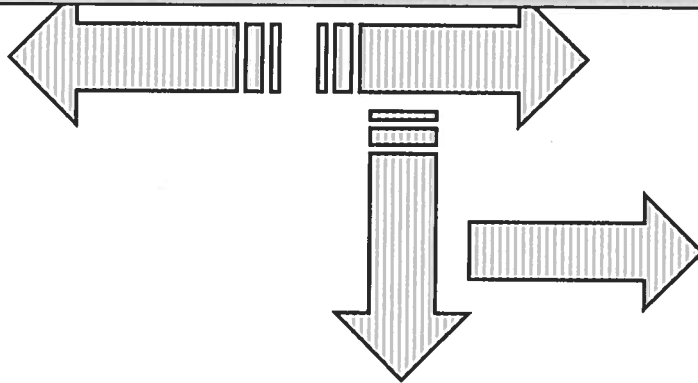

VILLAGE OF BARNWELL

GROWTH STRATEGY REPORT



Prepared by the



OLDMAN RIVER INTERMUNICIPAL SERVICE AGENCY

February 1999

TABLE OF CONTENTS

	Page
A. INTRODUCTION	1
1. Municipal Background	1
2. Purpose	1
3. Summary	1
B. ANALYSIS	3
1. Economic Activity	3
2. Population Statistics	5
3. Land Use	10
4. Analysis Summary.....	13
C. FUTURE LAND REQUIREMENTS	15
1. Residential Land Requirements	15
2. Commercial Land Requirements.....	15
3. Highway Commercial Requirements.....	17
4. Industrial Land Requirements	17
5. Total Land Requirements	18
6. Future Land Requirements Summary	19
D. IDENTIFIED ISSUES/CONSTRAINTS	21
E. FUTURE LAND DEVELOPMENT AREAS	23
1. Background	23
2. Lands Outside Village Boundaries	24
3. Criteria	26
4. Future Growth and Annexation Issues.....	30
F. POLICY and PROCEDURAL ASPECTS	31
1. Existing Statutory Plans	31
2. Steps to Initiate an Annexation Application.....	31
3. Annexation Procedure.....	32
G. CONCLUSION	33
1. Recommendations	33
2. Implementation Strategy	34

APPENDIX 1 – SECTIONS 113 – 128 OF THE MUNICIPAL GOVERNMENT ACT

MAPS:

MAP 1 – Regional Location	following page	2
MAP 2 – Land Use Districts.....	following page	12
MAP 3 – Existing Land Use	following page	12
MAP 4 – Existing Fringe Land Use.....	following page	12
MAP 5 – Proposed Future Growth Area	following page	24

A. INTRODUCTION

1. MUNICIPAL BACKGROUND

Barnwell, a village of 552 persons, is located 8 kilometres west of Taber and over 40 kilometres east of the City of Lethbridge (see Map 1). The community is located in the Municipal District of Taber; a diversified and prosperous agricultural area which includes vegetable and sugar beet agri-business along with the traditional agricultural production of grains, oilseeds, beets, sheep, hogs, and poultry. Oil and gas production is also very prominent in the area. The village is composed of a strong residential element, whose residents commute to work at local agricultural operations, the Town of Taber, and to a lesser extent, the City of Lethbridge. Barnwell obtained its official village status when it was incorporated in 1980.

A major recent change for the village was the realignment of Highway No. 3. The highway was recently twinned and re-routed to the south of the village. Highway No. 3 is now relocated approximately 100 metres to the south of Barnwell's present boundary. This situation appears to present opportunities for the village, in regards to future growth and land use development. Previously, the Village of Barnwell was laterally divided into north and south portions by Highway No. 3 and the CPR rail lines, running adjacent to the highway. This presented a barrier to development as the highway made it difficult for safe vehicular and pedestrian movement. With this restraint removed, fragmented land parcels in both the south and north may now appear more attractive for development.

2. PURPOSE

The purpose of this report is to provide background information and to evaluate and recommend a course of action for the Village of Barnwell to proceed with managing future growth. Council should review this report and use it to prepare a future land use development strategy. This will give the council a basis for discussing growth issues with the M.D. of Taber and provide a route to accommodate future growth.

3. SUMMARY

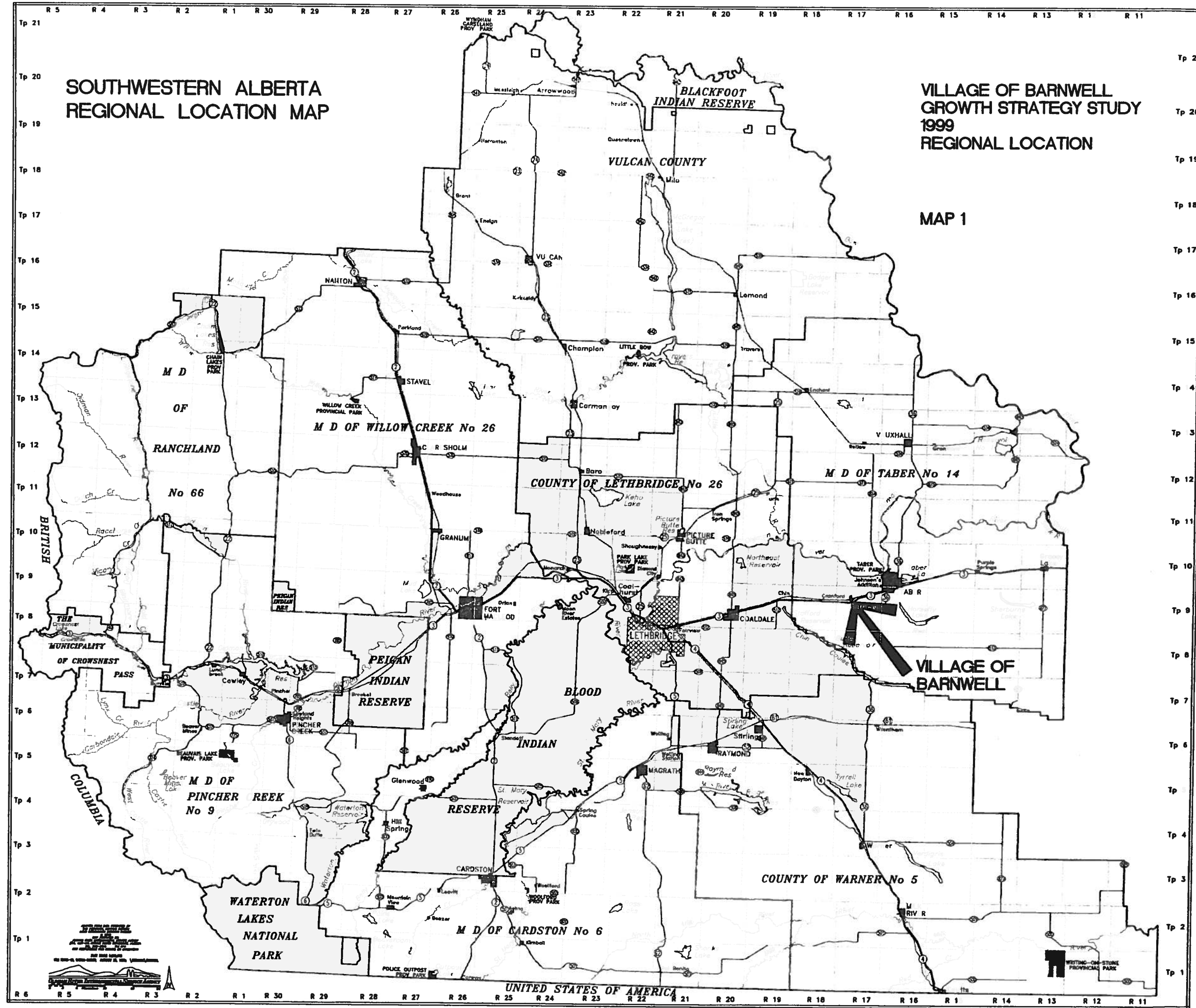
- It is an objective to provide adequate housing choices, along with housing land at affordable prices so additional land for residential development will soon be needed.
- Residential development has been impeded in expanding, due to the lack of private land owners willing to free up land for development. Thus, the village wants to ensure that there is adequate land to accommodate future residential growth through additional competition.
- Presently, there are few vacant serviced residential lots available for new housing. If all land is made available, projections indicate that the existing supply of vacant land may be used up by the year 2011. If the growth in housing construction were to increase, this would substantially decrease the time-frame in regard to the availability of residential land.
- The village should not have any major constraints in providing water and sewage services to the future possible growth areas, up to a population of 1,000 persons. However, the south-side of the village appears to be more easily serviced than the north.
- Barnwell's tax records indicate that the overwhelming majority of the assessment consists of residential property and the village has very little land designated for other types of land use activities.

- If the village is to have any highway commercial businesses, it would require additional land to develop this type of land use activity. It presently has no land available to accommodate these larger land use developments.
- One method to control development within the fringe area of Barnwell, and assist in its ability to provide services to developments that are currently outside its boundaries, is annexation.
- The village of Barnwell feels it is in their best interests to bring under their jurisdiction, land outside its boundaries that contains the cemetery and sewage lagoons.

SOUTHWESTERN ALBERTA
REGIONAL LOCATION MAP

VILLAGE OF BARNWELL
GROWTH STRATEGY STUDY
1999
REGIONAL LOCATION

MAP 1



B. ANALYSIS

1. ECONOMIC ACTIVITY

(a) Overview

The Village of Barnwell's main role is that of a dormitory community to Taber, as there is a very small amount of commercial or industrial activity present in the village. According to the village's 1998 tax assessment roll, approximately 91.4 percent of the assessment is attributed to 'residential-public' property, and only about 8.6 percent can be considered 'non-residential' in its classification. It appears in the past Barnwell may have had difficulty attracting potential commercial or industrial businesses, possibly due to the village's close proximity to Taber. However, there are a number of economic activities occurring locally that may have an impact on future growth for Barnwell. For example, the Lamb-Weston potato processing facility located near Fincastle may help create spin-offs for Barnwell.

(b) Construction

Over the last 18 years, residential construction has been responsible for the largest amount of building permits being issued. Over 91 percent of the total number of permits being issued were for some type of residential construction, including new homes, home renovations, additions and garages. New residential home construction has accounted for 43.7 percent of the total number of permits. Commercial and industrial development combined has only made up approximately 8.7 percent of the total number of permits issued. Between 1986 and 1996, there had been over a 28 percent increase in the number of residential dwelling units built.

Table 1 shows the number of permits issued for each type of activity since the village was incorporated in 1980. The volume of residential permits was over 10 times as much as the number of permits issued for other types of development. Presently, there are only six vacant residential lots, which are all privately owned. The Village of Barnwell itself does not own any vacant residential lots available for development. Generally, over the last few years lots have sold in the \$10,000 to \$12,000 range. However, the last vacant lot sold by September 1998, sold for around \$17,000. In comparison, this is still much lower than in Taber, where a new undeveloped lot generally sells for approximately \$30,000.¹

The majority of construction in Barnwell has been for residential dwellings and it will most likely remain so in the future. However, the lower number of permits issued for other uses may be somewhat attributed to the absence of good serviced land. Existing land use patterns show only a small amount of land is designated for commercial or industrial purposes. Barnwell's close proximity to Taber also reflects the amount of residential construction, as the village mainly acts as a bedroom community.

