

Land Supply and Growth Study

Town of Rocky Mountain House

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Prepared by:



**PARKLAND
COMMUNITY
PLANNING
SERVICES**

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1.0 Introduction

This report presents and discusses the findings of a land supply and growth study undertaken for the Town of Rocky Mountain House in the fall of 2008. The purpose of the study was to be used as information for a sustainability plan for the Town, to be prepared in 2009, and general planning needs by understanding future land requirements. Information for this study was obtained from a variety of Town documents including:

- 2003 Land Supply and Growth Study
- Municipal Development Plan
- South West and East Area Structure Plans
- Existing and proposed Outline Plans
- Town Development Permit Records from 1981-2007
- Town Index Map

Information from outside the Town including:

- 2008 Town of Innisfail Land Supply and Growth Study
- 2008 Sylvan Lake Growth Strategy
- 2007 Alberta Health and Wellness Population Projections Study

The planning horizon for this study is 2037.

2.0 Population Growth

Over the past 60 years, population growth in Rocky Mountain House has experienced major fluctuations. However, not since 1971-72 has the overall population declined on a year over year basis. Table 1 shows the changes in population for Rocky Mountain House between 1951 and 2006, while Figure 1 displays it graphically. In 1951 the population of the Town was 1,147 and by 2006 the population had reached 6,874 according to Statistics Canada. The Town has undertaken its own census on a number of occasions which has generally resulted in population figures slightly higher than that of Statistics Canada. For example, in 2006, the Town census counted 6,972 people or 92 more than the 6,874 calculated by Statistics Canada. A municipal census conducted in 2007 counted 7,231 people which represents a 3.7% increase over the 2006 Town census figure. Table 1 also shows the growth of the Red Deer Region and Alberta over the same time frame.

Table 1: Population Changes: 1951 to 2006						
	1951	1956	1961	1966	1971	1976
Rocky Mountain House	1,147	1,285	2,360	2,446	2,968	3,432
REGION	72,983	80,247	93,017	99,282	102,049	112,020
ALBERTA	939,501	1,123,116	1,331,944	1,463,203	1,627,874	1,838,037
	1981	1986	1991	1996	2001	2006
Rocky Mountain House	4,698	5,182	5,461	5,809	6,208	6,874
REGION	142,940	153,636	162,630	174,658	193,924	218,338
ALBERTA	2,237,724	2,375,278	2,545,553	2,696,826	2,974,807	3,290,350

Figure 1 – Historic Population Changes for the Town of Rocky Mountain House

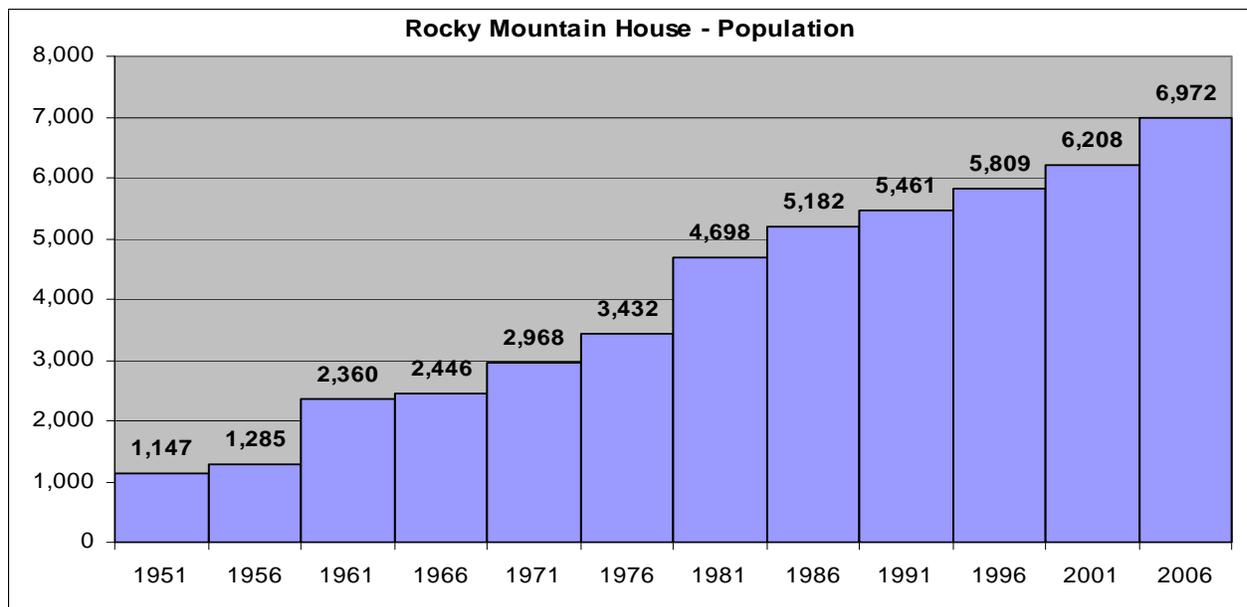


Table 2 presents the Town's average annual growth rate for a series of five year periods starting in 1951 and extending to 2006. Figure 2 shows the annual % change in population. Census figures are not available for all years going back to 1951 therefore some % changes have been extrapolated over 2-3 years. During the past 55 years 5-year average growth rates have ranged between 0.72% and 12.93%. The fluctuations generally reflect periods of high or low economic activity related to oil exploration. In particular, the mid to late 1950s and mid to late 1970s saw the largest periods of growth at 12.93% and 6.48% respectively. These periods were followed, almost immediately, by the lowest growth periods. More recently, over the past 25 years, growth has been much steadier at approximately at rates from 1.05% to 2.06%.

