describe the proposed land uses, population density, transportation routes, infrastructure, staging of an area proposed for development, and such issues as Council may wish to see addressed.

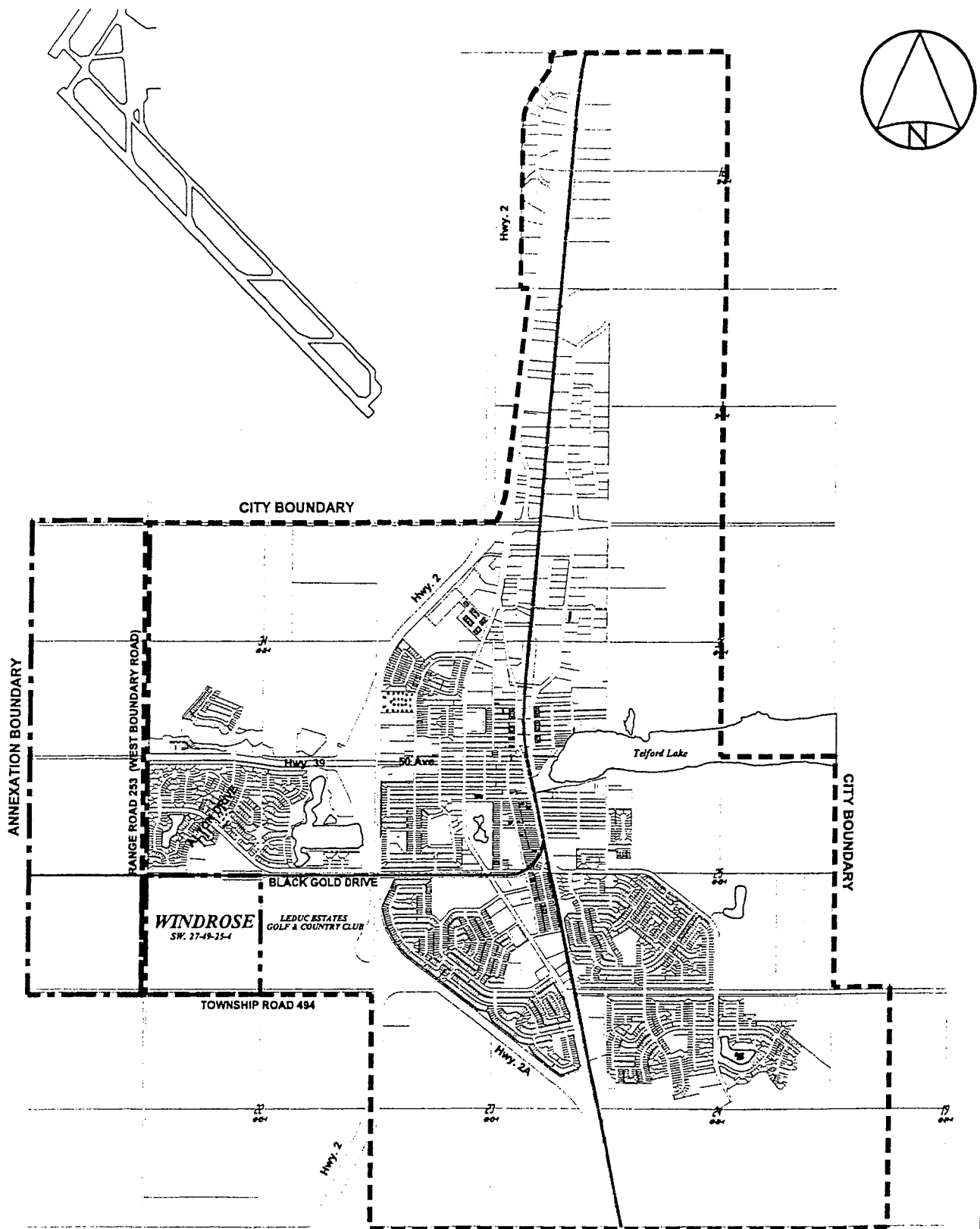
### **1.2 Location and Area**

The Windrose Area Structure Plan is located in the SW Quarter of Section 27, Township 49, Range 25 West of the 4th Meridian within the City of Leduc (Figure 1). The plan area lies south of the existing residential areas of Lakeside Estates and Leduc Estates being separated from these areas by the Canadian Pacific rail line. The plan area is bordered on the east by the Leduc Golf and Country Club, on the south by Township Road 494 and on the west by Range Road 253 (West Boundary Road).

### **1.3 Background**

The development of the Windrose area is the logical outcome of a residential expansion plan proposed in the Leduc Estates and Lakeside Estates Outline Plan in 1974 (Figure 2). The broad concepts presented in the outline plan have served as a guide to all subsequent developments west of Highway 2 since that time, including the development of Leduc Estates and Lakeside Estates north of the Canadian Pacific rail line.

A concept for the plan area was prepared in 1974. This concept showed Alton Drive continuing as a collector south across the Canadian Pacific rail line and through the plan area to its southern edge. This plan, if implemented, would have directed most traffic along Alton Drive and into the residential area north of the Canadian Pacific rail line. The right of way for Alton Drive was surveyed and registered in 1974.



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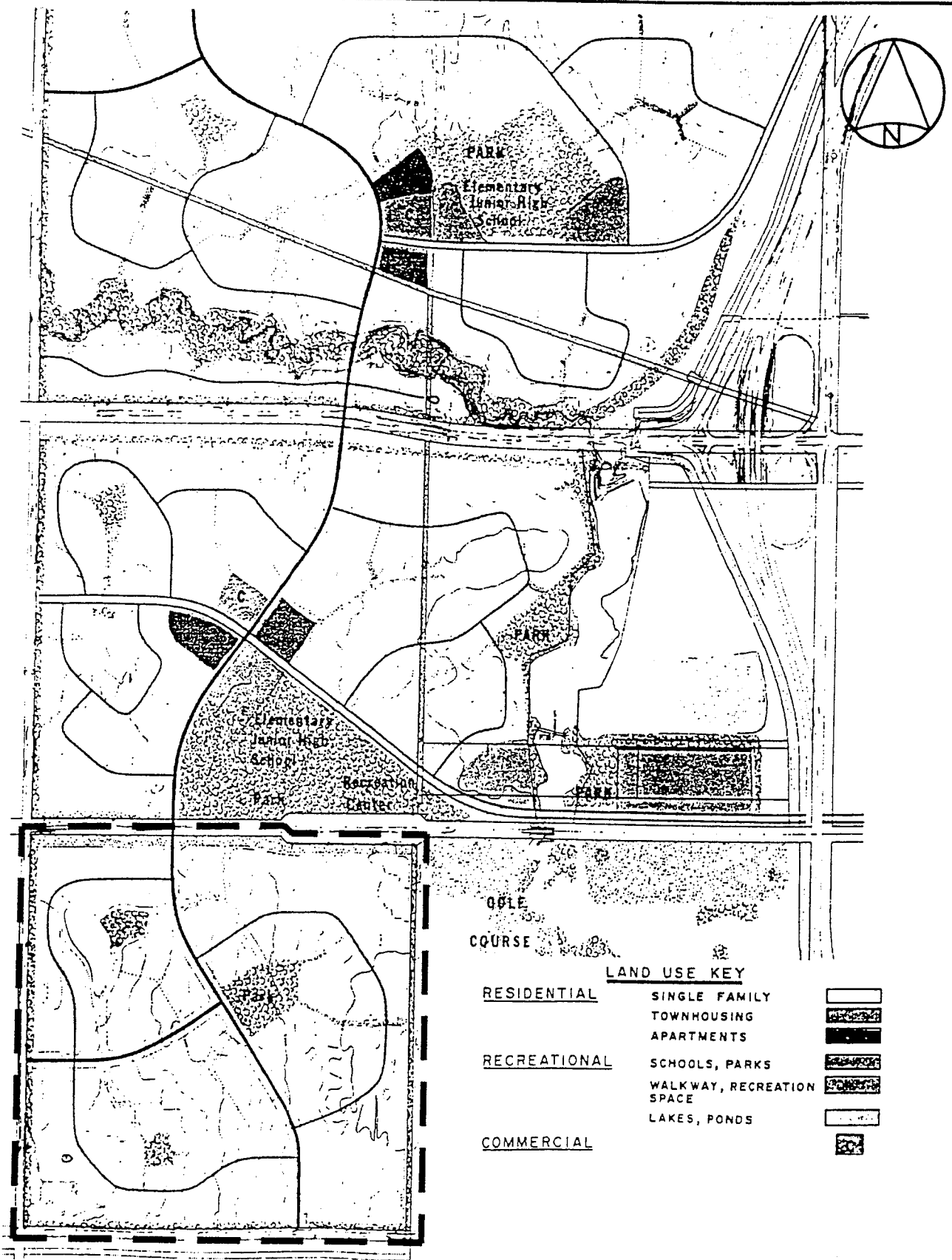
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**WINDROSE AREA STRUCTURE PLAN**

**CONTEXT PLAN**

**FIGURE 1**



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SOURCE:  
 FIGURE BASE BY  
 K.C. MACKENZIE ASSOCIATES LIMITED  
 LEDUC ESTATES OUTLINE PLAN 1974

**WINDROSE AREA STRUCTURE PLAN**

**OUTLINE PLAN - 1974**

**FIGURE 2**

Subsequently, development of the plan area was delayed subject to an agreement to cross the Canadian Pacific rail line at the south end of Alton Drive. The successful completion of a crossing agreement between the City of Leduc and Canadian Pacific in 1998, has created favourable conditions for the planning and development of the site to proceed.

#### **1.4 Land Ownership**

The site comprises 61.68 hectares (152.3 ac) of land held under Certificate of Title 982 160 070 in the name of Andromeda Investments Ltd. A Centra Gas Alberta Inc. easement runs in a north south direction, along the easterly property line (Figure 3).