¹ Source: Taber Royal-Lepage Real Estate, Sept. 1998

Table 1
VILLAGE OF BARNWELL
BUILDING PERMITS ISSUED 1980-1998

YEAR	Residential	Residential Improvement	Garage	Industrial	Commercial	YEARLY TOTALS
1998 (to Sept.)	0	1	3	0	0	4
1997	5	3	3	1	0	12
1996	0	6	4	0	0	10
1995	3 1 (6-plex)	5	2	2	0	13
1994	2	1	2	0	0	5
1993	3	1	3	0	0	7
1992	2 (senior apartments)	0	0	0	0	2
1991	3	2	0	0	0	5
1990	4	0	0	0	0	4
1989	3	0	2	0	0	5
1988	8	1	0	0	0	9
1987	7	1	0	1	0	9
1986	0	2	0	0	1	3
1985	1	1	1	0	0	3
1984	5	3	1	1	2	12
1983	2	1	0	0	1	4
1980-1982	5 plus 4 (senior apt.)	8	3	1	1	19
TOTAL PERMITS	55	36	24	6	5	126

(c) Other

(i) Highway Traffic Counts

Major transportation corridor's traffic volume statistics can be examined to understand traffic flows through the municipality. The Village of Barnwell is located adjacent to Highway No. 3, which links the village with Coaldale and Lethbridge to the west, and Taber and Medicine Hat towards the east. The village is split by Heritage Drive, which runs in a south-north direction through the village. Recent vehicular flows for Highway No. 3, as it passed through Barnwell, are shown in the following table. These calculations have been obtained from Alberta Transportation.

The traffic volume table shows the traffic counts for both the years 1992 and 1997. It breaks down the traffic flow by using Heritage Drive as the intersecting dividing point. As shown in Table 2, the average annual daily traffic number through Barnwell on Highway No. 3, had increased from 1992 to 1997. West of Heritage Drive, the traffic increased 9.3 percent over the 5-year study period. East of Heritage Drive, the traffic volume increased by over 14.7 percent during this same time frame. However, there has also been a large increase in the number of vehicles traveling through on a summer day. The average summer daily traffic number also grew by similar proportions during this same period.

Table 2
VILLAGE OF BARNWELL
TRAFFIC VOLUME STATISTICS FOR HIGHWAY NO. 3 (1992, 1997)

YEAR	West of Heritage Drive		East of Heritage Drive	
	AADT	ASDT	AADT	ASDT
1992	5,260	5,640	5,250	5,630
1997	5,750	6,160	6,020	6,450

AADT - average annual daily traffic
ASDT - average summer daily traffic

Vehicular movement has generally been increasing around the Barnwell area. With the highway relocated south, traffic will no longer travel directly through Barnwell and this may affect the number of people stopping in the village. However, the twinned highway may also mean that traffic numbers might increase along Highway No. 3, creating an opportunity for the village to provide services to the motoring public.

(ii) Southern Alberta Growth

If Alberta's economy continues to flourish and grow as it has done in the mid-90s, Barnwell may expect both direct and indirect benefits. The Bank of Montreal had forecast Alberta's economy to grow by a strong 4.2 percent during 1998. This is expected to fall only slightly in 1999, as the CIBC forecasts the economy to grow by approximately 3.7 percent that year. The area economy is strong and developments such as the potato processing plant at Fincastle may help attract new residents and growth for Barnwell. The local area's economy is fairly stable and strong due to the diversified agricultural base, agri-business and food processing, and oil and gas activity. Additionally, McCain's Foods announced in December of 1998, that they would also be developing a potato processing plant in the region, near Chin. Barnwell may become a desirable place of residence for the hundreds of new employees these companies will employ, who may take advantage of Barnwell's location and less expensive housing costs. It may be able to expand the development of commercial services and economic activities additional residents may require or desire.

2. POPULATION STATISTICS

Studying past and future population data is an important component in ensuring an adequate land base for future growth. Population change within a community is related to many factors, such as:

- migration, both in and out;
- the size of the community and its internal, natural growth rate and structure;
- the size and composition of the local and surrounding economy;
- and the proximity to larger areas of settlement and economic activity.

Population growth due to natural increases has been less of a significant factor over the last decade, as birth rates have been declining. Recently, it appears this trend may have stabilized, but fertility rates remain low on the national and provincial scale. The national fertility rate is 1.64 live births per woman, while Alberta's rate is 1.77.

(a) Past Trends

This section indicates the historical growth of the population and provides a basis for population projections. The way in which the population has changed reveals some important trends. Table 3 displays the Village of Barnwell's historic population situation between 1961 and 1996.

Table 3
BARNWELL'S HISTORIC POPULATION
1961-1996

YEAR	POPULATION	FIVE YEAR RATE of CHANGE (percent)	AVERAGE CHANGE PER ANNUM (percent)
1961	190	-----	-----
1966	414 ²	+ 117.89	+ 23.58
1971	341	- 17.63	- 3.53
1976	158	- 53.67	- 10.73
1981	359	+ 127.21	+ 25.44
1986	402	+ 11.97	+ 2.39
1991	492	+ 22.39	+ 4.48
1996	552	+ 12.20	+ 2.40

Source: Statistics Canada

As shown in the table, the Village of Barnwell's population has largely fluctuated between 150 to 550 people over the last 35 years. However, it is likely that large population changes, such as in 1966 and 1981, could be due to changes in the census boundaries. Since the 1976 census, Barnwell's population has continued to report an increase for each census period. Over the 20-year period (1976-1996), the village's population has grown at an average rate of 8.67 percent per annum.

Over the most recent census period (1991-1996), the Village of Barnwell's population has experienced a 12.2 percent increase. This population increase over the 5-year period means the village has experienced a positive-growth change of 2.4 percent per annum. This growth rate falls well above the provincial average, as Alberta's growth rate during the last 5-year period was 5.9 percent, or just under 1.2 percent annually. By comparison, Canada's overall population grew at an annual average rate of 1.1 percent annually over the same time period.

(b) Age Structure

Population pyramids for the Village of Barnwell illustrate the distribution between the various age groups as well as between the male and female segments of the population (see Charts 1-4). In examining the graphs, a number of observations can be made regarding the population structure. *(Note: Stats Canada reports individual age cohorts to the nearest multiple of five; percentages have also been rounded.)*

- The percentage of those aged 65 and over make-up 6.3 percent of the total population. In comparison to many other southern Alberta communities, this is one of the lowest percentages of seniors present in a municipality. However, this may be expected in smaller communities with no nursing home or seniors lodge available for accommodation.

² Large population fluctuations could be due to changes in census boundaries.

- As Chart 1 illustrates the 70 plus age cohort represents about 2.7 percent of the total population, while the 65 to 69 age group makes up approximately 3.6 percent.
- The percentage of persons classified as senior citizens has actually decreased from 1986, where they comprised 7.4 percent of the total. However, in terms of real numbers, there are a greater number of seniors than the previous 15 years.
- The graph reveals that Barnwell has about 32.6 percent of its population under the age of 15. This is the largest sized individual age cohort for the village. It is also one of the highest representations of this age group in a local population, as compared to other municipalities in the region. The percentage of youth in this age group was 36 percent of the total in 1986.
- The results from the 1996 census show that overall, persons in their 20s make up about 15.4 percent of the total population. This is also one of the highest percentages of people falling among this age, when compared to other southern Alberta municipalities.
- The 20-24 years of age group makes up 9.1 percent of the total population for Barnwell. This is actually the fourth largest individual age group for the village.
- The percentage of those persons between the ages of 30 and 59 has slowly increased each period, from 26.5 percent of the total population in 1981, to almost 31 percent of the population in 1996. This is an expected population trend in our society, reflecting the so-called aging of the 'baby-boom' generation. However, the percentage of people between these ages is one of the lowest among municipalities in the region.
- During this same period the percentage of the total population under the age of 4 has declined, from about 13.9 percent in 1981, to 8.2 percent in 1996. However, this is about the average when compared to other communities in southern Alberta.
- However, the proportion of the female population in the childbearing years (15-44) has increased slightly over the same period. In 1981, females in this age group comprised approximately 19.5 percent of the population, increasing to 22.6 percent of the total in 1996. In comparison to other southern Alberta municipalities, this is one of the highest percentages of females in the childbearing years.

The pyramids show that the percentage of persons classified as senior citizen in the village is significantly low compared to other regions. A substantially large portion of the population is also observed to be under the age of 20 (46.2 percent). In 1996, about 67 percent of the total population were 34 years of age or younger and 34 percent was over the age of 35. Related to this, another noteworthy population trait, is the observation that Barnwell has less of a concentration of its population representing the 'baby-boom' generation years.

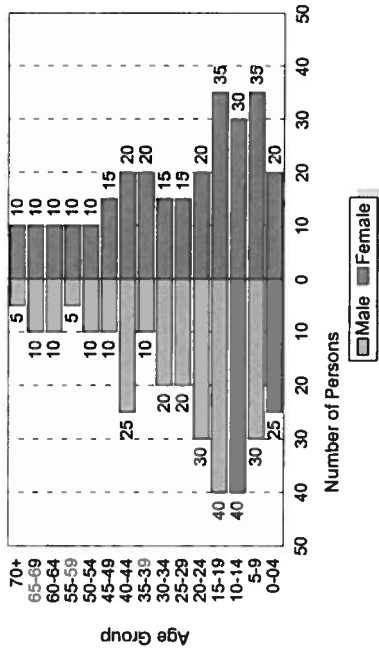
Overall, the population analysis reveals that Barnwell has a strong, fairly balanced population structure. However, the village does appear to have a very high concentration of youth present in the population.

(c) Population Projections

Several different methods of population projections are used in calculating future growth in order to provide the broadest scenario possible. It should be noted that projections are conditional; they show what a population would be if the assumed trends actually were to occur.