Time Period	1951 - 1956	1956 - 1961	1961 - 1966	1966 - 1971	1971 - 1976	1976 - 1981	1981 - 1986	1986 - 1991	1991 - 1996	1996 - 2001	2001 - 2006
Average Annual Growth Rate (%)	2.30	12.93	0.72	3.94	2.95	6.48	1.98	1.05	1.24	1.34	2.06

Figure 2 – Annual Percent Change in Population

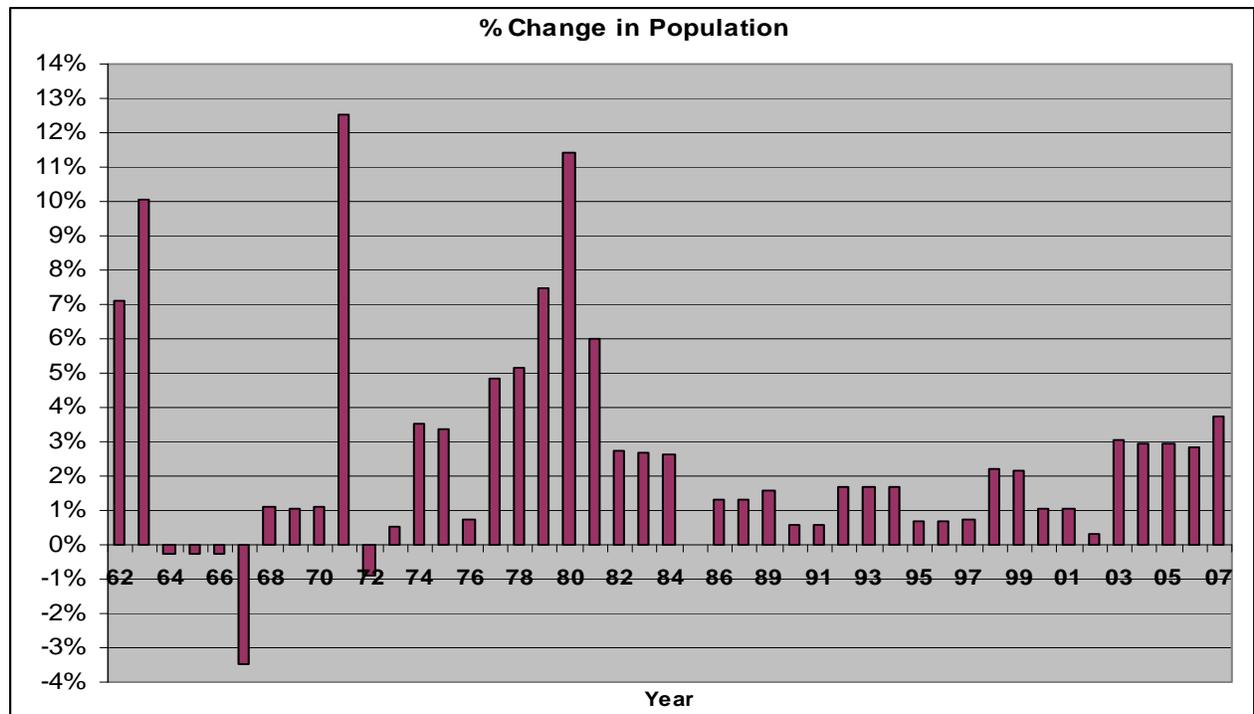


Table 3 shows the average annual growth rate for a range of time periods.. Higher rates of growth are noted in the 30 and 35 year time frames which include the unusually strong growth of the 1970s. Growth in Rocky Mountain House has generally been lower than that of the Red Deer Region over the past 25 years. The total population numbers are found in Table 1 while Table 3 shows the average percentage change in population for a series of time frames. Following the population booms of the 1970s, Rocky Mountain House’s growth has consistently been lower than growth within the Red Deer Region as a whole. The Town’s location just west of the QE2 highway corridor may be a contributing factor to the slightly more moderate growth than experienced in other parts of the Red Deer Region. Compared to the rest of Alberta, Rocky Mountain House’s growth is equal to or slightly lower. Alberta’s growth rate has been increasing over the past 25 years, as shown by Table 3. Rocky Mountain House’s growth rate dipped slightly following a large increase in the 1976-1981 period before continuing its upward swing to 2.06% annual growth experienced during the years 2001 to 2006.

Table 3 – Historic Annual Growth Rates					
Period		# of years	Average Annual Growth Rate		
			Rocky Mountain House	Region	Alberta
1	1971-2006	35	2.43%	2.20%	2.03%
2	1976-2006	30	2.34%	2.25%	1.96%
3	1981-2006	25	1.53%	1.71%	1.55%
4	1986-2006	20	1.42%	1.77%	1.64%
5	1991-2006	15	1.55%	1.98%	1.73%
6	1996-2006	10	1.70%	2.26%	2.01%
7	2001-2006	5	2.06%	2.40%	2.04%

2.1 Household Patterns

While the population of the Town has been increasing, the number of people living in each dwelling has declined over the past 25 years. Table 4 shows that in 1981 there was an average of 2.96 people per dwelling unit. By 1986 the number had declined to 2.81 where it remained relatively steady until 2001 where a subsequent drop to 2.65 was noted. In 2006, the number of people per dwelling unit was 2.63. The decline in Rocky Mountain House since 1996 nearly matches the decline throughout the rest of Alberta where average household size dropped from 2.75 in 1996 to 2.62 in 2006. The result of less people per dwelling unit is that a greater number of units and land will be required to house the same number of people in the future. Possible reasons for the decline in household size include: more single parent families, more “empty nest” households as the baby boom generation enters retirement, more households without

children due to the oil economy attracting young workers and that more people are having children later in life and having fewer children than previous generations.

Table 4 – Household Size						
	1981	1986	1991	1996	2001	2006
Rocky Mountain House						
Population	4,698	5,182	5,461	5,809	6,208	6,874
Dwellings	1585	1845	1960	2080	2340	2615
Avg. Household Size	2.96	2.81	2.79	2.79	2.65	2.63
Alberta						
Population	2,237,724	2,375,278	2,545,553	2,696,826	2,974,807	3,290,350
Dwellings				979,175	1,104,100	1,256,192
Avg. Household Size				2.75	2.69	2.62