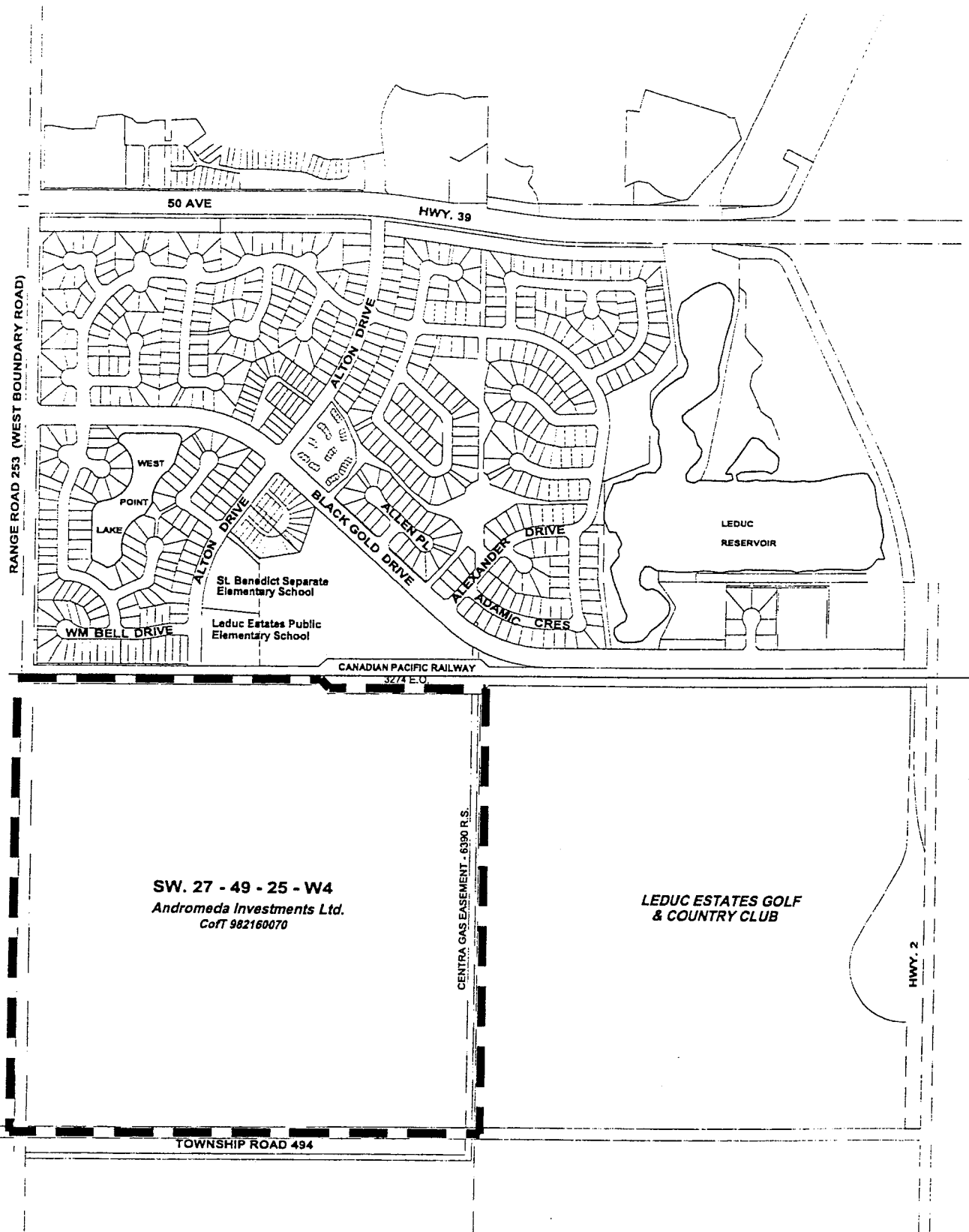
The northern limit of the site is defined by the right of way of the Canadian Pacific rail line, Registered Plan No. 3274 E.O.

#### **1.5 Planning Compliance**

The Municipal Development Plan (formerly General Municipal Plan) for the City of Leduc adopted by City Council in September, 1992 identifies the Windrose area as suitable for future residential urban development. The Windrose Area Structure Plan has been prepared under the provisions of the Municipal Government Act, which provides for the adoption of Area Structure Plans by Bylaw in accordance with the municipality's Municipal Development Plan. The Area Structure Plan has been prepared with consideration of the terms of reference provided by the City of Leduc.

Windrose is located within the area of the Leduc Estates and Lakeside Estates Outline Plan, which was approved by the Edmonton Regional Planning Commission in 1974. There is no record of the Outline Plan having been rescinded, although the Planning Commission has since been disbanded. Therefore the Outline Plan has formed the basis for planning decisions, including the development of Lakeside Estates, since that time. The Outline Plan described the overall land use and circulation concept for approximately 270 hectares (670 acres) of land in what is now Leduc Estates and Lakeside Estates, Bridgeport and Windrose as proposed.

The Windrose area was designated under Bylaw 1455 on July 20, 1981 to R-1A and R-1C (Single Family) and P-1 (Recreation) and U-R (Urban Reserve).



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**WINDROSE AREA STRUCTURE PLAN**

**SITE CONTEXT**

**FIGURE 3**



## 2.0 SITE ANALYSIS

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### 2.1 Site Context

Windrose lies immediately to the south of the residential area of Leduc Estates and Lakeside Estates. Leduc Estates and Lakeside Estates occupy about 80 hectares (200 ac) and comprise all residential development in Leduc west of Highway 2 and south of Highway 39 (Figure 3). Windrose is separated from Leduc Estates and Lakeside Estates by the Canadian Pacific rail line. Alton Drive is a minor collector, which runs north-south from Highway 39 to the rail right of way. With the approval of a crossing agreement, Alton Drive is a potential access to Windrose from the north. The other potential access is the West Boundary Road, which extends south from Highway 39 and defines the west limit of both Leduc Estates and Lakeside Estates and Windrose.

St. Benedict Separate Elementary School, Leduc Estates Public Elementary School and a neighbourhood park occupy a site east of Alton Drive immediately north of Windrose. The development of Windrose, combined with existing residential development, will provide a residential area of about 140 hectares (345 ac). This area is typical of the neighbourhood required to support elementary schools. The two schools will thus be centrally located within a catchment area comprising Windrose and Leduc Estates and Lakeside Estates.

The entire east limit of Windrose is defined by the Leduc Golf and Country Club. The presence of a golf course on its eastern limit is an amenity to the Windrose development.

The west limit of Windrose is defined by the West Boundary Road with agricultural lands on the opposite side. Four quarter sections of land on the west side of Windrose are proposed to be annexed into the City of Leduc in 1999. These lands are tentatively designated for future residential development as indicated in the draft Joint General Municipal Plan. West Boundary Road is designated in Leduc's Transportation Plan as a future arterial road.

Township Road 494 defines the south boundary of Windrose. Land use to the south and southwest is agricultural and in the jurisdiction of Leduc County.

The development of Windrose thus comprises orderly and economical development of the City of Leduc to the southwest.

## **2.2 Site Conditions**

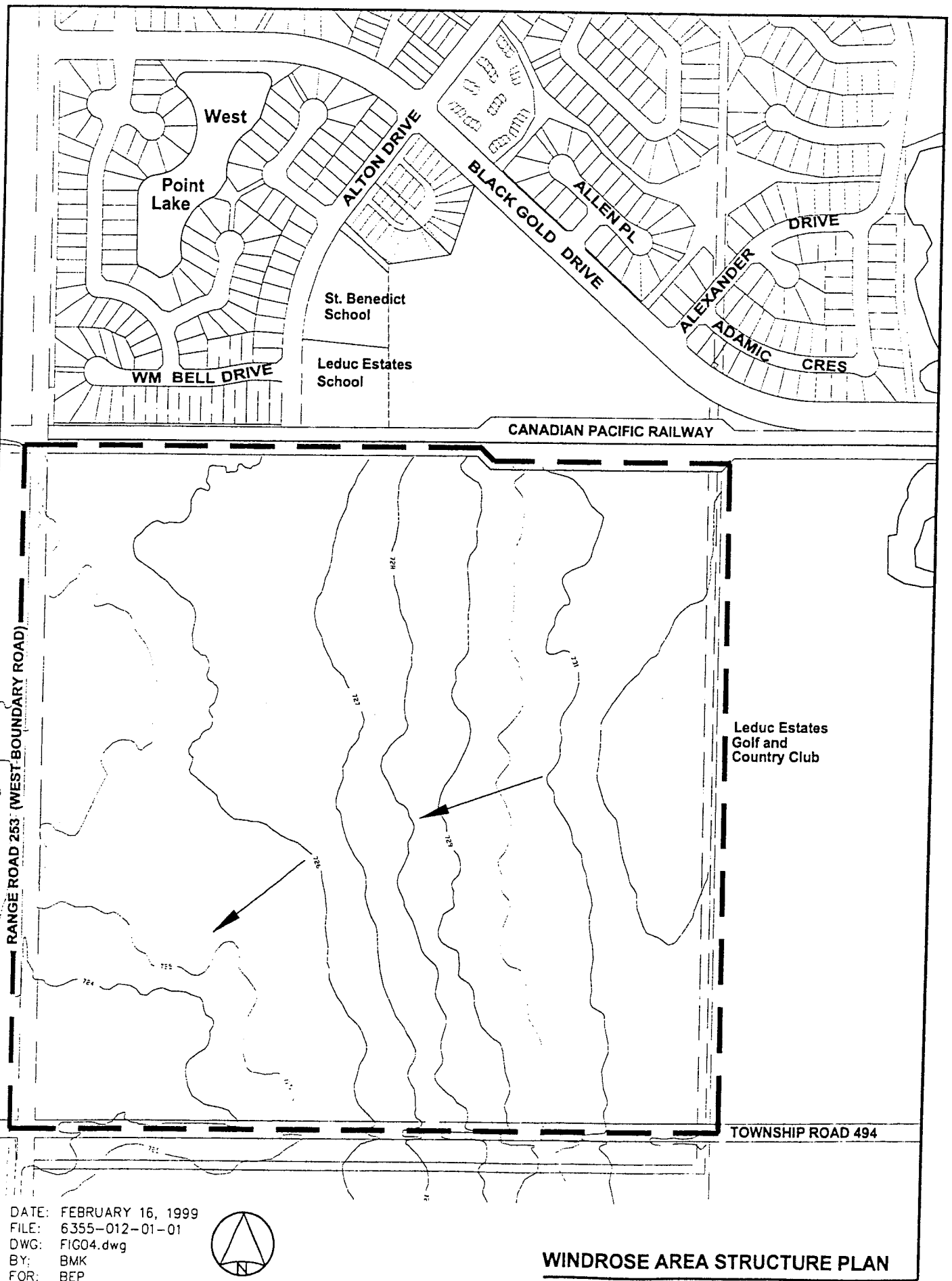
At present the Windrose site is under agricultural land use. There are no tree stands or water bodies on the site.