CHART 1 - Village of Barnwell

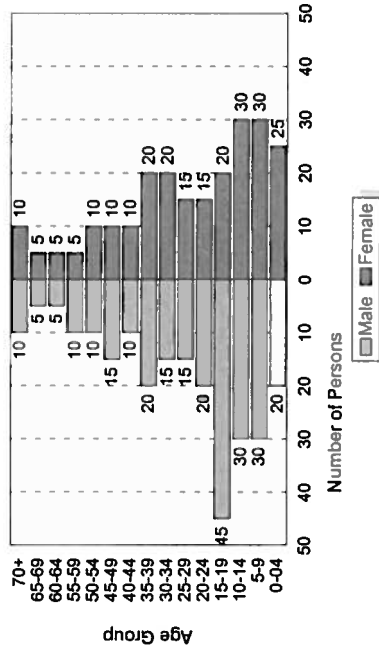
1996 Population Structure



Source: Statistics Canada

CHART 2 - Village of Barnwell

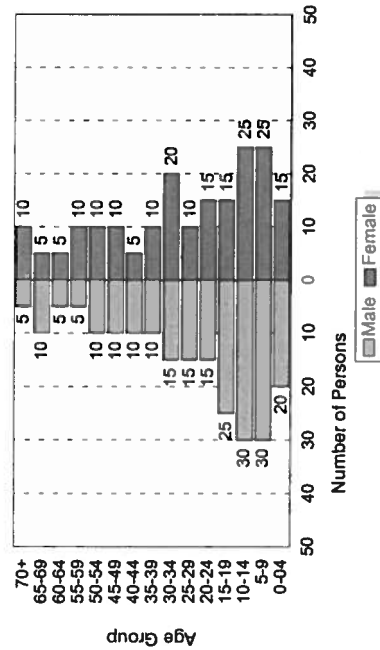
1991 Population Structure



Source: Statistics Canada

CHART 3 - Village of Barnwell

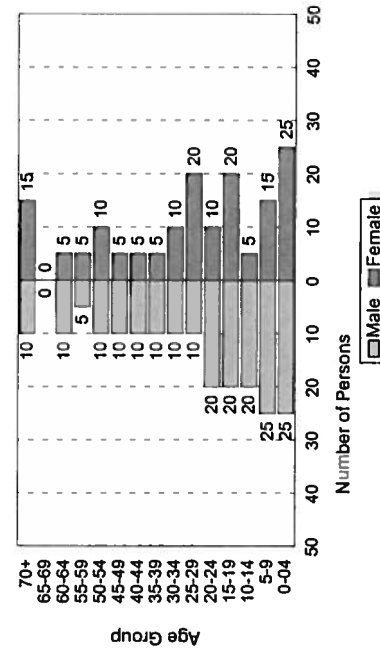
1986 Population Structure



Source: Statistics Canada

CHART 4 - Village of Barnwell

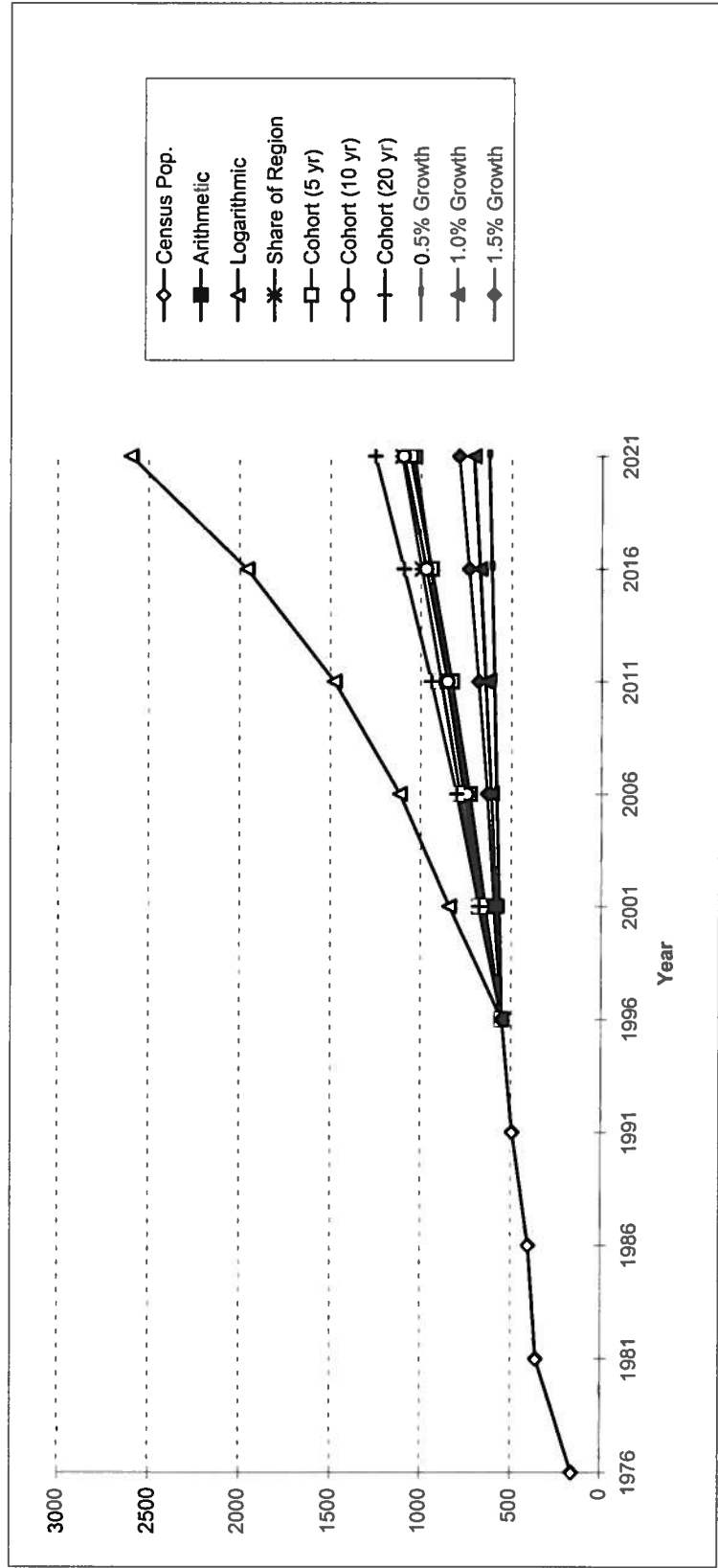
1981 Population Structure



Source: Statistics Canada

Chart 5 - BARNWELL POPULATION PROJECTIONS

Year	Census Pop.	Arithmetic	Logarithmic	Share of Region	Cohort (5 yr)	Cohort (10 yr)	Cohort (20 yr)	0.5% Growth	1.0% Growth	1.5% Growth
1976	158									
1981	359									
1986	402									
1991	492									
1996	552	552	552	552	552	552	552	552	552	552
2001		669	842	681	643	650	677	566	580	595
2006		761	1116	781	730	744	802	580	610	632
2011		853	1479	886	831	851	942	595	641	680
2016		945	1961	995	943	969	1095	610	674	733
2021		1037	2599	1106	1058	1095	1254	625	708	790



Since population projections are based on past trends, they must be looked at with some degree of caution. A sudden influx of population at a certain time would forecast a high growth rate in the future, whereas a decrease in population in the past would portray a reduction in growth in the future. As described previously, the Village of Barnwell has experienced a positive growth change over the last four census periods.

Chart 5 illustrates the range of results obtained from the various methods of population projections. Several different methods of population projections were used such as the arithmetic, logarithmic, share of region, the cohort survival methods as well as annual growth rates of 0.5, 1.0 and 1.5 percent. The latest results indicate that a number of the projections fall within a fairly close range of each other. The most probable projections may be the arithmetic, or the cohort survivals (5 and 10 years). These projections were chosen based on the Village of Barnwell's past growth rate tendencies, and given the expected economic activity that will most likely occur.

An important element that may affect Barnwell's future population, is the fact that a large portion of the population is under the age of 20. As many of these reach the age of work-force participation, many may migrate-out to seek educational and employment opportunities.

The selected population projections, therefore, indicate a range of population in 2001 that could presumably be between 643 and 669 persons. This would increase each year until 2016 when the population could range from 945 to 969 persons. The logarithmic projection may also be close over a 5- or 10-year census period. However, it indicates a substantially higher population number at the end of the 20-year projection. As Barnwell functions primarily as a bedroom community to Taber, it seems unlikely that growth would continue at the high rate it has over the past 20 years. However, both the M.D. and the Town of Taber have also experienced above average growth during the last census period. With the new potato processing plant setting up operation in the M.D. of Taber, Barnwell may experience additional growth if it is seen to be a desirable place to reside.

To summarize, Barnwell has experienced good growth in the past and has a very youthful population structure. A mid-range projection indicates that the village should experience continued growth in the future.

3. LAND USE

(a) Barnwell

(i) Existing Acres/Hectares

Presently, the Village of Barnwell's boundaries extends over an area of 0.8 square kilometres. This area results in the village occupying approximately one and one-third quarter sections of land, for a total of 207.15 (plus or minus) acres. The existing land uses for the Village of Barnwell, along with the acreage they occupy and the percentage of developable land accounted for by each use, are displayed in Table 4.

As observed in the table, residential development, including single-family, mobile home and multi-family housing, makes up the greatest percentage of developed land use in Barnwell, comprising 24 percent of the total. Of this residential development, single-family residential makes up the greatest portion, at 21.2 percent of the total developable land. The next major land use activity is designated as public and institutional land use. This is followed by industrial, parks and open space, and commercial land uses. The

lowest percentage of a major land use activity is attributed to agricultural use. It is usually observed that in urban built areas, streets and lanes can often make up 25 percent of the gross land area. In Barnwell this is also the situation, as this land use percentage is approximately 25.3 percent of the developable land area. The total representing streets includes the land developed for highway usage, which used to be designated as Highway No. 3. Land that is undeveloped and is categorized as vacant land accounts for over 38 percent of the village total land area (this includes land zoned industrial consisting mainly of the railway lands).

The dominance of residential land use is apparent in the table. Other land use activities, such as commercial and industrial, make up a very small percent of Barnwell's existing land use total.

Table 4
VILLAGE OF BARNWELL
EXISTING LAND USES – SEPTEMBER 1998

USE	AREA (acres) (plus or minus)	AREA (hectares) (plus or minus)	PERCENTAGE OF DEVELOPABLE LAND
Agricultural	0.65	0.26	0.3
Residential	43.93	17.78	21.2
Residential, Mobile Home	4.22	1.71	2.0
Residential, Multi-Family	1.61	0.65	0.8
Commercial, Retail	1.45	0.59	0.7
Commercial, Highway	N/A	N/A	N/A
Industrial	6.86	2.78	3.3
Public and Institutional	10.4	4.21	5.0
Parks and Open Space	6.66	2.70	3.2
Parking and Utilities	0.04	0.02	0.02
Vacant Land	78.88	31.92	38.1
Streets and lanes	52.45	21.23	25.3
TOTAL	207.15	83.85	100%

(ii) Designated Acres/Hectares

The land use district map indicates that approximately 3.86 acres of land in Barnwell is designated as general commercial use (see Map 2). However, the existing land use table shows that the village only has about 1.45 acres actually used for commercial purposes. Map 3 illustrates that this small section of commercial development is located along Heritage Drive and Willow Park drive south. As the existing land use map indicates there is no vacant land available to accommodate additional commercial land use activities. The map shows that there are a number of non-conforming land use activities present in the general commercial land use district, which further impedes commercial acreage growth.

As previously mentioned, there is also no land designated for highway commercial purposes. If the village desires to attempt to attract some type of highway commercial development, suitable land should be identified and zoned for that purpose. By their nature, highway commercial uses require larger lot sizes to accommodate large vehicles, suitable parking, etc. Currently, there is no suitable land available in the village to accommodate this type of land use activity. Also, Barnwell has very little of its land devoted to industrial use, at just over 3 percent of its land base. Designated

industrial land use is mostly limited to land adjacent to the railway, other than one parcel in Block 50, which is specified as industrial use.

Undeveloped land situated in the north end of the village is mainly designated as agricultural use. Blocks 45-49 are mostly vacant with some residential development occurring in Block 46. This area has been hampered in development in the past, most likely due to a number of different factors. Some of these were identified in a 1988 Oldman River Regional Planning Commission land use development report, and include:

- the lack of participation of a number of different land owners to free up land for development;
- the location of the parcels being north of Highway No. 3 and the railroad tracks, as there were concerns regarding safety issues;
- the southern portion in block 50 was adjacent to an industrial land use activity;
- a large investment in servicing infrastructure would have been required for some parts of the area.

For the most part, the majority of residential development occurs on the south side of the village. Table 4 shows that Barnwell has almost a quarter (49.76 acres) of its developable lands used for residential development. Residential single-family housing comprises the main type of housing, as 43.93 acres of the total developable land is used for this purpose. As of the end of September 1998, there were only six undeveloped vacant lots left in Barnwell. All of these lots were privately owned, and presently, the village does not own any undeveloped lots for residential development. Block 52 in the south is zoned as agricultural land and it is a possible site to accommodate future residential growth. However, this is also privately owned land and to date, the land owner has not expressed interest in subdividing the land for residential development. Therefore, it appears the village may require new land to accommodate any future demand for residential development.

The analysis indicates that there are some vacant parcels that could be designated as residential land use, but they are mainly fragmented sites. It also can be seen that there is not enough land designated for commercial or industrial activities. In particular, there is no land specifically designated to accommodate highway commercial uses.

(b) Fringe Area

For purposes of this study, an approximate one-mile fringe area boundary has been studied and categorized in each east to west direction, while a half-mile fringe area was categorized for the north and south directions. The following Table 5 lists the various land uses found in the fringe area around Barnwell. As shown on Map 4, the land use in the fringe area around the Village of Barnwell is for the most part, mainly undeveloped. However, it can be seen that there is some development in the close vicinity of Barnwell's boundary, consisting mainly of country residences. In fact, overall, the type of land use activity most prevalent in the fringe area can be classified as residential. Country residential development makes up the greatest fringe land use activity (with 26 such uses), followed by farm residences. The majority of country residences are located west of the village along 5 Avenue South. There is also a number of country and farm residences located along Heritage Road to the north end of Barnwell. Also located above the north boundary of the village are the sewage lagoons, which will somewhat, limit any future development in this area.