Source: Statistics Canada

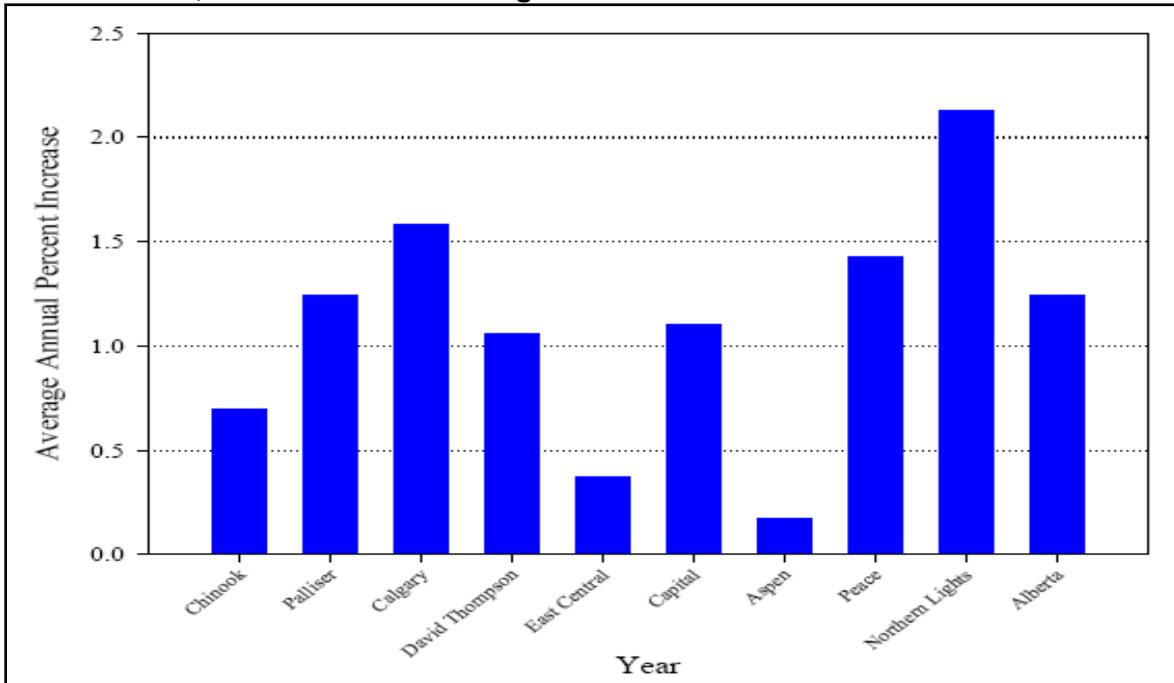
3.0 Projections

Estimating the future population of Rocky Mountain House is an imprecise but important exercise. It is necessary in order to determine the amount of land needed and the level of services required so that future growth may be accommodated. In 2003, the first time that this exercise was carried out, the selected growth rate was 1.40%. As growth accelerated in the ensuing years, that projection was outperformed by actual growth. In 2006, Stantec Consulting prepared a Capital Infrastructure Plan which used a growth figure of 2.02%. When Stantec subsequently worked on a Water Treatment Plant Pre-Design Report annual growth between 2004 and 2006 had been very healthy. Therefore, the report utilized a mixed growth rate. Between 2006 and 2009, growth was estimated at 3.00% then dropping to 2.00% for the years 2010 to 2038. However, as seen in Table 2 at no time since 1981 has the Town sustained 3% growth for a period of five years or longer.

In 2007 Alberta Health and Wellness released a population projections report that predicted much more moderate growth. Figure 3 shows average annual growth predicted for each of the nine former health regions from 2005-2035. It estimates that with the exception of the Northern Lights and Calgary Health Regions, no other region in Alberta would experience average annual growth higher than 1.5%. In the David Thompson Health Region (DTHR), illustrated in Figure 4, which includes Rocky Mountain House, growth is predicted to be 1.06%. It is expected that growth in the urban centres within the DTHR will be higher than average. However, that expectation is offset by the possibility that growth in Rocky Mountain House could be lower than other urban centres given that the Town lies outside the QE II highway corridor. Previous

versions of the report by Alberta Health and Wellness completed in 2001 and 2005 first predicted growth within the Region of 1.57%, which was revised downward to 1.44% in 2005. Between 2003 and 2005, the population projections prepared by the DTHR were off by less than 0.5%. However, between 2002 and 2006, Rocky Mountain House's actual growth was 2.94% indicating the pattern of higher growth in urban centres within the region.

Figure 3 – Projected Average Annual Percentage Increase in Population from 2005 to 2035, Alberta and Health Regions



Source: Alberta Health and Wellness: 2007

Figure 4 – Map of the David Thompson Health Region

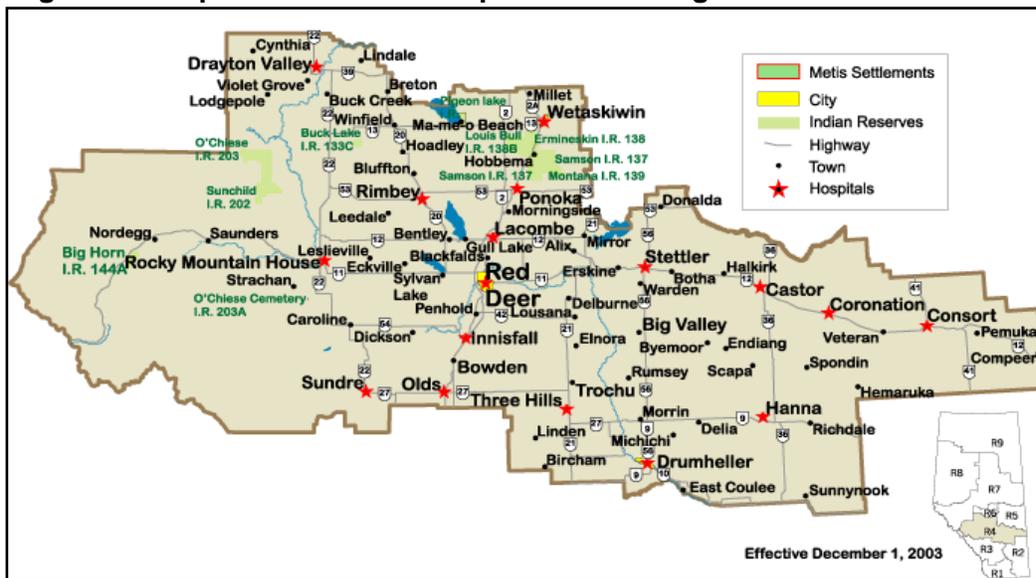


Table 5 considers a number of growth rates and the additional people expected if growth occurred at that particular rate for the next 30 years. The growth rates selected encompass the lowest and highest rates calculated in Table 3. At those growth rates, the Town's population over the next 30 years could increase by 3,807 new people if growth averaged 1.42%. At the upper rate of 2.43% there would be 7,629 more people by 2037. The resultant population of the Town could range from 11,038 to 14,860. If household size remained steady at approximately 2.6 people per household, then between 1,464 and 2,934 new residential dwellings would be required over the next 30 years.