Site topography is a gentle slope from east to west (Figure 4). The high elevation is 732.1 m near the northeast corner dropping to a low of 723.2 in the southwest corner. The overall elevation difference thus is about 11 m over 800 m, an average gradient of about 1.4%. Natural drainage follows the slopes of the land.

A geotechnical investigation of the site was undertaken in early spring of 1998. The resulting report indicates that the site's general soil stratigraphy consists of topsoil and organic clay overlying silty clay of medium plasticity over a clay till. Significant sand and/or gravel layers were encountered within the clay till in the southeast portion of the site. A number of test holes indicated shale bedrock below the clay till.

The report indicates that generally the subsurface soil conditions encountered throughout the site were suitable for standard concrete footings for single family dwellings.

The report also indicates that the subsurface soil conditions for the site are considered fair to satisfactory for the installation of underground utilities and construction of roadways. In some areas, notably the southeast, utility trench shoring and roadway subgrade modification may be required due to the wet sands and gravel material. The extent will depend, somewhat, upon the final design grades established.



## **3.0 DEVELOPMENT CONCEPT**

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### **3.1 Development Objectives**

The Windrose Area Structure Plan provides an overall framework for the development of the area.

Key objectives, which have guided the preparation of the Windrose Area Structure Plan, are as follows:

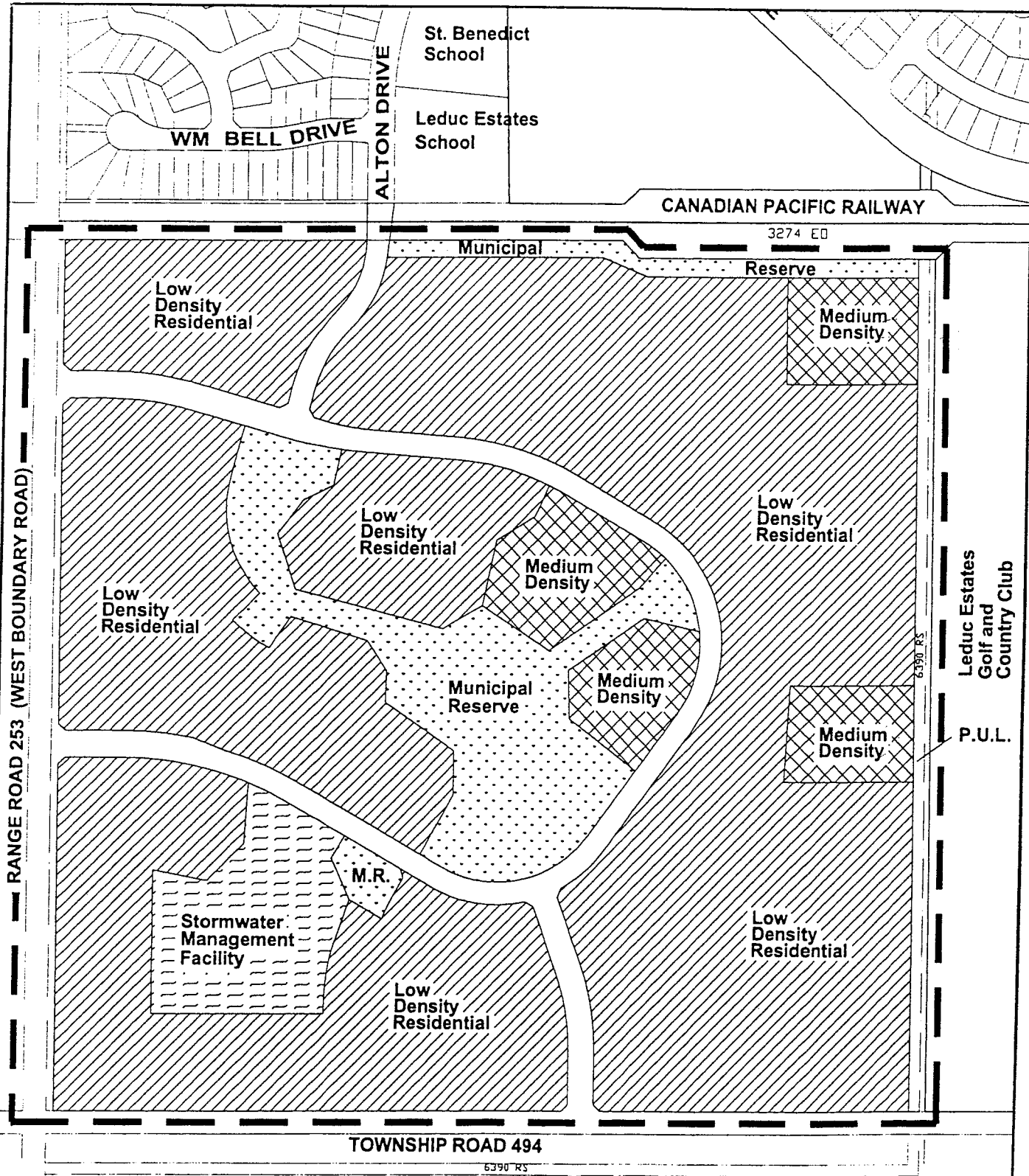
- to create an attractive residential environment that is complementary to and integrated with the adjacent Leduc Estates and Lakeside Estates area;
- to create a parks and recreation system in accordance with the guidelines of the City of Leduc that enhances the quality of life for area residents;
- to provide a safe and convenient transportation and circulation system that directs traffic to the West Boundary Road, while providing a safe link to the area schools located at the centre of the community; and
- to achieve orderly and economical expansion of the City of Leduc within the capabilities and guidelines of its servicing systems.

### **3.2 The Development Concept**

#### **3.2.1 General**

The general development concept is shown in Figure 5 while the development statistics are shown in Table 1. Windrose will be primarily a low density residential development. Four medium density sites for row housing and/or apartment sites are distributed through the area.

The overall circulation system is defined by a loop collector road oriented to direct traffic to the West Boundary Road to the west. Alton Drive is extended south from Leduc Estates and Lakeside Estates but is deflected to the west and terminated at the collector. In this way, access to the schools is provided but the non-school traffic is encouraged to use the West Boundary Road.

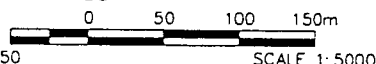


Leduc Estates  
Golf and  
Country Club  
  
P.U.L.

**LEGEND**

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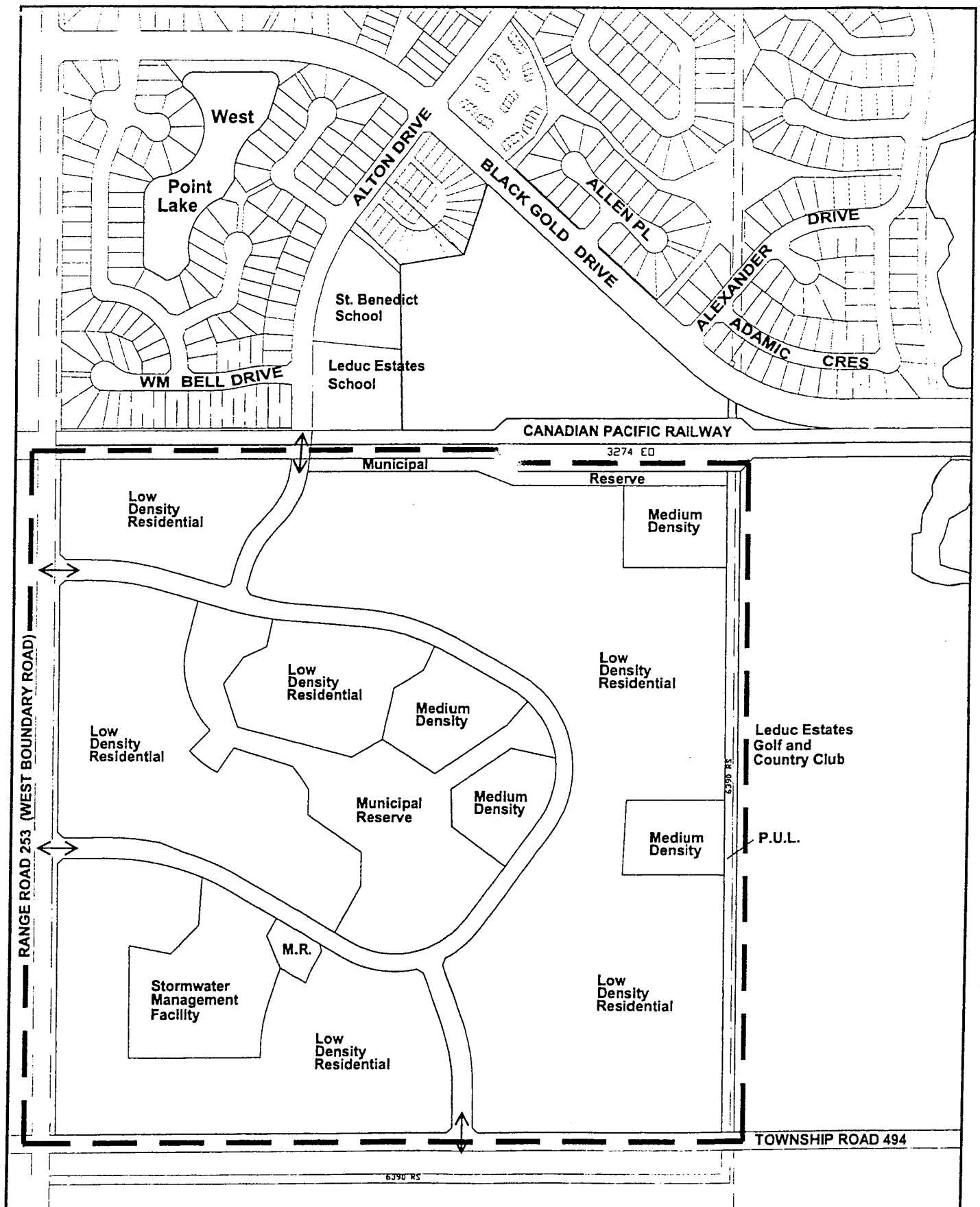
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**WINDROSE AREA STRUCTURE PLAN**

**DEVELOPMENT CONCEPT**

**FIGURE 5**





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**WINDROSE AREA STRUCTURE PLAN**

**DEVELOPMENT CONTEXT**

**FIGURE 6**

**TABLE 1**  
**LAND USE SUMMARY**  
**WINDROSE AREA STRUCTURE PLAN**

<u>Land Use</u>	<u>Area</u> <u>(ha)</u>	<u>%</u>	<u>Dwelling</u> <u>Units</u>	<u>%</u>	<u>Population</u>	<u>%</u>
Gross Area	63.28					
Range Road 253 (West Boundary Road)	1.60					
Gross Developable Area	61.68	100.0				
Roadways ( Includes Existing Range Road 253 (West Boundary Road) and Collector and Local Roadways	11.02	17.87				
Stormwater Management	3.00	4.86				
Environmental Reserve	0.00	0.0				
PUL (Centra Gas)	1.13	1.83				
Municipal Reserve	6.17	10.00				
Residential	40.36	65.44	685	100.0	2,104	100.0
Low Density	35.96	58.30	575	83.9	1,840	87.5
Medium Density	4.40	7.14	110	16.1	264	12.5

Overall residential density: 34.11 persons per gross developable hectares.