EXISTING LAND USE
SEPTEMBER 1998

-  Residential R1
-  Residential-Multi Family R2
-  Residential-Mobile Home R3
-  Commercial C1
-  Industrial I
-  Public & Institutional PI
-  Recreation & open Space RO
-  Utilities U
-  Agricultural A

NW28 9-17-4

SW28 9-17-4

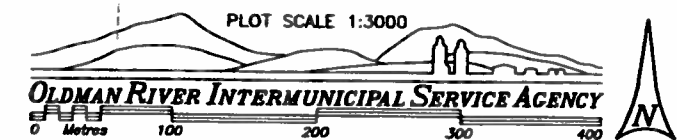
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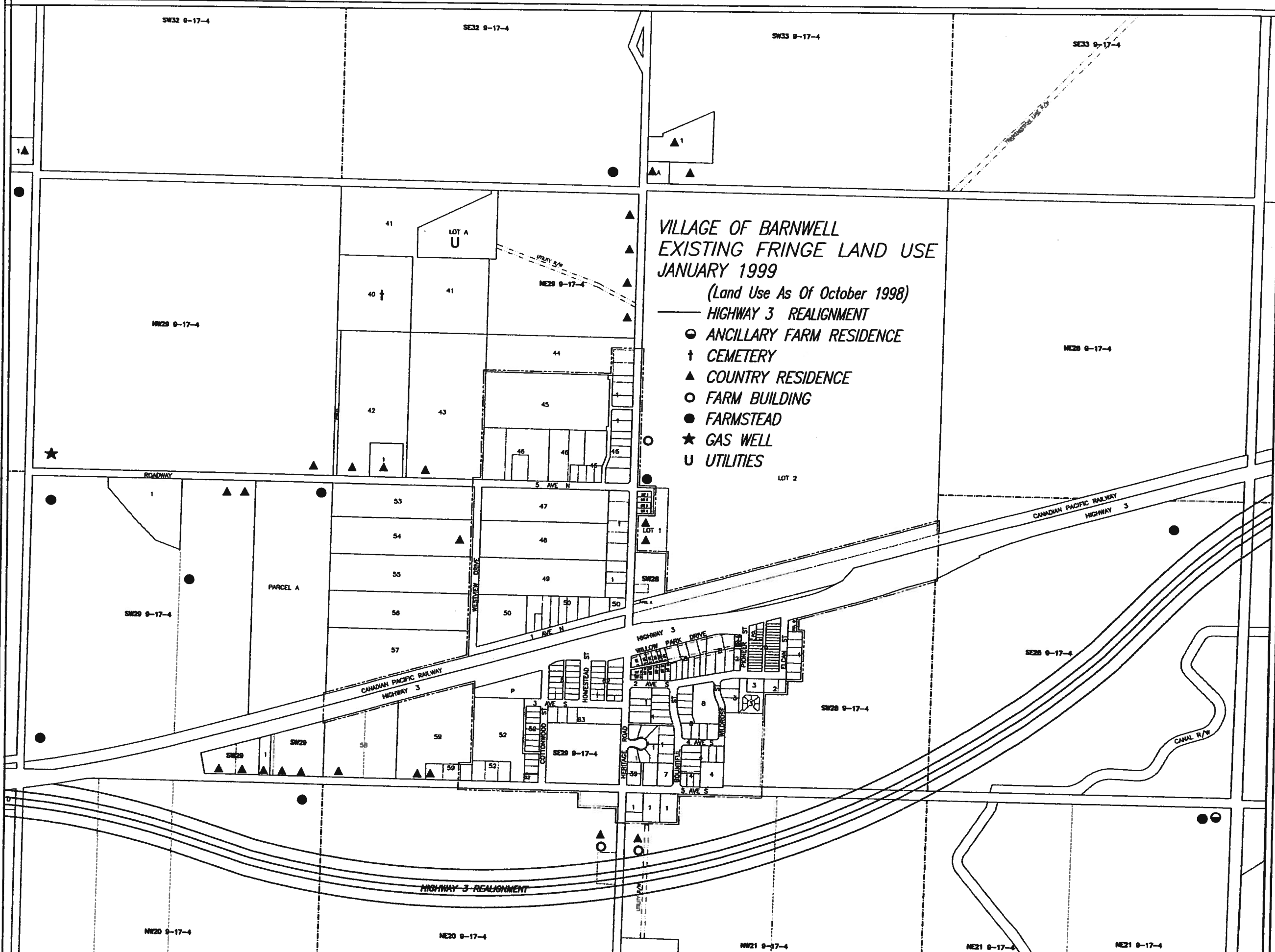
VILLAGE OF BARNWELL

UTM ZONE-12, DATUM-NAD27; JANUARY 27, 1999; TABER-MD\T09R17W4

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VILLAGE OF BARNWELL
EXISTING FRINGE LAND USE
JANUARY 1999

(Land Use As Of October 1998)

- HIGHWAY 3 REALIGNMENT
- ANCILLARY FARM RESIDENCE
- † CEMETERY
- ▲ COUNTRY RESIDENCE
- FARM BUILDING
- FARMSTEAD
- ★ GAS WELL
- U UTILITIES

NOT BE USED FOR ANY PURPOSES OTHER THAN THAT AUTHORIZED BY THE ORIGINAL SURVEYOR. THIS MAP IS NOT TO BE USED FOR ANY PURPOSES OTHER THAN THAT AUTHORIZED BY THE ORIGINAL SURVEYOR.

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The existence of country residences in the north and south should not impede future development in these areas. However, also located above the north boundary of the village are the sewage lagoons, which will somewhat limit any future developed in this area. Development could also be limited on the north side from expanding west, as a hog operation located approximately three-quarters of a mile west of the village would require a separation distance from residences.

4. ANALYSIS SUMMARY

The preceding analysis identified a number of points that have some implications for growth prospects for the village. It also identified a number of issues that will help determine if additional land is required for future development. Some of the main factors in the analysis include:

- The majority of building permits were issued for residential construction, and presently, there are few vacant residential lots available for development.
- The traffic volume along Highway No. 3 has been increasing, and will likely do so even more, now that the highway is twinned. This may result in more travelers stopping in the village for some type of services.
- The village has experienced well above average population growth over the last census period; it is projected to continue to experience growth in the immediate future.
- Southern Alberta has recently experienced strong economic growth, and the region may benefit from two potato processing plants coming into production in the area.
- The existing land use acreage shows that there is a small amount of commercial land use and no vacant land available to accommodate additional commercial usage. There is also no land designated for highway commercial purposes and very little suitable land available for industrial development.

Table 5
VILLAGE OF BARNWELL
FRINGE AREA LAND USE - OCTOBER 1998

Type of Land Use		Number of Uses	Total
Residential:	Farmstead	11	
	Country Residence	26	
	Ancillary Farm Residence	1	38
Agricultural:	Farm Building	4	
	Farm Equipment Storage	1	5
Public:	Cemetery	1	1
Utilities:	Gas Well	1	
	Sewage Lagoons	1	
	Water Storage/Treatment	1	3
TOTAL			47

*Fringe study area includes:

- an approximate one-mile boundary of land uses in each east and west direction;
- an approximate half-mile boundary in each north and south direction.

C. FUTURE LAND REQUIREMENTS

1. RESIDENTIAL LAND REQUIREMENTS

The following residential land analysis is used to determine the amount of possible additional undeveloped land that may be required. The Village of Barnwell housing requirement analysis is based on the following calculations:

- population projections,
- average household size,
- density of housing/acre.

The population projection data from the earlier section developed a probable population range of 945 to 969 over a 20-year period. The last census information indicated that Barnwell's average household size was approximately 3.8 persons per household. This information was combined with two other 'persons per household' scenarios, to indicate a possible range of the housing required. Table 6 displays the calculations for future residential land requirements. In the Village of Barnwell, housing is predominately of the single-family detached type. However, there are also some larger sized lots that are somewhat similar to small country residences. Therefore, possible residential required acreage was based on two scenarios: one with a housing density of 3 units per acre and one with 4 units per acre.

Using the assumptions developed in the analysis, it appears that Barnwell could require an additional **47 acres** (19.02 ha) of residential land. This estimate is based upon using the population projection of 969 people with 3.4 persons per dwelling unit.

2. COMMERCIAL LAND REQUIREMENTS

Developed commercial land accounts for only 1.45 acres (0.59 ha) or 0.7 percent of Barnwell's land use. The village's commercial core is smaller than what is specified in its land use district bylaw, due to a number of non-conforming land use activities present in the area. The commercial area is designated in the land use bylaw to encompass about 1.86 percent of the land area. However, this is still well below the observed North American land use standards where on average, 3.23 percent of total developed land use is comprised of commercial use. The commercial land area in Barnwell presently averages 0.26 acres per 100 people. It can be seen in Table 7 that this acreage is much less than other small communities in southern Alberta in comparison.

Because of Barnwell's close proximity to Taber, and its role primarily as a dormitory community, it would appear unlikely that the village would require the usual standard of land needed for the purpose of commercial development. Thus, if we use the population projection of 969 people and base the commercial usage on the presently designated 0.70 Ac/100 people, we can roughly obtain a 20-year projection. Using this calculation, it appears the village may require 6.78 acres of retail commercial land. If we subtract the present 1.45 acres, this results in a yield of **5.3 acres** (2.16 ha, plus or minus) of additional land.

Table 6
VILLAGE OF BARNWELL
RESIDENTIAL LAND REQUIREMENT RANGE

Year	Population Level		Assumed Persons per D.U. ¹	Total Required D.U.'s		Existing D.U.'s	New Dwelling Units Needed		Land Acreage Requirement 1		Land Acreage Requirement 2	
	High	Low		High	Low		High	Low	High	Low	High	Low
1996	552											
2001	669	650	3.8	176	171	145	31	26	10	7	8	7
			3.6	186	181	145	41	36	14	12	10	9
			3.4	196	191	145	51	46	17	15	13	12
2006	761	744	3.8	200	195	145	55	50	18	17	14	13
			3.6	211	206	145	66	61	22	20	17	15
			3.4	224	219	145	79	74	26	25	20	19
2011	853	851	3.8	224	223	145	79	78	26	26	20	20
			3.6	237	236	145	92	91	31	30	23	23
			3.4	251	250	145	106	105	35	35	27	26
2016	969	945	3.8	255	249	145	110	104	37	35	28	26
			3.6	269	263	145	124	118	41	39	31	30
			3.4	285	278	145	140	133	47	44	35	33

¹D.U. = dwelling unit

Land Acreage Requirement 1 based on 3 units per acre

Land Acreage Requirement 2 based on 4 units per acre

* Analysis done for a twenty year population projection study, using three different calculations of 'persons per dwelling unit'.

Table 7
COMPARISON OF COMMERCIAL LAND USE ACREAGE FOR
VARIOUS MUNICIPALITIES IN THE OLDMAN RIVER PLANNING REGION
(Based on Existing Land Use Activity Studies)

MUNICIPALITY	Commercial Area in Acres (+ or -)	Area in Hectares (plus or minus)	Acres per 100 (population)	Percentage of Developable Land
Barnwell	1.45	0.59	0.26	0.7
Granum	2.23	0.90	0.66	0.5
Stavely	2.37	0.96	0.52	0.6
Warner	2.69	1.09	0.64	0.9
Average	2.19	0.89	0.52	0.68

3. HIGHWAY COMMERCIAL REQUIREMENTS

Barnwell presently has none of its land designated specifically as highway commercial land use. Often smaller communities do not designate land for this purpose, or it is included as part of the more general commercial district designation. This is the case in Barnwell as service stations and roadside rest stops for example, are described as discretionary uses under the 'general commercial' listing in the land use bylaw. This type of land use activity often averages around 10 acres per 1000 people. If we project Barnwell's acreage over the 20-year study period, the village could require 9.69 acres of highway commercial land.