Table 5 – Population and Dwelling Projections								
	Annual % Change	2007	2012	2017	2022	2027	2032	2037
Population Projections	1.42%	7,231	7,759	8,326	8,934	9,587	10,287	11,038
	1.70%	7,231	7,867	8,559	9,311	10,130	11,021	11,990
	2.06%	7,231	8,007	8,867	9,818	10,872	12,039	13,331
	2.43%	7,231	8,153	9,193	10,366	11,688	13,179	14,860
Additional Persons	1.42%		528	1,095	1,703	2,356	3,056	3,807
	1.70%		636	1,328	2,080	2,899	3,790	4,759
	2.06%		776	1,636	2,587	3,641	4,808	6,100
	2.43%		922	1,962	3,135	4,457	5,948	7,629
Additional Dwellings (2.6 people / dwelling)	1.42%		203	421	655	906	1,175	1,464
	1.70%		245	511	800	1,115	1,458	1,830
	2.06%		299	629	995	1,400	1,849	2,346
	2.43%		355	755	1,206	1,714	2,288	2,934

Source: Statistics Canada / Town of Rocky Mountain House

3.1 Selecting an Appropriate Growth Rate

In order to choose an appropriate growth rate, the factors that have caused large swings in population growth over the past number of decades should be balanced as much as is possible. For the Town a figure of 1.53% was chosen. This number equals the average annual growth rate between 1981 and 2006 shown in Table 3. This number considers the following:

- The growth rate excludes the unusually high periods of growth experienced between 1971 and 1981 while still including the strong period of growth from 2001-2006.
- The number selected in the 2003 Land Supply and Growth Study was 1.40% and in the years following growth has been higher than 1.40% capped by growth of 3.7% between 2006 and 2007. However, early indications from the 2008 development statistics are that 2007 may have been a peak year in recent growth and based on patterns observed in Figure 2, future short-term growth will be more moderate. Table 2 shows that peak periods of growth have been followed by at least 5 years of growth in the low 1% range since 1951.
- According to the ERCB, since the beginning of 2000, new well activity is occurring at triple the rate than that of the 1970s. However, growth in Rocky Mountain House since 2000 was approximately 1/3 of the growth experienced in the 1970s. While oil and gas does not singularly represent Rocky Mountain House's employment base, the divergence of those two indicators suggests that the extremely high growth rates of the late 1970s may be less likely to occur in the future.
- The selected growth rate is 44% higher than the DTHR's prediction, thereby acknowledging the higher growth usually experienced in urban centres

3.2 Projected Population

Table 6 illustrates the growth of Rocky Mountain House and the number of new dwellings that would be required to house the population. The predicted growth figure and household size figure will inform the future demand for land in the Town. When considering dwelling units and the associated land requirements, household size must be considered. As mentioned earlier, household sizes in the Town and across Alberta have been decreasing. Therefore Table 7 attempts to extrapolate this historical decline. From 2008 – 2010 household size will remain at 2.6 while from 2011 - 2015 it drops to 2.5. For 2016 – 2037 household size will drop to 2.4. The effect of this decline in household size is that it will increase the number of dwellings required to house an equivalent population. Table 6 shows the increase in the number of people and dwellings if growth over the next 30 years averaged 1.53%. By 2037, the Town would have a population of 11,403 people that would require an additional 1718 dwellings.

Table 6 – Projected Population with Growth Rate of: 1.53%

Year	Total Population	Increase in Population	Assumed Average Household Size	Increase in Number of Dwellings
2007	7231		2.63	
2008	7342	111	2.6	43
2009	7454	223	2.6	86
2010	7568	337	2.6	130
2011	7684	453	2.5	176
2012	7801	570	2.5	223
2013	7921	690	2.5	271
2014	8042	811	2.5	319
2015	8165	934	2.5	368
2016	8290	1059	2.4	420
2017	8417	1186	2.4	473
2018	8545	1314	2.4	527
2019	8676	1445	2.4	581
2020	8809	1578	2.4	637
2021	8944	1713	2.4	693
2022	9081	1850	2.4	750
2023	9220	1989	2.4	808
2024	9361	2130	2.4	867
2025	9504	2273	2.4	926
2026	9649	2418	2.4	987
2027	9797	2566	2.4	1048
2028	9947	2716	2.4	1111
2029	10099	2868	2.4	1174
2030	10253	3022	2.4	1239
2031	10410	3179	2.4	1304
2032	10570	3339	2.4	1370
2033	10731	3500	2.4	1438
2034	10895	3664	2.4	1506
2035	11062	3831	2.4	1576
2036	11231	4000	2.4	1646
2037	11403	4172	2.4	1718

4.0 Land Supply and Demand in Rocky Mountain House

The following sections discuss the supply of land currently available within the Town limits and measures that against estimates of the future demand for land expected over the next 30 years. There should be an ample amount of land to allow for orderly and economical residential, commercial and industrial growth within the Town. Within these categories, three topics will be covered:

- Identification of the total amount of land designated for a particular use
- Summary of the current supply of land available in the short-term and any associated constraints with that land
- Discussion of the potential future demand or need for land

Table 9, located at the end of the document, summarizes the anticipated rate at which land for each major land use category will be absorbed over the next 30 years.

4.1 Land Supply

Currently the Town encompasses 1285 ha of land which can be thought of in the context of approximately 20 quarter sections. Within the Town there are 5 broad land use categories that makeup the 1285 ha and they are discussed below. These numbers are derived from the Municipal Development Plan Land Use Map. *Appendix 1: Undeveloped Land* identifies land within the Town potentially available for future development and indicates the broad based land use proposed for it.

4.1.1 Residential

Within the current Town boundaries, there is approximately 625 hectares of land identified for current and future residential development and related uses, including local parks, schools, religious assemblies and roadways. Residential land accounts for approximately 49% of the total land mass within Rocky Mountain House.

According to information obtained from aerial photographs and recent subdivision and development activity, the total amount of land available as of August 1, 2008 in Rocky Mountain House was approximately 247 ha. This supply encompasses a large area, 137 ha, that is intended to be developed at increased densities than has historically occurred in the Town. The remaining residential areas are planned to contain less dense development in the form of small acreages or country residential type dwellings. The Town's MDP requires a minimum of 70% of the housing stock to consist of detached dwellings and no more than 25% to consist of multiple dwellings.

There has been some redevelopment of existing houses in the Town core. In one case new row housing increased the number of dwelling units in the area. However, with the exception of a 1.62 ha parcel at the northern end of the Town core, there are no

opportunities for new residential subdivisions. Therefore any future development in the area would have to come from redevelopment and intensification.

The largest amount of future residential land is contained in the southwest of the Town with 153 ha of undeveloped land. The area was first addressed by the South West ASP, which was prepared in 2002 and projected 12.8 units per hectare (uph). Subsequently, the Creekside Outline Plan was approved and currently has approximately 27 ha of undeveloped land with development likely occurring in the short term. At a growth rate of 1.53% and the Plans' proposed average density of 13.4 units per gross hectare (uph), the 27 ha will accommodate approximately 675 people if household size declines, as is forecasted, to 2.5 people per household. However, examination of the built portion of the Creekside development reveals that actual density has been closer to 10 uph.