Assumptions:	1.	Residential densities	
		Low Density	16 dwellings per net hectare
		Medium Density	25 dwellings per net hectare
	2.	Population densities	
		Low Density	3.2 persons per unit
		Medium Density	2.4 persons per unit

**TABLE 2**  
**POTENTIAL STUDENT POPULATION**  
**WINDROSE AREA STRUCTURE PLAN**

	<u>K-6</u>	<u>7-9</u>	<u>10-12</u>	<u>Total</u>
Public System	152	60	60	272
Separate System	<u>82</u>	<u>32</u>	<u>32</u>	<u>146</u>
Total	234	92	92	418

Assumptions:	1.	Number of Students per dwelling unit:	0.61
		Number of dwelling units:	685
	2.	Proportion of Students in Public System:	65%
		Proportion of Students in Catholic System:	35%

A central park site is designated to accommodate active play areas and passive recreational activities. The site is elongated to extend its amenity value through the neighbourhood and to provide a linear corridor for pedestrian circulation. A stormwater lake is located in the southwest corner of the area and linked to the central park by park space and pathway opportunities. Opportunities are provided for links to the city-wide multiway system.

### **3.2.2 Residential Land Use**

Windrose will offer a range of low and medium density residential development. The neighbourhood will provide primarily single detached housing located on a variety of lot sizes.

The concept identifies four sites for medium density-family housing. Two sites are located on the east side of Windrose backing on the golf course. It is anticipated that both of these sites may be developed for the active adult market and will feature row housing or semi-detached housing forms. The other two sites are located more centrally, fronting the proposed collector roadway and adjacent to the neighbourhood park.

Low density residential land use comprises 35.96 hectares (58.30%) while medium density residential development comprises 4.40 hectares (7.14%).

The overall residential density is estimated to be 34.11 persons per gross developable hectare. The ratio of low residential units and multiple family units is 87.5/12.5%.

### **3.2.3 Parks, Open Space and Walkways**

The major open space component is the neighbourhood park, which is contained within the loop of the collector. The shape has been elongated to extend the park's amenity value through the neighbourhood and to provide opportunities for a north-south linear corridor. The southern portion of the park is enlarged to accommodate active playing fields according to the City's Open Space Standards for neighbourhood parks. The more northerly portion is suitable for passive activities and free play. At 6.1 hectares (15.07 acres) the neighbourhood park is substantially larger than the eight acres suggested in the City's Open



Space Standards. Most residences will be within 200 metres and all residences will be within 300 metres of the neighbourhood park.

The stormwater management facility (pond) in the southwest quadrant will be a major landscape feature and amenity, although, as a utility, it does not qualify for Municipal Reserve credit. The pond will be visible from the south leg of the neighbourhood collector. The shoreline will have public access. A viewpoint park approximately 0.27 hectares (.67 acres) in size is located on the northeast corner of the pond.

The final open space component will be the open space corridor along the south side of the Canadian Pacific Rail right-of-way. This will provide an east/west open space corridor, a possible trail link and a buffer between residential lots and the rail line.

The open space system will be linked to Leduc's multiway trail system. The multiway may occupy both the east west corridor mentioned above and/or the pipeline easement, which runs along the east side of the site adjacent to the golf course. Links between these perimeter corridors and the neighbourhood park will be provided along the local and/or collector street network.

As shown in Table 1, the components of the open space system comprise 10.0% of the gross developable area. These components will be dedicated as Municipal Reserve to meet the requirement for MR dedication.

#### **3.2.4 Schools**

No schools are proposed for Windrose. The area of Windrose does not require either a public or separate elementary school as St. Benedict and Leduc Estates Elementary Schools are located immediately north of Windrose on the east side of Alton Drive. Table 2 shows that the potential number of students in the public system for a K-6 elementary school would be 152, which is substantially below the threshold for a new school.

### **3.2.5 Other Land Uses**

No commercial sites are designated. It is felt that the population of Windrose will be too small to support a neighborhood commercial site and that the development of adjacent areas is too far in the future.

No sites are designated for religious assembly. Again, it is felt that religious assembly sites would more appropriately be located in more central locations or along major roadways.

There has been no identified need for additional community facilities in Windrose.

## **3.3 Transportation and Circulation**

### **3.3.1 Access, Access Options and External Roadway System**

The Development Concept proposes access to Windrose from Alton Drive to the north, Range Road 253 (West Boundary Road) to the west and Township Road 494 to the south.

The extension of Alton Drive from Leduc Estates and Lakeside Estates is necessary in order to provide access from Windrose to the two elementary schools. Without this access point, school-bound traffic would take West Boundary Road and Black Gold Drive and then south along Alton Drive to get to the schools (see Figure 6). Children walking will have to cross the CP rail line to get to school from Windrose. It is considered essential to have a designed, direct and controlled road crossing of the rail line at Alton Drive to ensure both safe and convenient pedestrian and vehicle travel between Windrose and the two elementary schools.

Alternate crossings of the CP rail line were considered prior to plan preparation.

Three options were considered. Each option would be east of Alton Drive and would therefore handle substantially more traffic than would Alton Drive as planned. Refer to Appendix 1 for details of these options.

A number of concerns have been expressed about the impact of extending Alton Drive south across the rail line, and the resulting impact of additional traffic on Alton Drive and the Leduc Estates and Lakeside Estates area. A Transportation Impact Assessment has been conducted in accordance with Institute of Transportation practice.

The maximum use of the West Boundary Road by Windrose residents will be facilitated by improvements to the external roadway system. Such improvements include the re-grading and paving of the West Boundary Road and improvements to the intersection of West Boundary Road and Highway 39. Due to the low frequency use of the railway, noise attenuation is not required along West Boundary Road or the railway tracks. The scheduling and responsibilities for these improvements is a matter for resolution between the City of Leduc, Alberta Transportation and Utilities and the developer.

### **3.3.2 Internal Roadway System**

The collector roadway system has been designed to encourage traffic movement to the West Boundary Road and hence north to Highway 39 and beyond. The main collector describes a loop with both ends of the loop accessing the West Boundary Road. While Alton Drive has been extended south across the CP rail line, it has been deflected to the west and terminated at the main collector. In this way access to the schools in Leduc Estates and Lakeside Estates is maintained, but through traffic is discouraged as it would constitute back-tracking.

There will be a roadway connection between the collector loop and Township Road 494 to the south to provide access to further long term development south of Windrose.

Local roads will provide access to residential areas. While a local roadway system is shown on the servicing drawings, the alignment of local roads is subject to change to reflect detailed subdivision and servicing design. Consequently, local roads are not shown with any certainty at the ASP level of planning. All roads will be constructed to meet the requirements of the City of Leduc Standards.

All roadways will be designed and constructed to the standards of the City of Leduc.

## **4.0 SERVICES**

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### **4.1 Water Distribution**

The main water supply for Windrose will be the existing 400mm diameter watermain on Alton Drive with a looping connection to the existing 300mm diameter watermain on Black Gold Drive. The primary water mains through Windrose shall be oversized from the existing 400mm watermain on Alton Drive to accommodate future development to the west of the West Boundary Road and to the south and east of Windrose. The primary watermain through Windrose with provisions for future developments complies with the City of Leduc's Long Range Infrastructure Servicing Plan (1992).

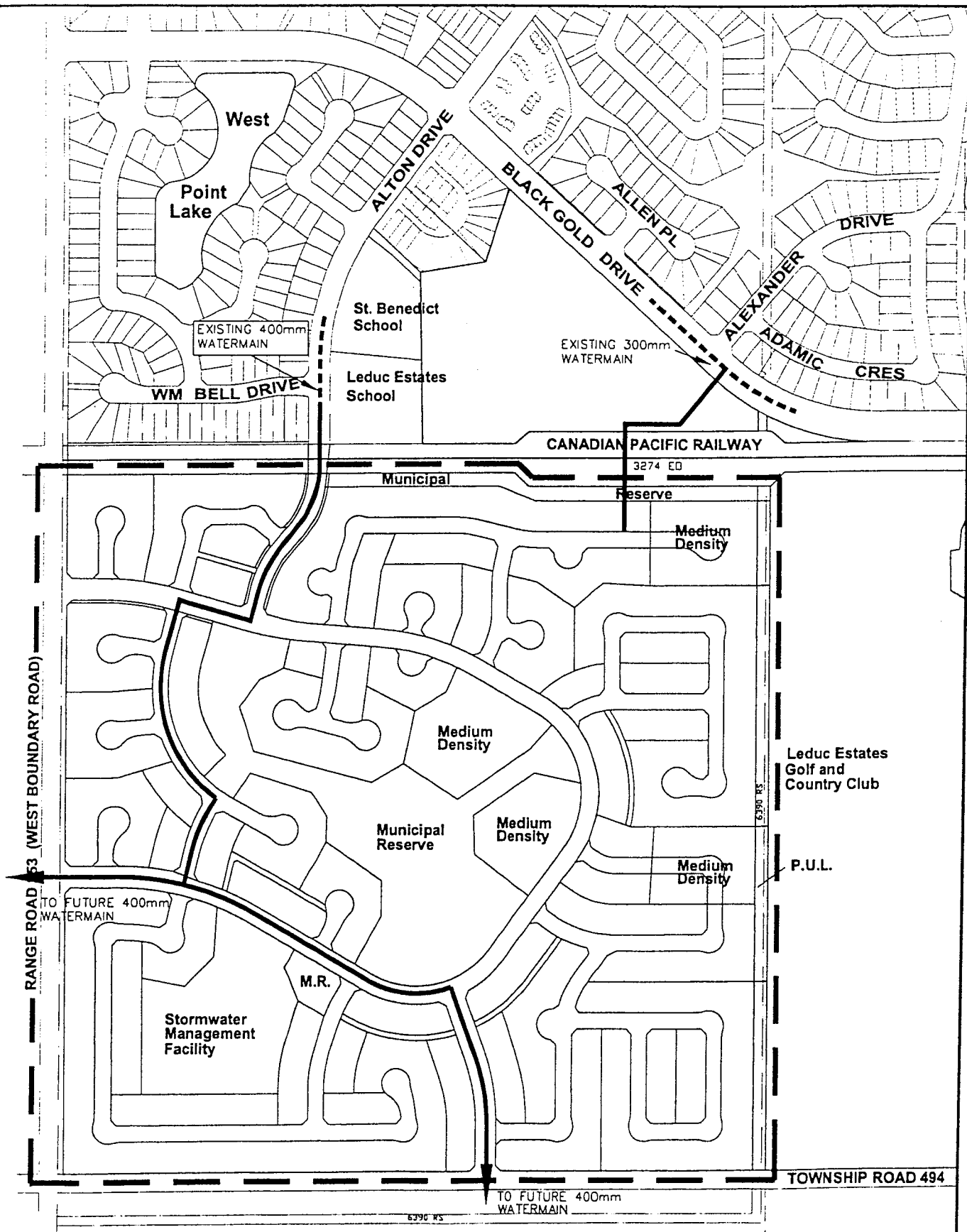
Figure 7 schematically indicates the existing feeder mains and the proposed primary water distribution system for Windrose and future developments.