However, requirements for highway commercial lands are often hard to determine, as this type of land use is often a function of supply and demand. Once again, because of Barnwell's close location to Taber, it is uncertain whether this type of development is viable or not. Another factor entering into the analysis is the amount of traffic flow on the primary highway. As stated earlier, Highway No. 3 has relocated to the south of Barnwell, and will now bypass the village. Vehicles will have to turn off the highway and most likely enter a service road to access any type of commercial activity that may be developed. Therefore, the village council may determine if they wish to designate land for this type of possible commercial development. Bearing these points in mind, if the village desires to develop highway commercial land, it may require an additional **9.69 acres** (3.92 ha, plus or minus) of land to accommodate any future highway commercial uses.

4. INDUSTRIAL LAND REQUIREMENTS

It is often difficult to determine future land requirements for industrial use. By the nature of the different utilization of the land by different industries, some require a larger land base than others. If the future development resembled that of the past, growth projections would be more reliable. Historically, Barnwell has had very little of its land devoted to industrial use. If we examine Table 8, it shows that the village has slightly less land used for industrial purposes as compared to other small communities in southern Alberta. According to the table, Barnwell has approximately 6.86 acres, or 1.24 Ac/100 persons, devoted to industrial use. The village does have over 27 acres of land specified as industrial use under the land use bylaw. However, the majority of this is CP railway land that lies parallel to the rail line. Therefore, the present use of land for industrial purposes would appear to be a more accurate indicator of land needs. Thus, if the consumption remains constant, approximately 12.02 acres (4.86 ha) may be required over the next 20 years. This is also fairly consistent with the sizing standard of 12 acres/1000 population for gross land required for industry.

However, if the village is able to attract an industrial development that consumes a sizeable chunk of land, 5 to 10 acres, then this amount could quickly be depleted. Therefore, it is not unrealistic to have an additional 10 acres of industrial land to be used as a safety margin in the land supply for the village.

Thus, when industrial trends are combined with possible future land requirements, it appears the village may require 22 acres of industrial land. If we subtract the present 6.86 acres, this results in a yield of **15.14 acres** (6.13 ha, plus or minus) of additional land possibly needed over the next 20 years.

Table 8
COMPARISON OF INDUSTRIAL LAND USE ACREAGE
FOR VARIOUS MUNICIPALITIES IN THE OLDMAN RIVER PLANNING REGION
(Based on Existing Land Use Activity Studies)

MUNICIPALITY	Industrial Area in Acres (+ or -)	Area in Hectares (plus or minus)	Acres per 100 (population)	Percentage of Developable Land
Barnwell	6.86	2.78	1.24	3.3
Granum	16.35	6.62	4.85	3.7
Stavely	13.83	5.60	3.05	3.3
Warner	23.54	9.53	5.59	8.4
Average	15.90	6.13	3.68	4.68

5. TOTAL LAND REQUIREMENTS

The preceding sections have attempted to determine the requirements for a variety of land use for the Village of Barnwell over the next 20 years. The land requirements were based on the population growing to a level of approximately 969 residents. In addition to the discussed land requirements, there is also some other land uses that could require land acreage. It may be anticipated that the following may also be required:

- institutional (such as churches, senior citizen housing, 8-10% of total area);
- parks and open space (10% of the gross area);
- streets and lanes (20% of the gross area).

Table 9 illustrates a summary of possible additional land requirements over the next 20-year period, based upon the cohort survival 10-year population projection. However, it is important to note that there are limitations to the projections presented. For example, population projections are based on past trends that may abruptly change in the future. It is also often a judgmental decision in determining how much land may be needed by industry, as different industrial activities possess different acreage requirements.

Table 9
VILLAGE OF BARNWELL
PROJECTED LAND USE REQUIREMENTS TO 2016

LAND USE	ACREAGE	HECTARES
Residential	47.0	19.02
Retail Commercial	5.3	2.14
Highway Commercial	9.69	3.92
Industrial	15.14	6.13
Institutional	6.17	2.49
Parks and Open Space	7.71	3.12
Streets and Lanes	15.43	6.24
Total	106.44	43.07

This table illustrates, that from a land use needs perspective, it is estimated that the village may require approximately **106.44 acres** (43.07 ha, plus or minus) of additional land to accommodate a population of 969 people. (It should be noted that this figure does not exclude the approximately 78 acres of vacant land presently situated inside the village.)

6. FUTURE LAND REQUIREMENTS SUMMARY

Future land requirements needed for residential development amounted to over 106 acres. Other factors may affect the consumption or need of additional land for residential development and include:

- (a) There could be extra demand for residential lots, as undeveloped lots have traditionally sold for half to one-third of the price as compared to the Town of Taber, and the average selling price of a new home has generally been 20 percent less.
- (b) There may be an increase in demand for further affordable residential lots caused by new economic opportunities in the region. A potato processing plant is being built at Fincastle and McCain's has announced plans to also build a potato processing plant near Chin and this may lead to economic spin-offs for Barnwell.
- (c) There is a reduced availability of residential lots because of a lack of participation by the owners of Blocks 45 and 47-49 in the north, to subdivide and develop the land.
- (d) The ability to provide a choice of housing, including larger lot country residential, could consume land at a greater rate.
- (e) The village has no control over how or when land is put onto the market by private land owners. In the past, there has been a lack of action by local land owners to free-up land for development, especially in regards to the subdivision of land for the creation of residential lots.
- (f) The village does not own any vacant land to accommodate further residential, commercial or industrial development. Therefore, it may be necessary to have more competition and have more land available for development.
- (g) Land may be required earlier, as it is observed that it often takes a two- to three-year process to get land available on the market for development. In examining the previous calculations, it was illustrated that by using a medium projection, the existing land supply may be used up by the year 2011. Thus, additional land will soon be needed to initiate the development process to accommodate future growth.

D. IDENTIFIED ISSUES/CONSTRAINTS

- Barnwell's population has experienced dramatic growth since 1976. Over the most recent census period (1991-1996), the village's population grew by over 12 percent. Population pyramids for Barnwell indicate that the village has a very young population structure.
- The village presently has no land designated or available to accommodate highway commercial developments.
- With the relocation of Highway No. 3, there is no longer commercial development located along a major traffic corridor or primary access.
- If highway commercial development is desired, these types of land uses require large amounts of land to accommodate developments such as truck stops, and parking for domestic cars and trucks in addition to long semi-trailer units.
- The commercial area is a very small percentage (0.7%) of the total land base and lags well behind other towns or villages of similar size. There is no vacant land designated to accommodate any growth in commercial land use.
- There is a small percentage of land designated as industrial land use (3.3%). The majority of land specified for industrial purposes consists of the railway lands. There are also no vacant larger land parcels available to accommodate a larger-sized industrial operation.
- Due to the existing layout and land use activities in the village, further designation of industrial land use to existing vacant land has compatibility limitations.
- More land will soon be needed for residential development, as there are only a few lots available to accommodate further residential growth.
- The south area of Barnwell is the logical extension of expanding residential development and will most likely have the least impact on future servicing.
- With Highway No. 3 relocated to the south, the north side of the village may now be a more desirable area for growth to occur.
- It may be in the best interests of Barnwell to control land north of the present village boundary where the sewage lagoons are located. According to the *MGA Subdivision and Development Regulation*, any school, hospital, food establishment and residential development must be located a minimum of 300 meters from a wastewater treatment facility.
- In terms of servicing, homes added to the north side of the village may cause more problems for the water system, than those added to the south side. Additional residential development to the north side of the village may also increase the need for a new eight-inch sewer line to be put in.
- With the relocation of Highway No. 3 south of Barnwell, there will be fewer concerns with traffic and safety in the village. However, the CP railway tracks may still be a concern regarding the safety of children and further residential development occurring on the north side of the rail line.

- With the twinned Highway No. 3 located south of the village, this will act as a physical development barrier and will therefore most likely limit any future growth and expansion to the south.
- If land south of the current village boundary (north of Highway No. 3) is developed, a service road may need to be constructed. Alberta Transportation and Utilities will not allow direct access off the primary highway.
- Barnwell will more than likely continue to be affected by its close proximity to Taber, and the economic prosperity of the town and the M.D. of Taber.
- One option for the village is that it may be beneficial to absorb some land in its fringe area within Barnwell's boundaries to help regulate development. Along Heritage Drive and 5 Avenue North, and along the west end of 5 Avenue South, there are a number of residences that obtain their services from the village, but they are located within the jurisdiction of the M.D. of Taber.

E. FUTURE LAND DEVELOPMENT AREAS

1. BACKGROUND

(a) Overview

In identifying potential lands to accommodate future growth for the Village of Barnwell, there are a number of points to take into account:

- Future development should be a logical extension of current land uses and development, along with being compatible with adjacent land uses.
- Possible sites for development should also be easily serviced, so as to prevent additional expensive costs to the village regarding the provision of services.
- A 1988 *Land Use Development Strategy* by the Oldman River Planning Commission identified the south side of the village as the preferable location for residential development to occur. In particular it identified Blocks 52 and 59, along with land to the southeast (SW28-9-17-4), as possible future residential growth areas.
- The sewage lagoons located in Block 41 to the north of Barnwell, will mean that residential, hospital, school, or food establishment development will be restricted for 300 metres in any direction from its boundary (see Map 5).
- Over the last number of years, residential lots have been selling in the \$10,000 to \$12,000 range, while the average selling price of newer homes was around \$80,000. This compares to over \$30,000 for a vacant lot, and \$100,00 to \$110,00 as the average selling price for a single-family home in Taber.³ With virtually no vacant lots left in the village, and new economic opportunities in the area, this may mean there could be additional demand for residential lots.

Another issue that is worth examining, is the possibility of entering into a tax sharing agreement with the adjacent municipality. This could apply to developments that are located in the fringe area, but receive their services from the village. The Municipal Government Act allows for a municipality to enter into such an agreement, under section 55(1) and (2) of the Act. This is one method of helping to alleviate development pressures in a fringe area, while avoiding a more time-consuming and costly annexation process.

However, if the need arises over the years, the following areas should be developed in phases so as to minimize costs. The future growth areas identified as possible annexation areas can also be annexed in stages, as they do not need to be annexed in their entirety all at once.

(b) Land Within Present Boundaries

There are a couple of sites within the present village boundaries that have been identified as possible locations to accommodate future development. These areas are described as Areas 1 and 2 on Map 5. These lands should be examined first in terms of their development potential, as they would be more easily serviced. However, these possible sites are all controlled by private land owners and, therefore, they may not necessarily be developed in the immediate future. This is due to the fact the village has no control over private land development and there may also be concerns regarding their potential servicing.

³ Source: Taber Royal-Lepage Real Estate, Sept. 1998

Area 1 – Consists of two separate parcels located on the south-side of the village.

Area 1A - Southwest (Block 52 of Plan 961 1248)

- This area is located in the southwest corner of the village and lies west of present residential development.
- This parcel is privately owned and is approximately 6.3 acres in size and is suitable for prime residential type development.
- The land is mostly vacant with a few developed residential lots at the south end. It could accommodate another 19 lots approximately (based on 3 units an acre), would be easily serviced and design plans have already been prepared.

Area 1B - Southeast (portion of SW28 9-17-4)

- This area is located in the southeast corner of the village and lies immediately east of the present residential development (east of Wildrose St.).
- This parcel is also privately owned and is approximately 5.0 acres in size and is suitable for prime residential type development. This area is a logical extension of residential development situated to the west.
- The land is vacant and could accommodate approximately 15 dwelling units (based on 3 units an acre).