The remaining 127 ha of land that the South West ASP identifies as residential land would provide housing for an additional 3959 people at 12.5 uph and 2.5 people per household. It is expected that densities along the North Saskatchewan river will be lower than the remainder of the Plan Area, however it represents a small portion of the total and could be offset by proposed multiple family sites that will have densities higher than 12.5 uph.

The Southwest ASP's remaining 127 ha of land could supply the Town's residential needs beyond 2037, the scope of this study, if growth averages 1.53%. Even at the high growth scenario the supply would not be exhausted until 2030.

The East side of the Town contains approximately 90 ha of undeveloped residential land. Nearly all of this future residential land has been identified in the East Area Structure Plan. According to the East ASP, approximately 73 ha of land are designated for either acreages or estate lots. The ASP anticipates densities ranging from less than 1 uph up to 10 uph. At full build-out the ASP anticipates the undeveloped area will provide housing for approximately 750 people.

In the Town's north end there are approximately 19.5 ha of land available for residential development. The Riverview Outline Plan covers most of these lands and initial phases have already been completed. This will provide housing for up to 600 people based on the 12.5 units/ha density envisioned by the Outline Plan.

Recent subdivision activity within the Town includes phase 6 of the Creekside Plan in the Town's southwest area. This consists of 75 residential parcels. Currently the subdivision has been approved but has not been registered. In the North Area, 27 lots identified for development in the last phase of the LeCerf Outline Plan are available for development.

4.1.2 Commercial

There are currently 129 ha of land within the Town identified for commercial uses and associated roadways. Approximately 26 ha are contained within the downtown core and are almost entirely developed. An additional 100 ha are designated Highway Commercial. Combined, the commercial lands account for 10% of the total land supply within the Town. As of August 2008, approximately 60 ha were available to accommodate further commercial development.

There are no parcels of a significant size available for commercial development in the Town core, however, as is discussed below, ample opportunities exist around the edges.

Land in the south west is predominantly residential however, a 5.3 ha parcel lies at the north edge of the area and adjacent the south end of the downtown. This parcel could represent an extension of the downtown core and bring a variety of commercial opportunities to the downtown. Two other parcels, totaling 16 ha, are located on the west side of Highway 11 at the south entrance to the Town. Bisected by a CP railway right-of-way, the parcels offer good highway frontage for future development.

On the east side of Highway 11 at the south end of the Town are an additional 13.3 ha of commercial land. The remaining commercial parcel on the east side is located at the edge of the current built-up portion of the Town. Consisting of 7.54 ha located on the south side of Highway 598 these lands are ideally located to service the future residential and industrial developments identified for the area.

One large parcel of land (19 ha) lies on the east side of Highway 11 northwest of the Extra Foods property for further development of large format retailers pending resolution of potential organic soils constraints. There is a small 0.42 ha local commercial site planned for the intersection of 71st Ave and Highway 11 that will serve residents in the developing Riverview Outline Plan area.

There are a couple of opportunities for infill commercial development. Their size and predicted effect on the Town's overall supply of industrial land are discussed in more detail in section 4.2.5 – Demand for Infill Development.

4.1.3 Industrial

There are currently 145.5 ha of land identified for industrial uses and associated roadways. This represents approximately 11% of the total land mass within the Town. Of that total, 36 ha of land are undeveloped and located primarily at the edges of the current built portion of the Town. A number of future industrial sites totaling 30 ha are located near Mud Lake on the East side of the Town. These are identified in both the MDP and the East ASP.

Two small parcels, 1.85 and 2.31 ha in size are located in the south end of the Town close to Highway 11 and represent good opportunities for small scale light industrial uses.

There are a couple of opportunities for redevelopment of existing industrial zoned properties within the Town. Their size and predicted effect on the Town's overall supply of industrial land are discussed in more detail in section 4.2.5 – Demand for Infill Development.

4.1.4 Major Open Space and Natural Features

There are approximately 298 ha of land designated as major open spaces and undeveloped areas. This includes areas along the North Saskatchewan River, Trapper's Creek, around Mud Lake and in the Northeast. It also includes a 32 ha parcel in the southwest identified for private recreation. These open spaces account for about 23% of the land within the Town.

4.1.5 Public and Educational Services

There are approximately 73 ha of land dedicated for public and educational services, a large amount consisting of the sewage lagoons in the Town's north end. Representing 5.5% of the Town's land, only a few sites remain undeveloped.

4.2 Demand for Land

The establishment of the predicted growth rate of 1.53% and the anticipated rate of decline in household size informs the following sections' conclusions about future demand for land in each of the residential, commercial and industrial areas.

4.2.1 Residential Demand

There are two methods used to aid in determining the future demand for residential land. The first involves measuring the amount of land consumed divided by the current population and then extrapolating those numbers to ascertain future demand. The second method looks at historical construction figures, which reflect population driven demand and consumer desire for new housing.

Over its history, the Town has consumed approximately 360 ha of land for residential uses, including roads, stormwater management facilities and local parks. Taking the current population of 7,231 people, this means that for every increase of 1,000 people in the Town's population, an additional 50 ha of land would be required. At a growth rate of 1.53%, by 2037 an additional 215 ha of land would be required if historical consumption patterns continued. If growth occurred at 2.43% the population would reach 15,168 by 2037. The additional 7,937 people would require an additional 397 ha of land which would deplete the current supply well before the end of the 2037 timeframe. It should be noted, however, that certain low density developments slightly exaggerate these figures. In particular, the McNutt subdivision on the east side of Town occupies 57 hectares for only about 100 people. Removing that area from the calculation drops the historic consumption from 50 to 42.4 ha of land for every increase of 1,000 people in the Town's population. Further, there is evidence that these numbers have been declining significantly in recent years. In 2003, the historical consumption of residential land was estimated at 57 ha per 1000 people, or 48.6 excluding the McNutt subdivision, which was about 7 ha higher than is the estimate in 2008.

In order to be able to compare historical residential development figures across each method a similar type of measurement must be used. In this study the figure, dwelling units per hectare has been chosen. In order to accomplish such with the aforementioned 50 ha / 1000 people, the current figure of 2.6 people per household was used. From that a historical growth of 9 units per hectare (excluding the McNutt subdivision) is noted. These figures, as will be discussed below, are lower than future development plans indicate. The number is similar to other municipalities such as Innisfail and Sylvan Lake where historical development has ranged from 10-12 units/ha.