### **4.2 Sanitary Sewer System**

The existing 525mm diameter sanitary sewer located on Alton Drive at the north boundary of St. Benedict School will service Windrose and future developments to the south and east as outlined in the City of Leduc's Long Range Infrastructure Servicing Plan (1992). The primary sanitary trunk through Windrose will be oversized to accommodate the future developments.

Due to on-site topography and depth of the existing sanitary trunk, a lift station and forcemain may be required in the area of the Stormwater Management Facility (SWMF). This will be dependent upon a number of factors including the availability of fill material to build up the low lying area, economics and the ultimate layout and configuration in the area of the SWMF.

The existing, proposed and future sanitary drainage is shown on Figure 8.



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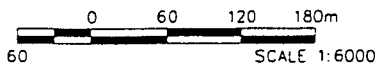
- ASP BOUNDARY
- EXISTING FEEDER WATERMAIN
- PRIMARY WATER DISTRIBUTION SYSTEM

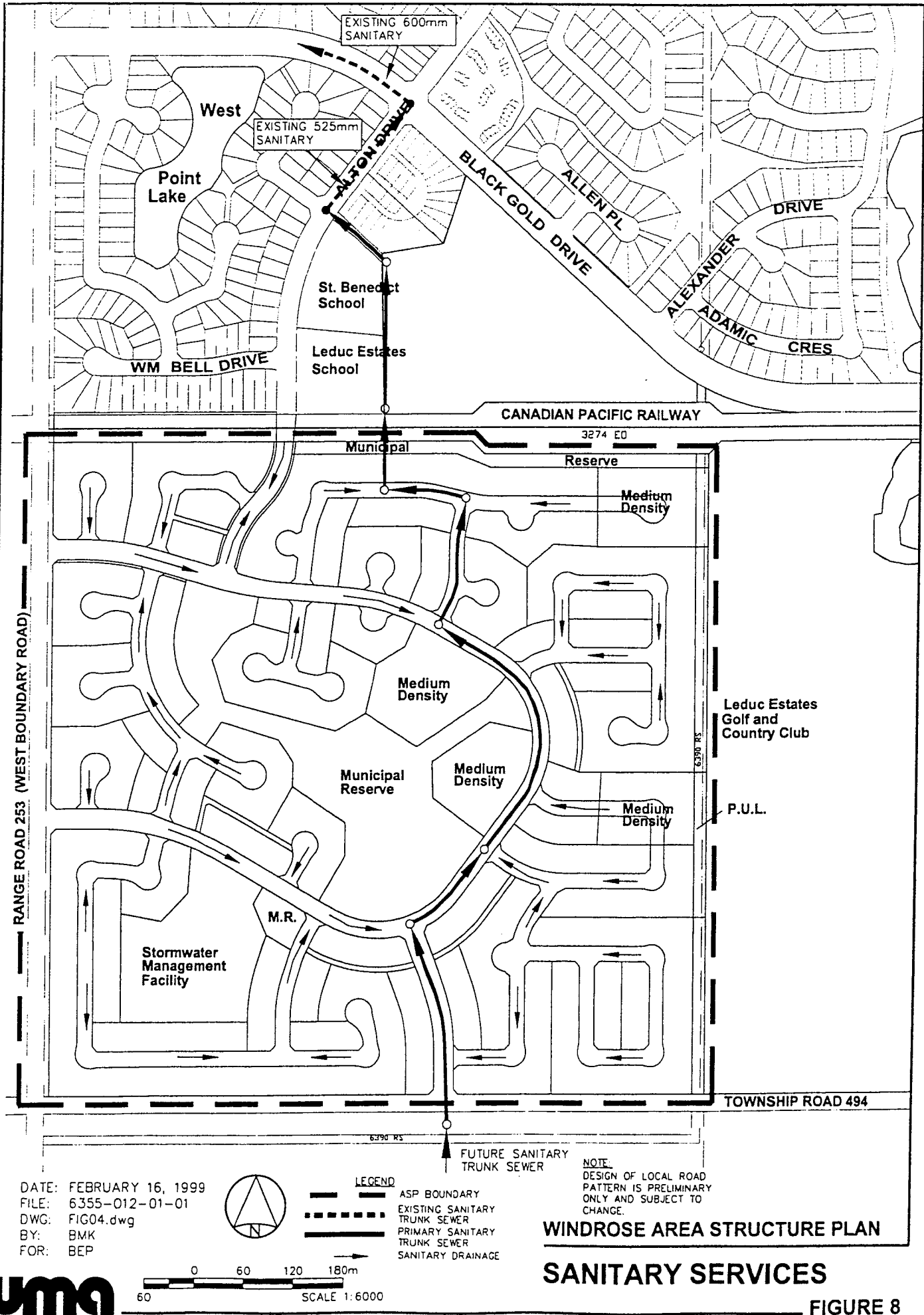
NOTE:  
 DESIGN OF LOCAL ROAD  
 PATTERN IS PRELIMINARY  
 ONLY AND SUBJECT TO  
 CHANGE.

### WINDROSE AREA STRUCTURE PLAN

### WATER DISTRIBUTION

FIGURE 7





## WINDROSE AREA STRUCTURE PLAN

# SANITARY SERVICES

FIGURE 8

### **4.3 Stormwater Management**

The natural drainage for Windrose is generally from east to west to a low area in the southwest corner of the site, then westerly, about a ¼ mile, to a tributary of the Whitemud Creek. A small portion of the adjacent golf course land drains to Windrose as well, a smaller portion of land located in the southeast corner of Windrose drains to the golf course. This information is based on current topographical mapping of the area.

Storm drainage of Windrose will be provided through the Stormwater Management Facility (SWMF) located in the southwest corner of the plan area. This system will service the Windrose lands as well as the small portion of the adjacent golf course. The small southeast portion of Windrose that drains to the golf course will either be accommodated in the Windrose SWMF if feasible, or drain naturally to the adjacent drainage basin to be managed in the future.

A stormwater management study will be undertaken prior to submission of the first plan of subdivision. The approximate area of the SWMF provided in Section 9 of this document will be adjusted after the stormwater management study is accepted by the City of Leduc and Alberta Environmental Protection.

Figure 9 indicates the drainage boundary, SWMF and the potential major stormwater drainage patterns.

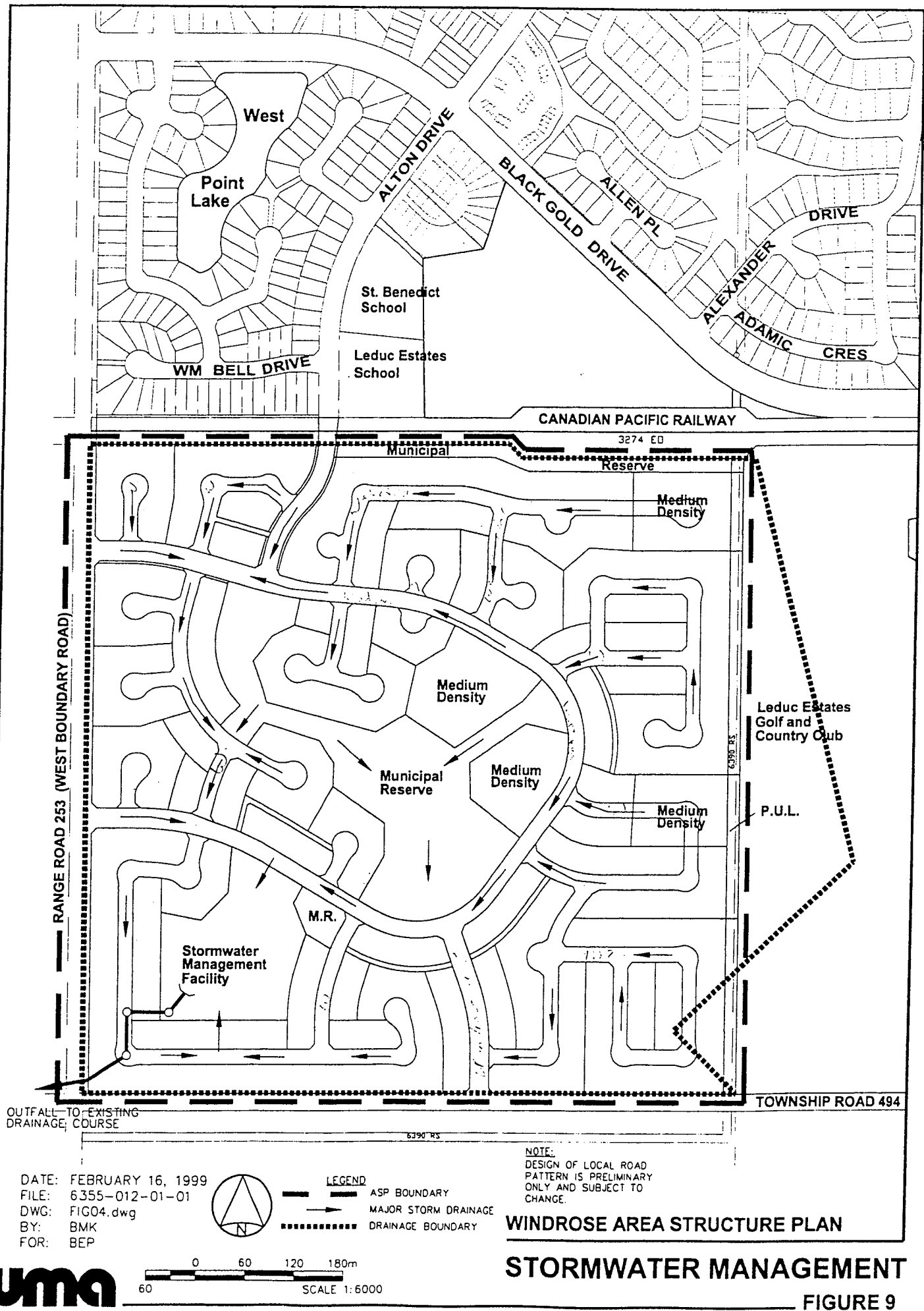
### **4.4 Shallow Utilities**

Natural gas, electrical power, telephones and cable television are available for Windrose and would be extended in conjunction with development staging.