Area 2 - North (Blocks 45, part of 46, and 47-49 of Plan 5841EG)

- This area is located on the north side of the village, and other than Block 46, is mostly vacant.
- The titles to these blocks are privately held by a number of different land owners and provide nearly 49.5 (plus or minus) acres of land.
- Some of the owners have indicated they may be willing to develop the land, and they have previously indicated they prefer larger, country residential sized lots. There are also some design plans already prepared for this area.
- There are some questions as to the ability to provide adequate future servicing to this area, as well as the issue of it being more costly to provide these services.
- As this land is privately owned, the village has no control as to when or if development will occur. However, some haphazard development has occurred in this area, particularly along Heritage road and some larger lot residential in Block 46.

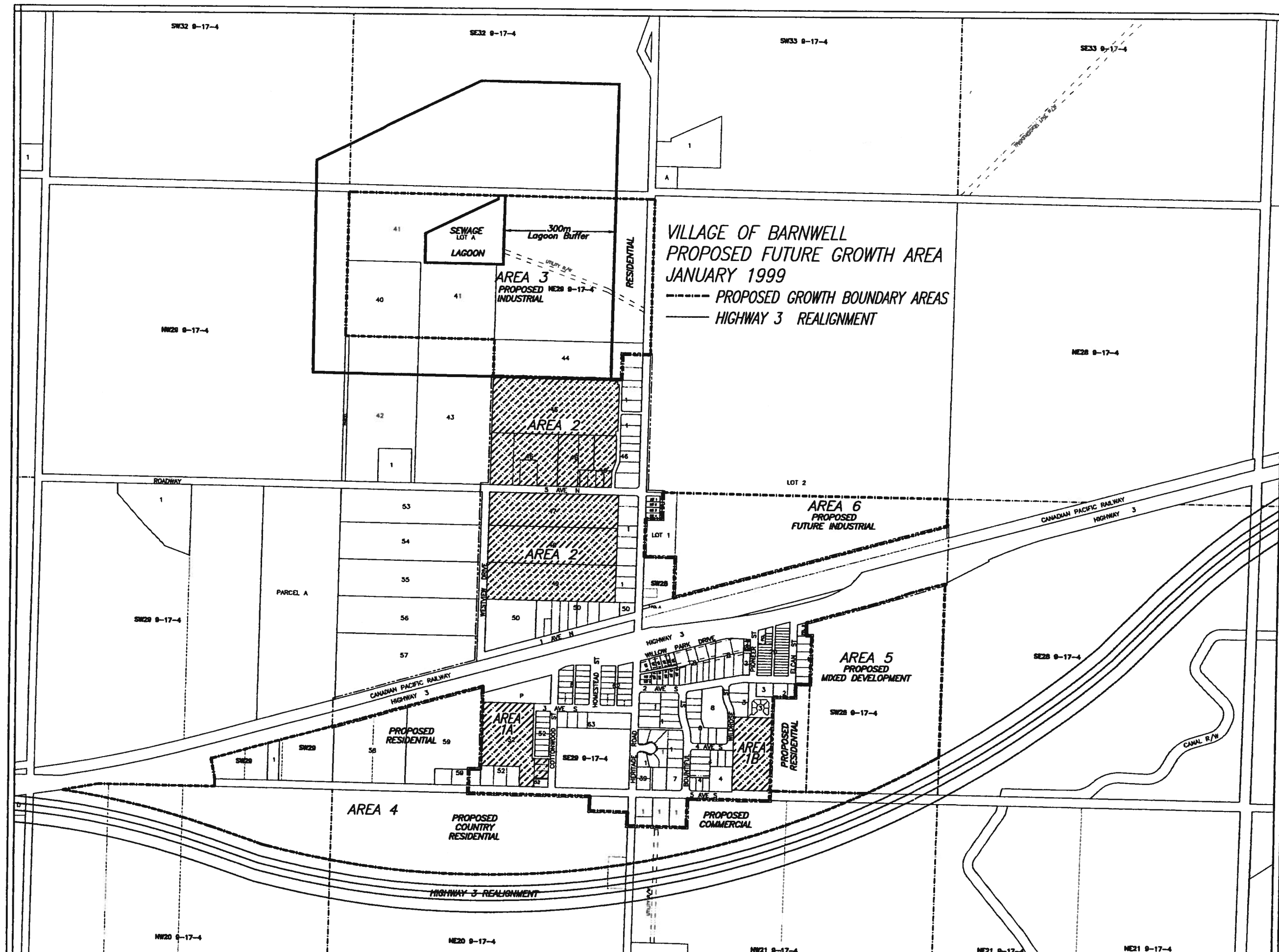
2. LANDS OUTSIDE VILLAGE BOUNDARIES

(a) Description

The lands identified as sites for potential future growth development are categorized into four areas for description. The land identified as proposed Areas 3 and 6 are located to the north, while Areas 4 and 5 are located on the south side of the railway tracks. All these lands outside Barnwell are contiguous or abutting the present village boundary and are located in the Municipal District of Taber No. 14. The following map illustrates the areas in relation to the present village boundary (see Map 5). The proposed areas are described according to their location and are as follows:

Area 3 - North (northern portion of NE29-9-17-4 and Block 44 of Plan 5841EG)

- This area contains the sewage lagoons, located in Block 41, Lot A. *The Alberta Subdivision and Development Regulations* stipulate that certain types of development may not occur within 300 metres of the lagoons (i.e. residences, hospitals, etc).



VILLAGE OF BARNWELL
 PROPOSED FUTURE GROWTH AREA
 JANUARY 1999

----- PROPOSED GROWTH BOUNDARY AREAS
 ——— HIGHWAY 3 REALIGNMENT



- The land, however, may be able to accommodate certain types of industrial land use. The previous analysis determined that approximately 15.14 acres may be required for future industrial land development for the village. This land is also sloped and presently does not have proper access; some type of concept and design proposal would need to be prepared to allow development.
- The cemetery grounds are situated to the southwest of the lagoons and comprise approximately 10 acres. Thus, the land used for the cemetery site also somewhat acts as an impediment to future development or expansion in this area north of the village.
- A strip parallel to the road presently contains three country residences that obtain their services from the village. These developments are unaffected by the sewage lagoons, as they are setback more than 300 metres from the working area of the lagoons located in the same quarter section to the west.

Area 4 - South

West of Heritage Road (portions of NE20-9-17-4; NW20-9-17-4; SW29-9-17-4; and Block 58 and Block 59 of Plan 5841EG)

- This area lies south of the old Highway No. 3 and west of Heritage Road. It would now be located north of the Highway No. 3 realignment, split by 5 Avenue South.
- The land situated north of 5 Avenue South contains about eight country residences with at least half obtaining their services from the village.
- It is a logical extension of residential development located in the south end of the village.
- The portion situated between 5 Avenue and Highway No. 3 is mainly in agricultural production, with one farmstead and one country residence located in the area.
- The land south of 5 Avenue could accommodate large parcels and would be a prime area for the development of country residential housing.
- It appears probable, that due to fragmented land ownership and the cost of servicing, the southwest area is unlikely to become developed for regular urban density housing.
- A private land owner of NE20-9-17-4 has previously indicated he prefers the development of country residential lots.

East of Heritage Road (portion of NW21-9-17-4)

- This area is located east of Heritage Road south and immediately north of Highway No. 3. The primary land use of this area is agricultural land, with one country residence located at the west end, adjacent to Heritage Road.
- This site is approximately 11.3 acres in size and may be a prime area to develop some type of highway commercial activity. The previous analysis indicated that up to 9.69 acres might be required for this type of land use activity.
- With proper berms and screening behind three existing residences situated north, the parcel between 5 Avenue South and the highway could possibly be suitable to accommodate a highway commercial business.
- A service road may need to be developed; no access would be allowed immediately off of Highway No. 3.

Area 5 - South (portion of SW28-9-17-4)

This area is located south and east of the present village boundary.

- The land is presently undeveloped and can be classified as agricultural land.
- This area lies adjacent to present residential development and is approximately 51.2 (plus or minus) acres in size.

- This site would be a natural extension of development existing to the west. Also, since future development will be limited in expanding south because of the highway, future expansion to the east would appear to be a viable option.
- Land in this area could be developed to provide a mix of different types of land use activities and could be designated as a direct control district. With proper design concepts this site could be used to accommodate both future residential development and possibly industrial type land use activity. For example, land that is situated adjacent to the highway and has proper access may be suitable for industrial activity. Proper berms and screening or a green-strip could be used to separate this type of land use from residential development to the west.

Area 6 – North (portion of SW28-9-17-4)

- This parcel lies immediately north of the CP rail line and Wheat Pool elevator, and is approximately 34.9 (plus or minus) acres in size.
- The land is presently undeveloped and can be classified as agricultural land.
- This area would be a prime site to accommodate future industrial activity if such land is required.
- The parcel lies adjacent to the railway tracks and north of the old highway. Thus, it could provide suitable transportation links for industry and would not provide conflicts with adjacent land uses. It is well separated from other types of developments, especially residential housing.

(b) Other

The previous land analysis indicated that up to 5.3 acres of general commercial land use may be required. No additional undeveloped land is identified, however, if non-conforming land use activities present in the commercial land use district were to relocate, this would free up land for additional commercial development.

3. CRITERIA

The following criteria sections describe certain aspects of the proposed growth areas, to determine if the areas are suitable for development. For example, the proposed lands should be large enough to accommodate future growth, have proper access, be easily serviced, and be suitable for the intended purpose.

(a) Size

Map 5 illustrates the proposed lands to accommodate future growth outside the present boundary, divided into four areas for description. Area 3 to the north is over half a quarter section in size and provides 85 acres (more or less) of land. Area 4 in the south contains a number of different parcels, ranging in size from 0.22 acres, to over 39 acres. This provides a total of approximately 96.93 acres (more or less) of land for Area 4. Area 5 to the south-east is held under one title and consists of approximately 51 acres. The final area consists of a portion of one parcel containing 34.9 acres more or less. Altogether, these four described land areas amount to over 1.7 quarter sections of land, consisting of 267.75 acres (more or less) of gross land area.

(b) Canada Land Inventory

Generally, the soils around the Village of Barnwell are very high quality soils, which accounts for the wide range of vegetable crops grown in the area. The Canada Land Inventory (CLI) rating for these areas is a 1, which indicates that soils in this class have no significant

limitations in use for crops. The soils are deep, are well to imperfectly drained, hold moisture well, and in the virgin state were well supplied with plant nutrients. Ordinarily, they can be managed and cropped without difficulty. Under good management they are moderately high to high in productivity for a wide range of field crops. However, the various identified parcels are fragmented into many parcels and their agricultural viability in the long term is unlikely.

(c) Land Ownership

The land outside the present boundary, identified as possible growth areas for the Village of Barnwell, is currently held under a number of different title owners. In total, the area contains 22 certificates of title being held in 17 different land owners' names. This includes a title being held by the Village of Barnwell for land containing the cemetery grounds. Table 10 displays a list of the land owners along with their title LINC number and the amount of land they own in the proposed areas. An examination of the titles does not reveal any encumbrances that would affect the possible annexation of any land from the M.D. of Taber to the Village of Barnwell in the future.

(d) Municipal Servicing

The Village of Barnwell's existing water treatment system can serve 190 homes or approximately 1,000 people. The existing sewer lines can serve 175 homes or 920 people, while the sewage lagoons can handle a capacity of 5,000 people.⁴ Therefore, the village should not have any major constraints in providing water and sewage services to the future possible growth areas. However, some system upgrading and extension of lines may be required. Currently, the village provides the services of water or sewage or both to approximately 12 dwellings outside its boundaries, located in the M.D. of Taber.