The second method looks at historical construction figures, which reflect population driven demand and consumer desire for new housing. Assisted by development statistics provided by the Town dating back to 1981 which are found in Table 7, dwelling unit construction statistics show a large majority and increasing number of single detached and duplex dwellings are being constructed while multi-unit construction has been very sporadic. This is also illustrated by Figures 5 and 6. Since 2000, 90% of new dwelling units constructed in the Town have been single detached dwellings or duplexes compared to the 1990s when it was 81% or the 1980s when low density dwellings accounted for 57.5% of the total units constructed. Looking at the

Year	Low Density Units Single Detached and Semi-Detached Units	Multi-Family Units	Total Dwelling Units
1981	22	96	118
1982	27	0	27
1983	45	4	49
1984	6	0	6
1985	15	4	19
1986	21	0	21
1987	22	25	47
1988	21	0	21
1989	30	25	55
1990	26	8	34
1991	22	25	47
1992	35	18	53
1993	46	5	51
1994	36	4	40
1995	33	0	33
1996	48	0	48
1997	59	0	59
1998	54	0	54
1999	63	41	104
2000	46	0	46
2001	52	0	52
2002	31	0	31
2003	45	24	69
2004	54	0	54
2005	66	0	66
2006	82	6	88
2007	70	21	91
Total	1,077	306	1,383
Annual Average			
1981 – 2007	39.9	11.3	51.2
1998 – 2007	56.3	9.2	65.5
2003 – 2007	63.4	10.2	73.6
1980s	23.2	17.1	40.3
1990s	42.2	10.1	52.3
2000s	55.8	6.4	62.1

overall figures, Table 7 shows the total number of dwelling units constructed per year has increased from 40.3 in the 1980s to 52.3 in the 1990s and 62.1 in the current decade. Within the past 5 years total dwelling unit construction has averaged almost 74 units per year.

Figure 5 – New Low Density Dwelling

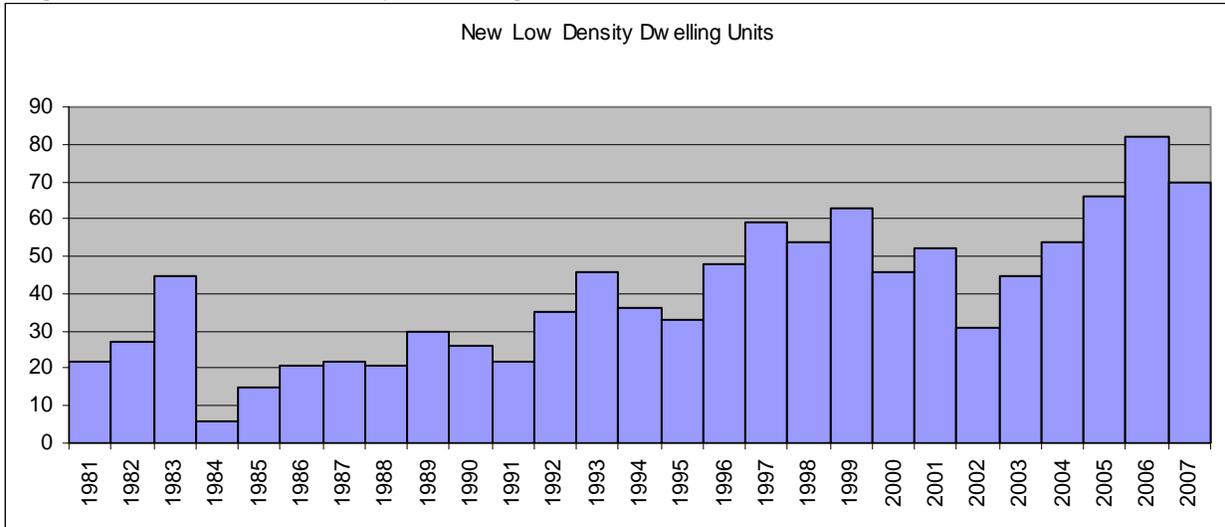
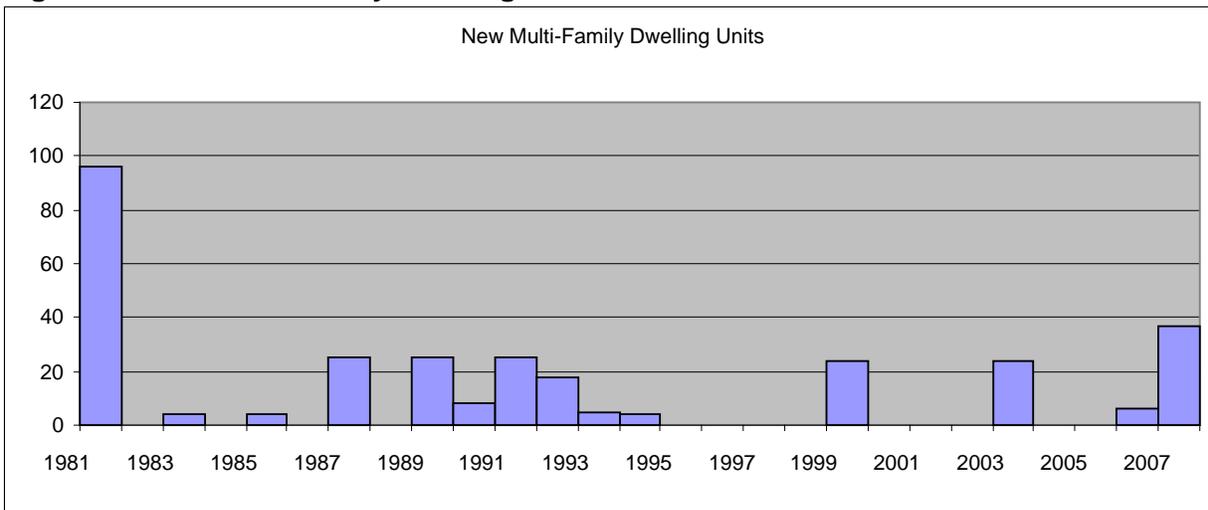