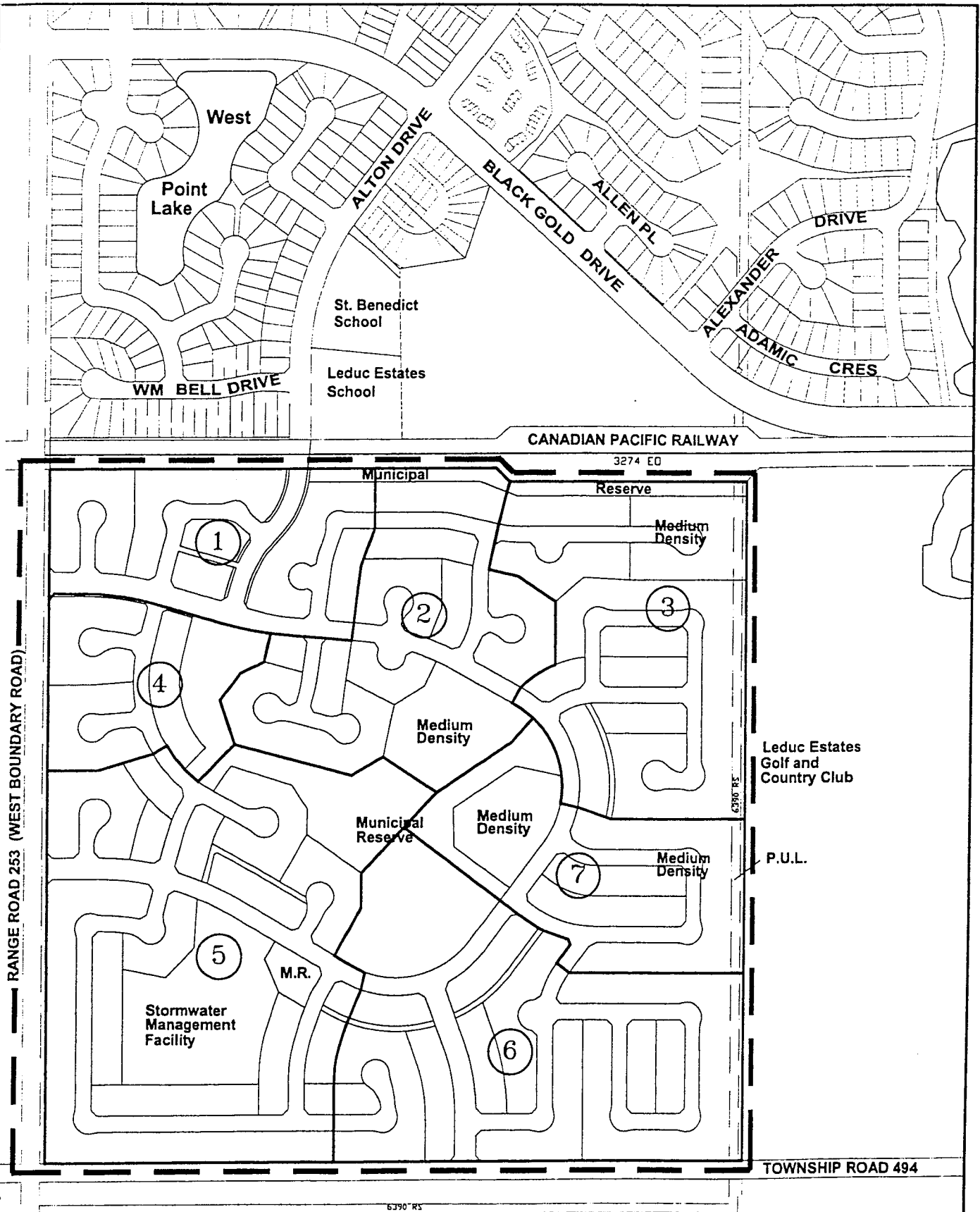
### **4.5 Development Staging**

Development staging is to commence from Alton Drive and proceed in a southerly direction. The construction of the Stormwater Management Facility would be staged as required to control off site stormwater release rates.

The conceptual staging pattern is shown on Figure 10 and is subject to changing market conditions.







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**LEGEND**  
 — ASP BOUNDARY  
 — STAGE BOUNDARY

**NOTE:**  
 DESIGN OF LOCAL ROAD PATTERN  
 AND STAGING IS PRELIMINARY  
 ONLY AND SUBJECT TO CHANGE.

## WINDROSE AREA STRUCTURE PLAN

### STAGING

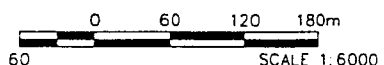


FIGURE 10

## **APPENDIX 1**

## **Alternate Access to Windrose**

In consideration of the opposition expressed by the community to the secondary access into Windrose via Alton Drive, Maclab Enterprises has considered options to connect Windrose to Black Gold Drive in a northeast location. These options share several common elements.

1. An access in that location would draw a significantly larger volume of traffic than would be evident with an extension of Alton Drive. The new location would draw volume consistent with a major collector road.
2. The new major collector would reduce the volume of traffic utilizing the West Boundary Road.
3. Traffic exiting Windrose via the new collector, but destined for Highway 39 connections east would turn west on Black Gold Drive and north on Alton Drive to Highway 39. There would be no incentive to continue to the West Boundary Road and then north.
4. The new major collector would draw a significant volume of traffic to existing residential development in the area of Alexander Drive.
5. The new collector would create a high turning movement intersection at Black Gold Drive – in close proximity to the active intersection at Alton Drive – which may hinder the movement of traffic on Black Gold Drive in its ultimate alignment and utilization. Traffic lights would be a likely possibility.
6. Traffic from Windrose destined for the schools would travel south on Alton Drive from Black Gold Drive and then double back on Alton Drive or exit William Bell Drive.
7. There would remain no pedestrian access for children of Windrose to the schools they attend. Children walking would be required to do so along an arterial West Boundary Road which will, for many years, be without benefit of sidewalks or lighting, or along the new major collector to another arterial (Black Gold Drive). Children will be more likely to walk along the tracks to the location of the school and make their ways through the fence.
8. The new major collector would take an alignment through existing park space representing a safety concern for park users.

9. Removing park space from a community's park inventory is a move which is never greeted warmly in any city and would be so regarded by those people who use the park space and are not impacted by the extension of Alton Drive.
10. Significant costs of road development; landscaping and rehabilitation of park space.
11. Significant increase in costs of residential development construction. Servicing extends to Windrose at Alton Drive. The first stage of development would be planned at the location of the servicing. In addition to the developer's commitment to provide a paved road from the first stage of housing to the West Boundary Road, an additional expenditure to provide paved road to the alternate access would be required.
12. Residents from areas not previously scheduled to have a collector are likely to raise objections.

**Option 1** would be a roadway crossing extending south from Allan Place across the rail line through the centre of the park. This option would divide the major neighbourhood park into less functional areas. It would create two smaller parks with roads on two sides, thus increasing potential vehicle/recreational conflicts. Finally, it would not provide a direct, convenient and safe link between Windrose and the two elementary schools. For these reasons, it was not considered to be suitable.

**Option 2** would be an extension of Alexander Drive across Black Gold Drive into Windrose. This link would traverse a corner of the park, resulting in the removal of the sliding hill, which has been recently constructed. It could lead to shortcutting north along Alexander Drive. It would create an additional major intersection along Black Gold Drive, where only one exists now. Finally, it would not provide a direct, convenient and safe link between Windrose and the two elementary schools. For these reasons, it was not considered to be suitable.

**Option 3** would be a crossing at the extreme northeast of Windrose to Black Gold Drive. It was considered to be unsuitable for a number of reasons: inadequate geometrics, a location on the curve of Black Gold Drive and inadequate separation from the intersection of Alexander Drive and Black Gold Drive. In addition, it would not provide a direct, convenient and safe link between Windrose and the two elementary schools.

# **Andromeda Investments Ltd.**

## **Windrose ASP Amendment**

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#### **UMA Engineering Ltd. - Third Party Disclaimer**

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## 1.0 Introduction

The Windrose Area Structure Plan was adopted in February 1999, and since adoption three stages have been developed in the northern portion of the Plan area. A total of four medium density sites were designated in the ASP (see Figure 1 - Approved Windrose ASP), and two of these areas have since been registered by subdivision with one being fully developed. This amendment will serve to relocate two of the originally proposed four medium density sites, including one registered but yet undeveloped medium density site, to a south central Plan location. Additionally, the amendment will include the minor road realignments that have resulted from the completed development stages and the road adjustments required to implement this proposed amendment.

## 2.0 Location

Land associated with the Windrose ASP are located in the SW Quarter of Section 27, Township 49, Range 25, West of the 4<sup>th</sup> Meridian within the City of Leduc. This proposed amendment applies to a parcel registered as Lot 36, Block 5, Plan 012 2836, and parts of the hereto un-subdivided original quarter section. All areas subject to this amendment are presently vacant and undeveloped.