The present water system consists of two raw water cells with a capacity of 10,000,000 imperial gallons. The water is treated and stored at a location south of the village. When Alberta Transportation and Utilities constructed Highway No. 3 to the south, they replaced the six-inch water main from the water treatment plant to 5 Avenue South, with an eight-inch water main. A study by engineer Kent Bullock in 1997 indicated the water pumps have the capacity to handle a population increase to 1,000 people. However, additional six-inch water mains on 5 Avenue running east and west will be needed, along with one across the old highway and railway being looped to the existing one on the north side of Barnwell. This study indicated that development beyond 59 additional homes would require a major upgrade to the water system. It also stated that houses added to the north side of the village might cause more problems for the water system, than those added to the south.

The current sewage system consists of eight-inch diameter gravity pipelines that flow to the sewage lagoons located north of the village. The lagoons consist of three cells, two aerobic, and one anaerobic. There is a sewage lift pump and a six-inch force main to take the sewage from the south side to the north side of Barnwell. Sewage service is developed to the south, only as far as the village boundary. Therefore, any additional development south of the present boundary would require an extension of the sewer line. Presently, the sewage system is operating at only about 50 percent capacity, and therefore can accommodate future population growth. One possible upgrade in the future is that the village may have to increase the size of the pumps in the sewage lift station. Also, if development were to occur on the north side, then a new eight-inch sewer line would most likely need to be installed.

⁴ According to the 1996 census, there were 145 dwelling units in Barnwell.

Table 10

**VILLAGE OF BARNWELL
LAND OWNERSHIP – October 1998
(Lands Outside Present Boundary)**

AREA 3 – North (NE29 9-17-4, Plan 5841EG;44)		
LINC No.	LAND OWNER	AREA (more or less)
0019 051 854 (cemetery)	Village of Barnwell	9.99 Ac (4.04 ha)
0020 057 600	Delbert Johnson	37.18 Ac (15.05 ha)
0019 054 287	Bill and Margaret Traber	9.08 Ac (3.67 ha)
0019 054 254	Delbert Johnson	22.12 Ac (8.95 ha)
0020 403 739 (lagoons)	W.J. Johnson and Sons	6.67 Ac (2.69 ha)

Area 3 Total = 85.04 Ac (34.4 ha)

AREA 4 – South (SW29 9-17-4, NW20 9-17-4, NE20 9-17-4, NW21 9-17-4, Plan 5841EG;58,59)		
LINC No.	LAND OWNER	AREA (more or less)
0013 356 522 (portion of)	Willem and Jannetje Van Straalen	1.3 Ac (0.5 ha)
0022 374 243 (portion of)	Robert and Sharon Howells	39.4 Ac (15.9 ha)
0022 373 773 (portion of)	GBIJ Farms Ltd.	2.9 Ac (1.2 ha)
0022 374 268 (portion of)	GBIJ Farms Ltd.	0.6 Ac (0.3 ha)
0012 758 645 (portion of)	GBIJ Farms Ltd.	14.0 Ac (5.7 ha)
0014 715 636	GBIJ Farms Ltd.	0.22 Ac (0.089 ha)
0026 174 045 (portion of)	Bruce and Ruth Johnson	9.9 Ac (4.0 ha)
0017 014 911	Robert and Sheila Span	10.57 Ac (4.28 ha)
0024 073 777	William p and Janell Kress	4.46 Ac (1.80 ha)
0024 073 769	Raymond J Kapteyn & Cindy Lou A Larsen	4.47 Ac (1.81 ha)
0020 348 678, 0020 348 686	Canada Trust Realty	0.96 Ac (0.39 ha)
0024 020 216	Gordon & Laura Quiring	0.78 Ac (0.316 ha)
0011 962 677	Cody McCreddie, Jody Holoboff, and George Sinnott	4.39 Ac (1.78 ha)
0026 120 056	John Hamvas	1.38 Ac (0.56 ha)
0026 120 063	John Hamvas	1.6 Ac (0.64 ha)

Area 4 Total = 96.93 Ac (39.26 ha)

AREA 5 – South (SW28 9-17-4)		
LINC No.	LAND OWNER	AREA (more or less)
0022 390 736	Joseph and Herbert Wilcox	50.88 Ac (20.59 ha)

Area 5 Total = 50.88 Ac (20.59 ha)

AREA 6 – North (SW28 9-17-4 portion north of CP Rail-Line)		
LINC No.	LAND OWNER	AREA (more or less)
0015 538 490 (portion of)	Martin R and Carolyn K Johnson	34.9 Ac (14.12 ha)

Area 6 Total = 34.9 Ac (14.12 ha)

Total land area held by land owners: 267.75 Ac (108.37 ha)

NOTE: The above land owners list does not include areas for plans of utility right of ways, road allowances, etc. All listed land areas are located in the municipality of the M.D. of Taber No. 14.

(e) Development Limitations

Within the fringe area identified as possible future growth land for the Village of Barnwell, there are two parcels of land recognized as having significant limitations for development. These land areas with significant constraints are described as:

1: Parcel 1436LK;A which is a portion of NE29 9-17-4

- This parcel is located north of the village and contains the sewage lagoons.

According to section 12(2) of the Alberta Subdivision and Development Regulations:

"A subdivision authority must not approve an application for subdivision for school, hospital, food establishment or residential use unless, on considering the matters referred to in section 7, each proposed lot includes a suitable building site for school, hospital, food establishment or residential use 300 metres or more from the working area of an operating wastewater treatment plant."

The type and amount of development that may take place in adjacent land will be somewhat limited, as it is in close proximity to the parcel containing the sewage lagoons. For example, no residential development would be allowed unless there is at least a 300-meter setback from the working area of the lagoons. This area, however, may possibly be used as some type of appropriate industrial land use.

2: The northern portions of NW21 9-17-4; NE20 9-17-4 and NW20 9-17-4

- The portions of these quarter sections located north of Highway No. 3 and south of 5 Avenue South.

These areas can be classified as limited development areas in the sense that they are situated adjacent to a primary highway. No access will be allowed directly off Highway No. 3, so considerations must be taken into account regarding proper access. A service road may need to be developed in cooperation with Alberta Transportation. It also should be noted that no subdivision application is allowed on land falling under the following criteria of section 14 of the Alberta Subdivision and Development Regulations:

"Subject to section 16, a subdivision authority must not in a municipality other than a city approve an application for subdivision if the land that is subject of the application is within 0.8 kilometers of a highway where the posted speed is 80 kilometers or more..."

This may not be a major impediment to development however, as section 16(1) refers to the fact that the requirements may be varied by obtaining written permission from the Minister of Transportation and Utilities.

(f) Access

Any future development in the proposed areas would require the eventual development of some local road networks. At present, Area 3 to the north of the village lies westerly adjacent to Heritage Drive, and is bounded at the north end of the parcel, by a local gravel roadway. If development were to occur in Block 41 or in a portion of the NE29-9-17-4 parcel in the north, some local roads for access would need to be constructed. Also in this area, the street named Heritage Drive is a paved road and is in fairly good condition. By viewing the maps, it can be seen that Heritage Drive runs to the south through the village, where it crosses 5 Avenue at the very south-end boundary of Barnwell. By taking 5 Avenue South to the west, this road divides the proposed future residential growth areas, as the parcels would lie on both the north and south sides of 5 Avenue. These south parcels are also located adjacent to Highway No. 3, so as previously mentioned, a service road may have to be constructed. The construction of a service road is usually the responsibility of a developer with any terms and conditions outlined in a development agreement entered between the developer and the municipality. Discussions with Alberta Transportation and Utilities will be

needed to attain their criteria and recommendations for aspects that affect access and development occurring adjacent to primary highways.

4. FUTURE GROWTH and ANNEXATION ISSUES

Several recommendations and considerations regarding future development and land use have been identified. The former Oldman River Planning Commission pointed out some of these recommendations in the Barnwell 1988 *Land Use Development Strategy*. Some of these issues, along with other relevant points to consider, include:

- Subdivision or development should be encouraged inside the village before the existing supply of residential land is depleted.
- Given the present services and adjacent land uses, the south area appears to be the most logical extension for both commercial and residential development.
- One option is the possibility that annexation may need to occur in the short to mid-range due to the fact the village needs to develop land for residential and other types of land use activities. The village would benefit from an environment that promotes the competition of land along with the ability to provide adequate housing choices for residents.
- The relocation of Highway No. 3 creates a physical barrier to the south; any future development for the village will most likely be limited to north of the highway.
- If an annexation of land is to occur, engineering studies and concept plans should be utilized to create a more detailed analysis of the potential growth sites. This should also be in conjunction with a financial study to determine if it would be feasible for the village.
- The village should limit future development to a few identified, confined areas at a time. This will allow the phasing in of water and sewer construction, so that the whole system is not developed and paid for at the outset, as this could be very expensive for the village.
- With a number of developments occurring in the past on the north side of Barnwell, the village may desire to have some control over future development in this area.
- Subdivision and development controls in the Municipal District of Taber are especially important to the fringe area of Barnwell. The continued cooperation of the village and the M.D. of Taber to prevent piecemeal fringe development should be commended and encouraged.
- In order to accomplish the growth strategy for Barnwell, some of the discussed recommendations will have to be carried out, including the likelihood that annexation will have to occur.

F. POLICY and PROCEDURAL ASPECTS

1. EXISTING STATUTORY PLANS

The municipality and village council must consider any statutory plan policies when considering an annexation of land. The Village of Barnwell does not have a municipal development or intermunicipal plan in place, but it must also regard any references or policies regarding the fringe area in its neighbouring municipality statutory plans; in this case, the municipality being the Municipal District of Taber. The M.D. of Taber is currently undergoing the process of writing and adopting a new municipal development plan. However, past relevant policies affecting fringe land can be found in the M.D. of Taber's 1985 General Municipal Plan, Policy 2, Rural/Urban Fringe Land Use that states:

"Wherever possible, agricultural lands within the fringe shall be protected and conserved for agricultural use until they are needed for urban expansion."

and Policy 3 which states:

"Non-agricultural uses of poor agricultural land may be permitted if the orderly, economic and necessary expansion of urban boundaries is not unduly compromised and the land use conflicts with surrounding uses are not created."

2. STEPS TO INITIATE AN ANNEXATION APPLICATION

Annexation applications may only be submitted by a council of a municipality, with the request being made to the Municipal Government Board. The basic initial steps in proceeding with an annexation application shall consist of the following:

- (a) The municipality initiating annexation gives a notification letter to the Municipal Government Board stating the municipality's intent to prepare for annexation.
- (b) In the letter, it should be stated whom the municipality is applying for the annexation, and from whom and where the intended annexation of land is located. It should also include a description of how much land is proposed to be annexed. It may help to include a map showing the village and the area of the proposed land to be annexed.
- (c) In the actual official annexation application, state at what date the municipality wants the annexation to be effective, or if the municipality wants it retroactive to the end of the last year.
- (d) The application for annexation includes the report stating the unconditional consent, objections, or conditional consent of the municipality from which it is proposed to withdraw the subject lands; or from each registered land owner.
- (e) Every application for annexation of lands has a minimum fee of \$300 for the first quarter section and thereafter, \$50 per each quarter section or portion thereof.⁵

Upon receipt of the application, the Board may ask for supplementary data it may feel it requires. This could include information of the following type:

- photocopies of certificates of title,
- tax assessments of affected land owners,
- engineering feasibility reports,

⁵ Note: These fees may need to be confirmed at the time of any proposed annexation application.

- municipal financial data,
- copies of registered plans of survey within the proposed annexation area.

The Municipal Government Board will inform the annexation petitioning municipality if it requires additional information to be submitted.