Figure 6 – New Multi-Family Dwelling Units



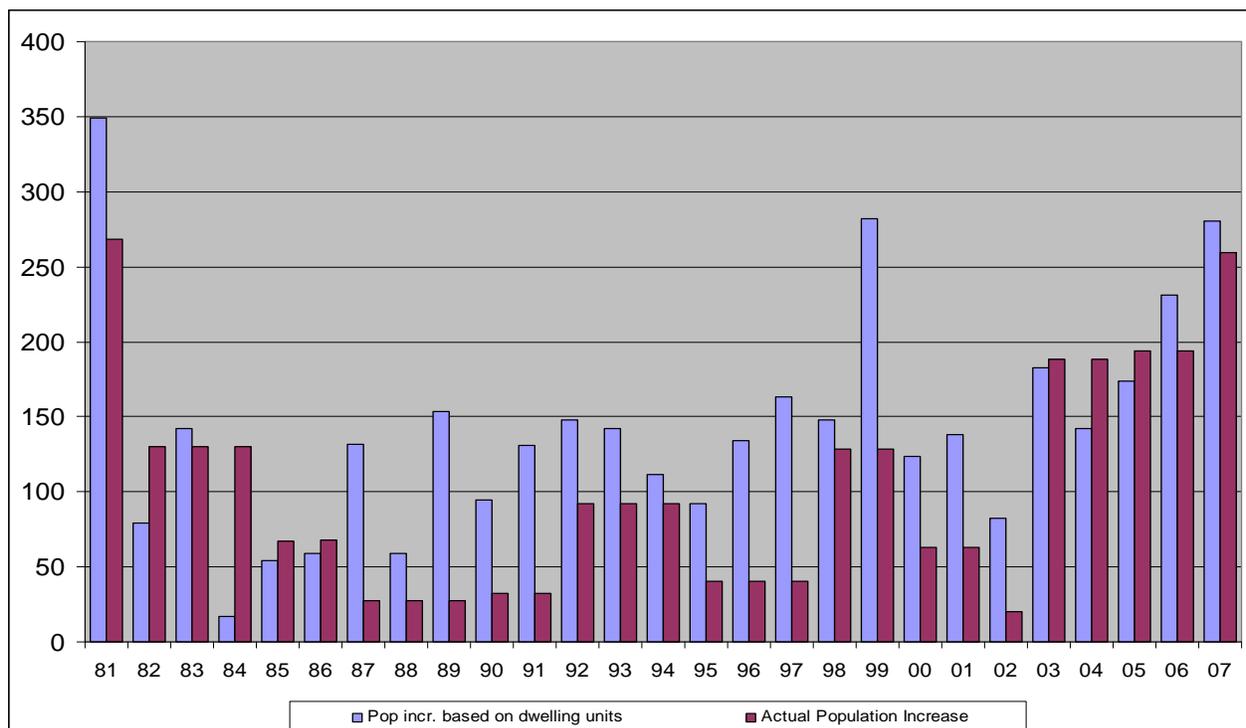
Source: Town of Rocky Mountain House Building Permit Records

One of the outcomes of the increasing rate of construction is that the average age of the Town's housing stock is getting lower. According to Statistics Canada, in 2006 there were 2,719 private dwellings in Rocky Mountain House, of which 1,237 or 45% had been constructed within the past 25 years.

The rate of housing unit construction has at times exceeded population growth over the past 25 years. Since 1981, an average of 52 dwelling units was constructed each year. At 2.6 people per dwelling unit, this translates into the new housing being able to accommodate 135 people, which falls in the middle of the average annual growth over the past 25 years. In the early 1980s, average annual growth was approximately 100 people, which declined to between 55

and 80 people in the late 1980s and all of the 1990s. In the new millennium approximately 146 new people have been added each year. Dwelling unit construction during that time has averaged 64 units per year which translates to housing for 166 people based on 2.6 people per dwelling unit. Figure 7 uses the household size figures from Table 7 to approximate the annual population increase that would have occurred based on the number of new dwelling units. Those numbers are compared to the actual population increase (estimated population in certain years). Figure 7 shows that on average over the past 25 years, there have been an excess number of dwelling units constructed when compared to the actual increase in population. This indicates that building permit numbers alone cannot accurately predict the ensuing increase in

Figure 7 – Population Increases Based on Dwelling Units vs. Actual Population Increases



population. However, since 2003 that difference has been marginal. It appears housing stock growth well exceeded population growth during much of the 1990s. In the 2000s it is a situation of construction matching the rate of population growth or population growth possibly being limited by the availability of new dwelling units.

As indicated earlier, since 2003, residential density has been increasing. Based on approved plans, with the exception of areas on the east side residential density is expected to increase gradually in the future. Recent development plans, including those that have not yet been approved, indicate higher residential densities than what has developed in the past. A number of future density projections are listed in Table 8. However, certain completed phases of the Creekside and Riverview developments have fallen short of their planned densities. This includes a 14 ha area in Creekside that developed at approximately 10 uph and a 2.3 ha area in Riverview that developed at approximately 9.6 uph. This is partially attributable to the multi-unit dwellings not having been built yet, however the respective plans do not require that multiple dwelling units be constructed.

Table 8 – Density Estimates for Future Developments			
Residential Development Plans	Residential Area (ha)	Proposed Units	Gross Density (dwelling units/ha)
South West ASP	229	2921.0	12.8
East ASP	141.8	346.0	2.4
Riverview	15.9	168.0	10.6
Creekside	35.8	479.0	13.4
RVB (not approved)	15.5	274.0	17.7
Total/Average	67.3	921.0	13.7

The figures from the proposed RVB plan were included as further indication of the trend by some developers toward higher density housing.

For the purposes of predicting long-term demand for land in Table 9 a density of 12.5 uph was selected for the following reasons:

- It represents the average of the two most recently approved development plans (Creekside and Riverview)
- It falls within the range set by the Southwest ASP where a significant majority of future residential development will occur.
- It is a reasonable figure given the MDP requirement that 70% of new housing stock must be single detached.

Although the selected density is much higher than what the East ASP predicts, recent developer interest in the area has led to indications that future development will in fact be higher than what is currently anticipated by the East ASP.

As shown in Table 9, at a growth rate of 1.53%, 1718 new dwelling units will be required over the next 30 years. At 12.5 uph, this translates into a requirement for 132 hectares of land. If development occurred at historical levels of 9 uph (excluding the McNutt subdivision) then 183 hectares of land would be required.

Although there are few opportunities for residential infill development within the Town, Table 9 does allow for 5% of future development to occur as infill development and therefore not requiring new land. Infill development could come in the form of houses rebuilt as duplexes, or as was the case in 2007 when Diamond Key Homes converted two existing dwellings into a 9 unit row house. Another potential site, 2.2 ha in size, is located just west of the 57th Ave and 57th St intersection.