## 3.0 The Amendment

This amendment will facilitate the re-designation of the two medium density sites located in the central and east Plan area into low density residential; and, the re-designation of an area of low density residential in the south central part of the Plan into medium density residential to replace the re-designated medium density sites. (See Figure 2 - Amendment Area and Figure 3 - Development Concept)

The first medium density site proposed to be re-designated to low density residential is a 1.19 ha parcel located south of Windrose Drive, and registered as Lot 36, Block 5, Plan 012 2836. This re-designation to low density residential will allow for the development of 15 single-family dwellings on the parcel, and a zoning and subdivision plan will be submitted concurrently to facilitate this redevelopment.



The second 1.2 ha medium density site to be re-designated to low density residential is located on the east border of the Windrose ASP midway between the Canadian Pacific Railway line (north) and Township Road 494 (south). Re-designating this area will allow uninterrupted continuation of the predominantly single-family design of this area. ✓

Medium density residential lands that were re-designated to accommodate the 15 single-family lots will be relocated southward in the Plan to a 1.2 ha site at the future intersection of Windrose Drive and the future access north from Range Road 494. These lands will be developed with medium density units consistent with the R-2M Zone.

Those medium density residential lands re-designated in the easterly part of the Plan will be relocated southward to a 1.2 ha area of former low density residential lands located east of the future south Plan access/collector road that connects to Township Road 494. This area is intended for medium density development within the R-3 Zone. ✓

Consolidation of the two relocated medium density sites in one area, which is easily accessible to a future arterial/collector intersection, will provide safe and convenient vehicle access to the sites, and will minimize vehicular traffic within the nearby low density residential development area. ✓

Both Windrose Drive and the south connection road to Township Road 494 have been adjusted slightly to accommodate the above-mentioned re-designations, but the alignment changes will not result in any reduction of park area (Municipal Reserve). ✓

#### **4.0 Amendment Impacts**

Existing Land Use Summary and Potential Student Population statistics are shown in Tables 1 and 2, and changes to the Land Use Summary and Potential Student Population resulting from this amendment are shown in Tables 1A and 2A. Assumptions respecting the Residential Densities and Population Densities have been adjusted to reflect the revised standards in the City of Leduc. ✓

In general, this ASP amendment will result in a no change to the number of proposed low density residential units, and a marginal increase in medium density units. The existing ASP designates four medium density sites, one of which has been built-out with R-2 development. This amendment proposes to retain two of the three remaining undeveloped medium density sites for R-2M development, and re-designating the third undeveloped site for medium density R-3 development. Re-designation of the one site to R-3 medium density development will result in a slight increase in population, student generation, and overall density of the Plan area.

More specifically, the amendment will have the following impacts:

- (a) The low-density residential component of the Plan will decrease 0.01 ha in area from 35.96 ha to 35.95 ha. This minute decrease in low-density lands will result in no change to the 575 dwellings units projected as the potential number of single-family housing units for the Windrose ASP. Moving part of the low density residential component northward in the Plan will however result in more single-family housing units being developed at an earlier development stage.
- (b) Medium density residential lands designated for R-3 Zone developments will increase from 0 to 1.2 ha, with a corresponding decrease in amount of R-2M medium density developments from 4.4 ha to 3.2 ha. This change will see an increase in medium density land use for R-3 dwelling units from 0 to 96 dwelling units, and a corresponding decrease in medium density R-2M residential from 110 units to 96 units. The small decrease in number of R-2M dwelling units, for the reduction of one 1.2 ha site, is explained by the assumption that Residential Densities for R-2 and R-2M developments has increased from 25 to 30 dwelling units per net hectare.
- (c) The overall number of development units will increase from 685 units to 767 units, with a corresponding increase in overall population density from 34.11 persons per gross developable hectare to 34.53 persons per gross developable hectare. Increases in the number of development units and overall population density are explained by the re-designation of 1.2 ha of medium density lands from R-2M to R-3 residential development.

- (d) Municipal Reserve dedication remains at 10% of the gross developable area, or 6.17 ha. However, the realignment of Windrose Drive required to better accommodate the amended land uses will slightly reconfigure the Municipal Reserve boundaries.
- (e) Land designated for circulation will increase by an estimated 0.60 ha, or 1.0% of the gross developable area. The amendment will result in minor realignments to Windrose Drive and the south ASP access road to better accommodate the proposed land use changes.
- (f) The potential student generation will increase from 418 students to 468 students, but this small increase of 50 students will not affect the need for additional schools.

## 5.0 Amendment Rationale

This amendment is a response to favourable market conditions for single-family residential units in Leduc, and relocating a portion of the low-density land use component northward in the Plan will allow construction of single-family dwellings in earlier development stages. Also, provision of lands within the Plan for R-3 medium density residential will allow for a greater range of housing types available within the area.

The amendment also allows relocating the more dense land uses away from the interior areas of the Plan. Movement of higher density uses to the perimeter will allow more direct access to arterial traffic routes, and will reduce traffic on Windrose Drive within the predominately single-family neighbourhood.

## 6.0 Servicing Proposals

The proposed amendment will require no changes to the existing pattern of servicing defined in the original Windrose ASP. Only a minor adjustment to the alignment of the Windrose Drive and the south access road to Township Road 494 is proposed.

**Table 1 - Land Use Summary  
Existing Windrose Area Structure Plan**

Land Use	Area (ha)	%	Dwelling Units	%	Population	%
Gross Area	63.28					
Range Road 253 (West Boundary Road)	1.60					
Gross Developable Area	61.68	100.0				
Roadways (Includes Existing Range Road 253 (West Boundary Road) and Collector and Local Roadways	11.02	17.87				
Stormwater Management	3.00	4.86				
Environmental Reserve	0.00	0.0				
PUL (Centra Gas)	1.13	1.83				
Municipal Reserve	6.17	10.00				
Residential	40.36	65.44	685	100.0	2,104	100.0
Low Density	35.96	58.30	575	83.9	1,840	87.5
Medium Density	4.40	7.14	110	16.1	264	12.5

Overall residential density: 34.11 persons per gross developable hectares.

Assumptions:	1.	Residential Densities:	
		Low Density	16 dwellings per net hectare
		Medium Density	25 dwellings per net hectare
	2.	Population Densities:	
		Low Density	3.2 persons per unit
		Medium Density	2.4 persons per unit

**Table 2 - Potential Student Population  
Existing Windrose Area Structure Plan**

	K-6	7-9	10-12	Total
Public System	152	60	60	272
Separate System	82	32	32	146
<b>Total</b>	<b>234</b>	<b>92</b>	<b>92</b>	<b>418</b>

Assumptions:	1.	Number of Students per dwelling unit:	0.61
		Number of dwelling units:	685
	2.	Proportion of Students in Public System:	65%
		Proportion of Students in Catholic System:	35%

**Table 1A - Land Use Summary**  
**Proposed Amendment to Windrose Area Structure Plan**

Land Use	Area (ha)	%	Dwelling Units	%	Population	%
Gross Area	63.28					
Range Road 253 (West Boundary Road)	1.60					
Gross Developable Area	61.68	100.0				
Roadways (Includes Existing Range Road 253 (West Boundary Road) and Collector and Local Roadways)	11.63	18.86				
Stormwater Management	2.61	4.23				
Environmental Reserve	0.00					
PUL (Altgas)	0.92	1.49				
Municipal Reserve	6.17	10.00				
Residential	40.35	65.42	767	100.0	2,130	100.0
Low Density	35.95	58.28	575	75.0	1,668	78.3
Medium Density						
- R-2 & R-2M Zones	3.20	5.19	96	12.5	259	12.2
- R-3 Zone	1.20	1.95	96	12.5	203	9.5

Overall residential density: 34.53 persons per gross developable hectare.

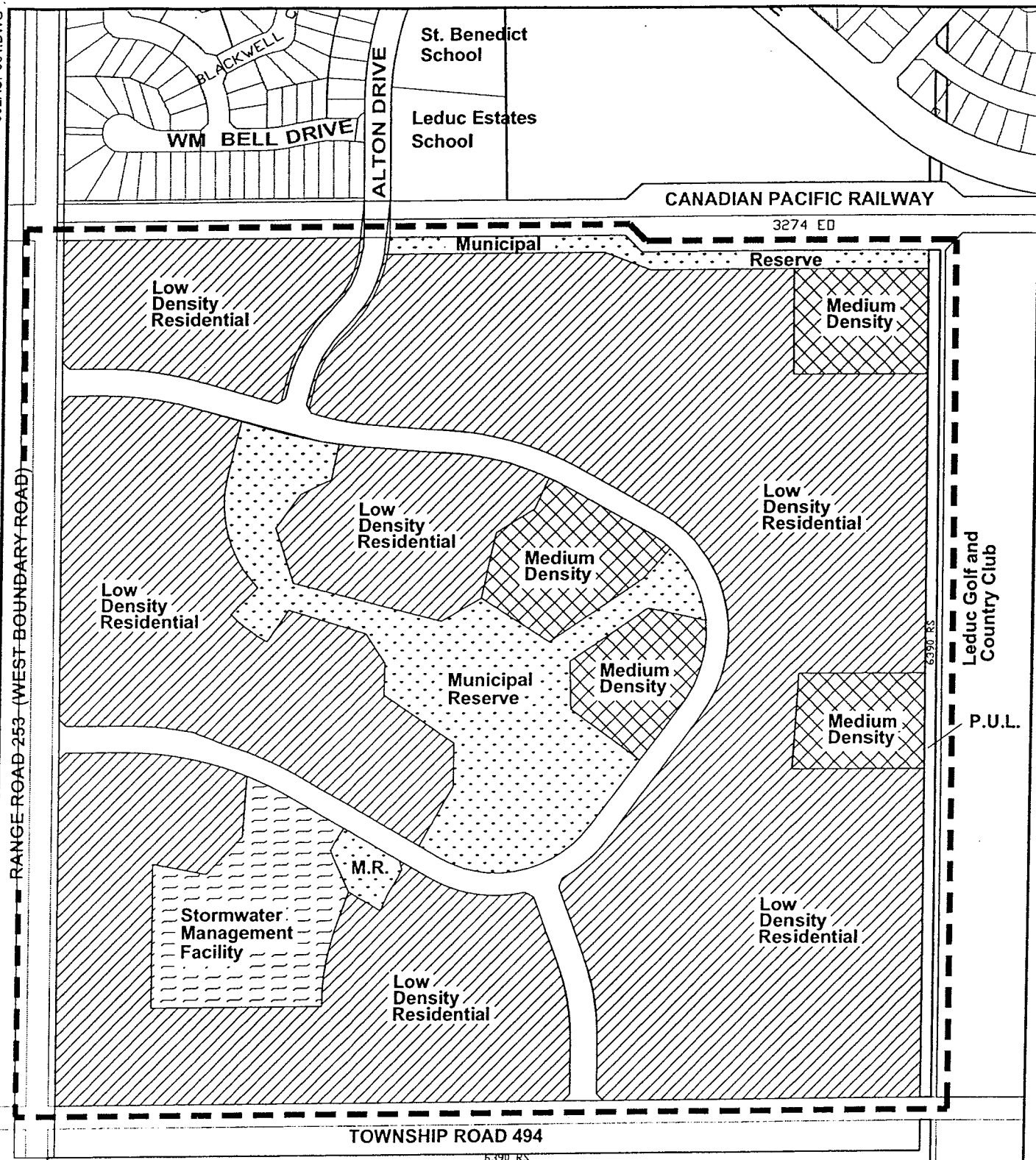
- Assumptions:
- Residential Densities:
    - Low Density: 16 dwellings per net hectare
    - Medium Density:
      - R-2 & R-2M Zones: 30 dwellings per net hectare
      - R-3 Zone: 80 dwellings per net hectare
  - Population Densities:
    - Low Density: 2.9 persons per unit
    - Medium Density:
      - R-2 & R-2M Zones: 2.7 persons per unit
      - R-3 Zone: 2.1 persons per unit