3. ANNEXATION PROCEDURE

The procedures a municipality must follow when initiating an annexation application, are outlined in the Municipal Government Act, Statutes of Alberta, 1994, Chapter M-26.1. The specific legislation is found in Division 6, sections 113 to 128 of the Act and is described in Appendix 1. The following briefly outlines the procedures in the legislation:

- A municipality is only allowed to annex land that is contiguous or abutting its municipal boundaries.
- Once a municipality has decided to annex land, it must give written notice of the proposed annexation to the municipality in which the land is located, the Municipal Government Board and any local authority that may be affected by the annexation.
- The written notice must describe the land proposed to be annexed, give reasons for the proposed annexation, and include proposals for consulting with the public and meeting with the affected land owners to keep them informed of the annexation negotiations.
- The two municipal jurisdictions, the Village of Barnwell and the Municipal District of Taber No. 14, meet to discuss the proposal. A series of negotiations results, with a summary report outlining what has and has not been agreed to, and includes any comments and feedback from public meetings. (The village must include a process of public participation.)
- The concluding report is signed by both municipalities and forwarded to the Municipal Government Board.
- Depending on the type of general agreement reached on the proposed annexation, and the relative satisfaction of those municipalities and the public involved, the Municipal Government Board may make a recommendation to the Minister without a public hearing, or may hold one or more advertised public hearings to determine further facts.
- This is followed by the Municipal Government Board sending a report to the Minister with a recommendation on whether or not the land should be annexed. If it does recommend approval, the report must include a description of the lands involved.
- If favourable, the Lieutenant Governor in Council orders the annexation of lands from one municipality to another, which may include the payment of compensation.

G. CONCLUSION

1. RECOMMENDATIONS

- (a) Based on the background analysis presented in this report, a number of lands have been described as possible growth areas for the Village of Barnwell. The lands described are as follows:
- inside the village:
 - Area 1A – South, part of Block 52 (Plan 961 1248)*
 - Area 1B – South, part of SW28-9-17-4*
 - Area 2 – North (Blocks 45, part of 46 and 47-49 of Plan 5841EG)*
 - outside the village:
 - Area 3 – part of NE29-9-17-4 (north part of quarter-section) and Block 44 (Plan 5841EG)*
 - Area 4 – parts of NW21-9-17-4, SW29-9-17-4, NW20-9-17-4, NE20-9-17-4 and Block 58 and 59 (Plan 5841EG)*
 - Area 5 – south-easterly portion of SW28-9-17-4*
 - Area 6 – northern portion of SW28-9-17-4 (north of CP rail line)*
- (b) Council should try to encourage the infill development of vacant land within its boundaries, so as to minimize any expensive additional costs in providing services.
- (c) Areas identified as potential highway commercial sites should be considered by the village as the most suitable location to accommodate this type of activity.
- (d) In order for council to provide affordable land, a variety of housing for its residents, and promote growth, it may soon require additional land for residential development.
- (e) In terms of phasing, further residential development in the village is encouraged: first, in area south of the railway line; second, to the area on the north side of the village; third, to the vacant land situated east of the present boundary.
- (f) The village should limit any development to a few confined areas until they are filled, so that water and sewage construction and costs can be phased in.
- (g) Prior to development occurring in any of the proposed areas, more detailed concept plans will need to be designed.
- (h) If annexation does occur, possible growth sites could be annexed in phases over a period of time as needed, as they would not have to be annexed all at once.
- (i) The village should continue to monitor developments in both the M.D. and Town of Taber, as activities in these municipalities has important impacts on the Barnwell, as these could affect future growth prospects for the village.
- (j) The village should work towards a joint agreement on development in the fringe area.
- (k) Barnwell should continue to act with its citizens, business groups, government agencies and representatives, etc., in regards to encouraging and exploring economic development opportunities for the village.
- (l) The village should continue to communicate with the Municipal District of Taber, to promote cooperation on issues of mutual concern.
- (m) Should annexation be considered, the village should consult with land owners who may be affected by the jurisdictional change.

2. IMPLEMENTATION STRATEGY

If the Village of Barnwell feels that a strategy to manage future growth includes the annexation of land from the Municipal District of Taber, the following procedures should be considered:

- (a) Council and administration should take into consideration this report and its findings.
- (b) The council should contact the assessor for the M.D. of Taber No. 14 to determine the property tax implications of the affected land owners.
- (c) The council and administration will need to meet with the affected land owners as well as the council and administration of the M.D. of Taber. As well, the village will need some forum to allow public input on any annexation proposal.
- (d) An agreement to annex any land should be negotiated between the respective councils of Barnwell and the M.D. of Taber.
- (e) An application for annexation should be made pursuant to sections 113 to 128 of the Municipal Government Act, Statutes of Alberta 1994, Chapter M-26.1.

APPENDIX 1

**SECTIONS 113 - 128
OF THE MUNICIPAL GOVERNMENT ACT**

SECTIONS 113 - 128 OF THE MUNICIPAL GOVERNMENT ACT

Division 6 Annexation

Application	<p>113 This Division does not apply to the annexation of land</p> <ul style="list-style-type: none"> (a) from an improvement district to another improvement district, or (b) from a special area to another special area.
Restriction on Annexation	<p>114 No order that annexes land to a municipal authority may be made if the land to be annexed is not contiguous with the boundaries of the municipal authority.</p>
Annexations of same land	<p>115(1) A municipal authority may not initiate or proceed with more than one proposed annexation at any one time concerning the same land.</p> <p>(2) A municipal authority may not initiate or proceed with a proposed annexation when the municipal authority is proceeding with an amalgamation, unless the annexation is of the type referred to in section 103(2).</p>
Initiation of Annexation	<p>116(1) A municipal authority initiates the annexation of land by giving written notice of the proposed annexation to</p> <ul style="list-style-type: none"> (a) the one or more municipal authorities from which the land is to be annexed, (b) the Municipal Government Board, and (c) any local authority that the initiating municipal authority considers would be affected by the proposed annexation. <p>(2) The notice for an annexation must</p> <ul style="list-style-type: none"> (a) describe the land proposed to be annexed, (b) set out the reasons for the proposed annexation, and (c) include proposals for <ul style="list-style-type: none"> (i) consulting with the public about the proposed annexation, and (ii) meeting with the owners of the land to be annexed, and keeping them informed about the progress of the negotiations.
Direct Negotiations	<p>117 The municipal authorities from which the land is to be annexed must, on receipt of the notice under section 116, meet with the initiating municipal authority to discuss the proposals included in the notice and negotiate the proposals in good faith.</p>

Report on
Negotiations

118(1) On conclusion of the negotiations, the initiating municipal authority must prepare a report that describes the results of the negotiations and that includes

- (a) a list of the matters agreed on and those on which there is no agreement between the municipal authorities,
- (b) a description of the public consultation processes involved in the negotiation, and
- (c) a summary of the views expressed during the public consultation processes.

(2) The report must be signed by the initiating municipal authority and by the municipal authorities from which the land is to be annexed that are prepared to sign and must include a certificate by the initiating municipal authority stating that the report accurately reflects the results of the negotiations.

(3) A municipal authority that does not sign the report may include in the report its reasons for not signing.

Disposition of
Report

119(1) The initiating municipal authority must submit the completed report to the Municipal Government Board and send a copy of it to the municipal authorities from which the land is to be annexed and any other local authority the initiating municipal authority considers would be affected.

(2) If the initiating municipal authority indicates in the report that it wishes to proceed with the annexation, the report becomes the initiating municipal authority's application for the annexation.

General
Agreement on
proposed
annexation

120(1) If the initiating municipal authority wishes the annexation to proceed and the Municipal Government Board is satisfied that the affected municipal authorities and the public are generally in agreement with the annexation, the Board must notify the Minister and all the local authorities that it considers would be affected by the annexation and anyone else the Board considers should be notified that

- (a) there appears to be general agreement with the proposed annexation, and
- (b) unless objections to the annexation are filed with the Board by a specified date, the Board will make its recommendation to the Minister without holding a public hearing.

(2) If no objections are filed with the Board by the specified date, the Board must

- (a) consider the principles, standards and criteria on annexation established under section 76, and
- (b) prepare a written report with its recommendations and send it to the Minister.

(3) If no objections are filed with the Board by the specified date, the Board

- (a) may investigate, analyze and make findings of fact about the annexation, including the probable effect on local authorities and on the residents of an area, and
- (b) must conduct one or more hearings in respect of the annexation and allow any affected person to appear before the Board at a hearing.

No general Agreement on proposed annexation	<p>121 If the initiating municipal authority wishes the annexation to proceed and the Municipal Government Board is not satisfied that the affected municipal authorities or the public are in general agreement with the annexation, the Board</p> <ul style="list-style-type: none"> (a) must notify the Minister and all the local authorities that it considers would be affected by the annexation, and anyone else the Board considers should be notified, that there is not general agreement with the proposed annexation, (b) may investigate, analyze and make findings of fact about the annexation, including the probable effect on local authorities and on the residents of an area, and (c) must conduct one or more hearings in respect of the annexation and allow any affected person to appear before the Board at a hearing.
Notice of Hearing and costs	<p>122(1) The Municipal Government Board must publish a notice of a hearing under section 120(3) or 121 at least once a week for 2 consecutive weeks in a newspaper or other publication circulating in the affected area, the 2nd notice being not less than 6 days before the hearing.</p> <p>(2) The Municipal Government Board may determine the costs of and incidental to a hearing and decide by whom and to whom the costs are to be paid.</p> <p>(3) Section 502 applies to a decision of the Board relating to costs under this section.</p>
Board's report	<p>123 After one or more hearings under section 120(3) or 121 have been held and after considering the reports and representations made to it and the principles, standards and criteria on annexation established under section 76, the Board must prepare a written report of its findings and recommendations and send it to the Minister.</p>
Contents of Report	<p>124(1) A report by the Municipal Government Board to the Minister under this Division must set out</p> <ul style="list-style-type: none"> (a) a recommendation on whether or not land should be annexed to the initiating municipal authority or other municipal authority; (b) if it is recommending annexation, a description of the land, whether there should be revenue sharing and any terms, conditions and other things the Board considers necessary or desirable to implement the annexation. <p>(2) If the Board does not recommend that land be annexed in its report, the Board must provide the report to all local authorities that it considers would be affected by the annexation.</p>
Annexation Order	<p>125 If an application for the annexation of land has been referred to the Board, the Lieutenant Governor in Council, after considering the report of the Board, may by order annex land from a municipal authority to another municipal authority.</p>
Minor Annexation	<p>126 Despite sections 116 to 124, the Lieutenant Governor in Council may by order annex land to a municipal authority if the Minister believes that</p> <ul style="list-style-type: none"> (a) the proposed annexation is of a minor nature, and (b) there is no dispute about the proposed annexation.

Contents of Order	<p>127 An order to annex land to a municipal authority may</p> <ul style="list-style-type: none"> (a) require a municipal authority to pay compensation to another municipal authority in an amount set out in the order or to be determined by means specified in the order, including arbitration under the <i>Arbitration Act</i>, (b) dissolve a municipal authority as a result of the annexation, and (c) deal with any of the matters referred to in section 89.
Public utilities	<p>127.1(1) In this section, "utility agreement" means an agreement approved by the Public Utilities Board in which a municipality grants a right to a person to provide a public utility in all or part of the municipality.</p> <p>(2) An annexation of land does not affect any right under a utility agreement to provide a public utility on the annexed land unless the annexation order provides otherwise.</p> <p>(3) This section does not apply to a right to provide a natural gas service if the right is subject to section 22 of the <i>Rural Gas Act</i>.</p>
Annexation Refused	<p>128 If an application for an annexation of land is refused, the Minister must notify the initiating municipal authority of the refusal and the initiating municipal authority may not make another annexation application concerning the same land for a period of one year after it receives notice of the refusal.</p>