**Table 2A - Potential Student Population**  
**Proposed Amendment to Windrose Area Structure Plan**

	K-6	7-9	10-12	Total
Public System	167	69	68	304
Separate System	89	38	37	164
<b>Total</b>	<b>256</b>	<b>107</b>	<b>105</b>	<b>468</b>

Assumptions:

- Number of Students per dwelling unit: 0.61  
 Number of dwelling units: 767
- Proportion of Students in Public System: 65%  
 Proportion of Students in Catholic System: 35%



## LEGEND

— ASP BOUNDARY

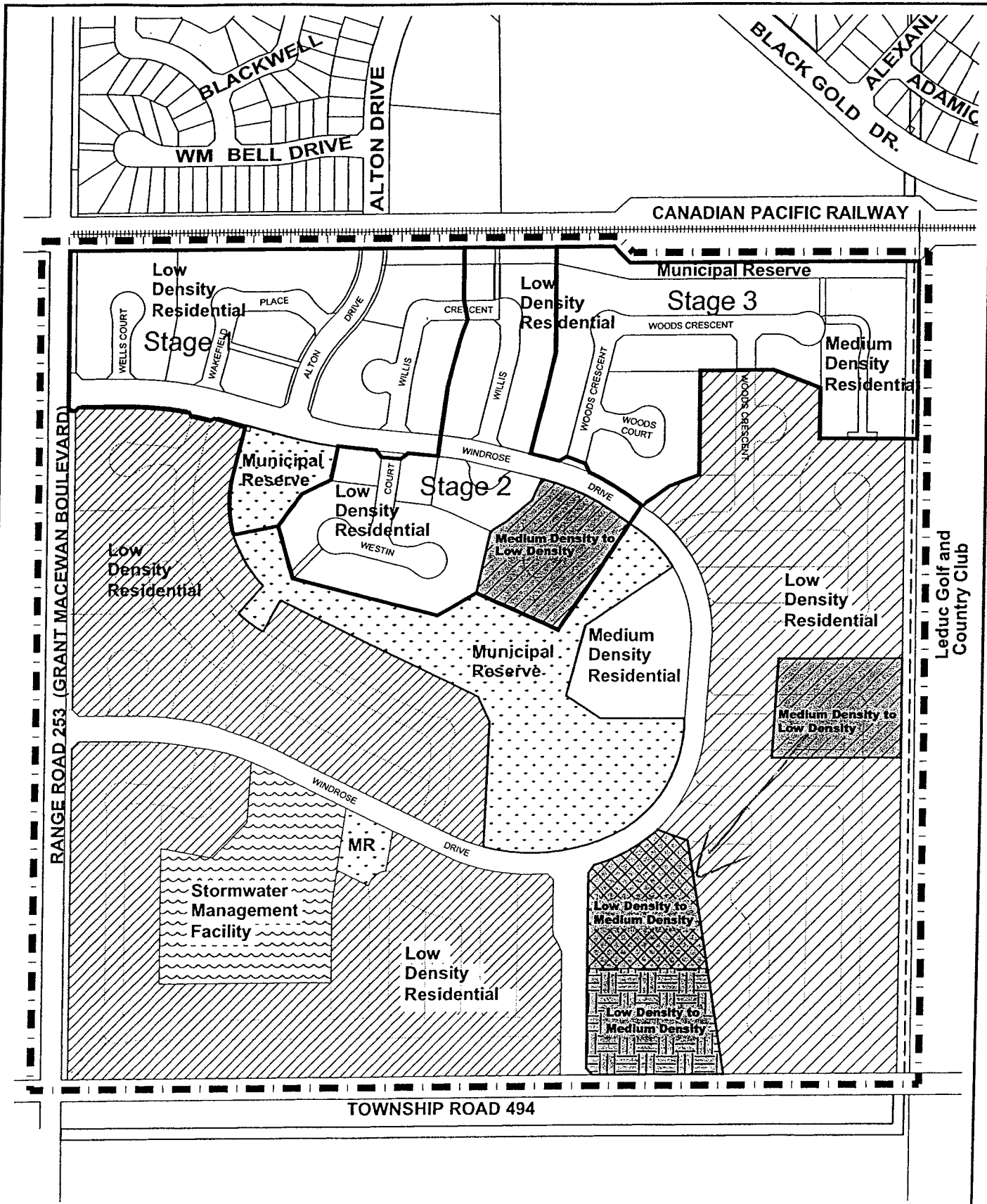
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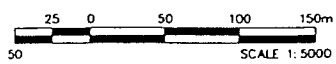
WINDROSE AREA STRUCTURE PLAN

APPROVED WINDROSE  
 AREA STRUCTURE PLAN



DATE: JANUARY 10, 2003  
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 DRAWN BY: 002AS007 DWG  
 CHECKED BY: JAC  
 FOR: BEP

Amendment Areas

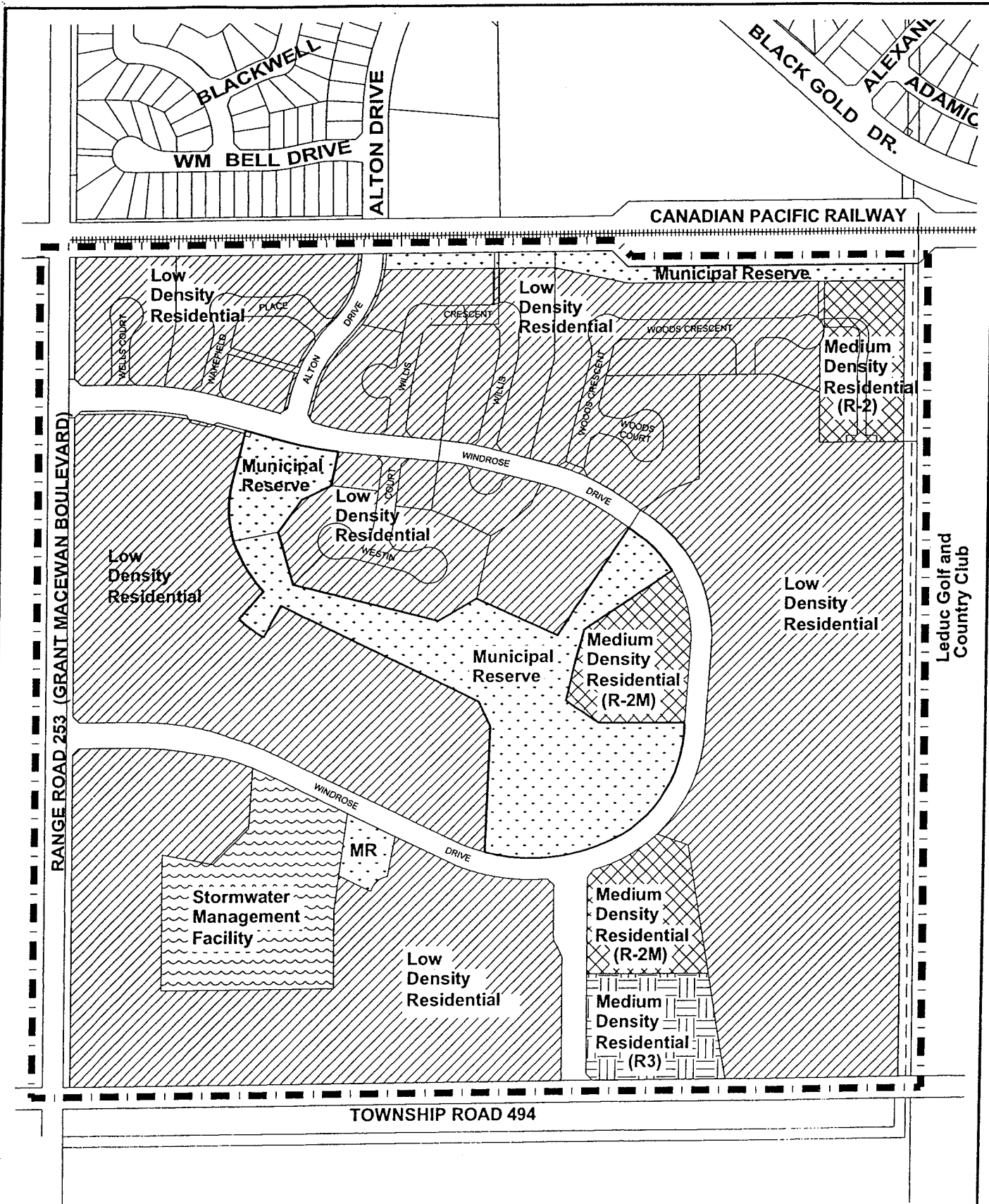


WINDROSE AREA STRUCTURE PLAN

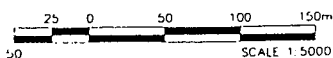
AMENDMENT AREA

FIGURE 2





DATE: JANUARY 10, 2003  
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 FOR: BCP



WINDROSE AREA STRUCTURE PLAN

DEVELOPMENT CONCEPT

FIGURE 3