4.2.2 Commercial Demand

Predicting demand for commercial and industrial land presents a different challenge than with residential land because the parcel sizes and intensity of use (e.g. floor space) can vary widely. A new commercial development could range in size from a small downtown location to a Canadian Tire/Mark's Work Wearhouse outlet. Rocky Mountain House represents the economic hub for Clearwater County therefore should continue to attract any large-scale commercial developments that choose to locate within the Clearwater County area. Further, the town core has been almost fully developed, aside from a 5.3 ha parcel at the south end of the downtown, which leaves primarily larger parcels available for future development.

In order to estimate future demand for commercial growth there are a number of potential methods. One method uses a ratio of population figures vs. existing commercial and industrial properties to predict the future requirements. It supposes that population change within a municipality roughly correlates with the amount of active commercial and industrial land. This method presumably works rather well given that Rocky Mountain House has experienced the introduction of large format retailers whose sizeable land requirements would be accounted for with this approach. As far as predicting future land requirements, the method will consider small, medium and large scale commercial uses. As of August 1, 2008, there were 69 ha of developed commercial land within the Town, including associated roads. Dividing 69 ha by a 2007 population of 7,231 it shows that 9.5 ha of land have been consumed per 1,000 people. The figure for the Town falls in between figures other municipalities have used to predict future commercial land consumption. These include Sylvan Lake (2.53 ha/1000 people) and Innisfail (11 ha/1000 people). Sylvan Lake's proximity to Red Deer's commercial areas and its history as a seasonal community may explain its lower figure while Innisfail's proximity to the QE II and Highway 2A may explain its figure being higher. If the ratio of 9.5 ha per 1,000 population were maintained then 38 ha of additional land would be consumed by 2037 or 1.26 ha per year. This would mean the current 57.3 ha of supply could easily meet future demand.

A second method takes a different look at historic development, however the figures are based on the number of new commercial developments and the floor area ratio (FAR) of those developments. FAR is a ratio of the area of a building to the area of the property it sits on. Building permit figures provided by the Town for the last 10 years (1998-2007) indicate that since 1998 there have been approximately 34 new commercial developments within the Town (in addition to numerous renovations of existing businesses). The average floor area ratio (FAR) for these new developments is 0.186. The average size of new commercial developments over the past 10 years was 582 m². Therefore, an average new development would consume 0.313 ha of land. At 3.4 new commercial projects per year this would indicate 1.06 ha of commercial land would be required on an annual basis. By 2037 this would result in the consumption of approximately 31 ha of land, slightly less than the first method's prediction of 38 ha of land. It is reasonable to consider the lower figure given that the rising cost of land will encourage developers to increase the density of commercial developments where possible.

A third method again involves the relationship between employment lands and residential lands with the goal of seeking a balanced number of jobs for a certain amount of residential growth. Described in detail in section 4.2.4, Demand for Employment Lands, the method includes the influence of people who commute from outside Rocky Mountain House to work in the Town. This method indicates that up to 23.6 ha of land would be developed by 2037 or 0.79 ha per year.

All three methods indicate there is presently ample room for commercial growth within the current Town boundaries. Current supply is 60 ha with anywhere from 24-38 ha expected to be consumed during the next 30 years. Averaging the three methods indicates 1.03 ha of commercial land would be developed each year, totaling 31.5 ha by 2037. Alternatively this would equate to 7.6 ha/1000 additional people over the next 30 years. At that rate, there is enough land to accommodate future demand including the maintenance of a 20 year supply. However, there are lands identified for future commercial development that currently have issues involving organic soils. If those lands prove uneconomical to develop then the available supply would drop by approximately 21 ha to 39 ha. As a result, by 2027 the 20 year supply of commercial land would begin to be eroded. Infill opportunities could help offset this decline to a small extent. They are discussed below in section 4.2.5.

4.2.3 Industrial Demand

Historically, industrial uses within Rocky Mountain House have required large parcels to accommodate operations such as lumber, oil/gas, and agricultural service operations. Therefore upon first glance it is necessary for the Town to maintain a supply of industrial land that is larger than what large sized urban municipalities must maintain relative to their population. The same methods used in the commercial section are applied here to determine industrial demand for land.

The ratio of developed industrial land per 1,000 residents is 15.0 ha. However, a significant number of people, 2520 in 2006, commute from Clearwater County to work in Rocky Mountain House. Therefore, after adding those people and subtracting Town residents who work outside of the Town the number is actually lower. How much lower is difficult to discern since the available statistics do not differentiate between commercial and industrial employment. Nonetheless, the ratio is significantly higher than Sylvan Lake (6.64 ha/1,000 residents) but fairly similar to that of Innisfail (16 ha/1000 residents). However, Innisfail's situation is largely influenced by a huge fibreglass insulation plant that when removed from the equation drops their figure to 11.6 ha/1,000 residents. Innisfail's prime location within the main corridor of central Alberta for road and rail travel makes it an ideal location for industry. At 15.0 ha per 1000 new people, 62.6 ha of industrial land would be consumed by 2037, or 2.09 ha/year if growth occurred at 1.53%

The second method looks at the number of new industrial developments and the floor area ratio (FAR) of those developments. Building permit figures provided by the Town for the last 10 years (1998-2007) indicate that since 1998 there have been approximately 23 new industrial developments within the Town (in addition to numerous renovations of existing businesses). The average floor area ratio (FAR) for these new developments is 0.17. The average size of new industrial developments over the past 10 years is 491 m². Therefore, an average new development would consume 0.289 ha of land. Using the 10 year average of 2.3 new industrial developments per year this would indicate 0.66 ha of industrial land would be required on an annual basis. By 2037 this would result in the consumption of approximately 20 ha of land or 4.8 ha / 1000 new people which is significantly less than the first method's prediction of 62.6 ha of land. Part of the reason for the smaller land requirements derived from this method may be that large industrial establishments within the Town have been operating for longer than 10 years.

The third method uses the equation developed in section 4.2.4, Demand for Employment lands. It indicates that 37.4 ha of land would be developed by 2037 representing 1.24 ha/year or 9.1 ha / 1000 additional people.

From the three methods chosen to examine past and future use of industrial land, the spread in figures indicates a historical use of large parcels for industrial businesses. However, as recent industrial growth has utilized smaller parcels, the Town may be better able to accommodate continued growth.

Summary of the three methods

1. Historic – 11.3 ha / 1000 people
2. Recent Development (10 years) – 4.8 ha / 1000 people
3. Demand for Employment Lands – 9.1 ha / 1000 people

For the purposes of this study, a figure of 8.4 ha per 1000 new residents was chosen for the following reasons:

- it represents an average of the three methods;
- it is similar to figures used in Innisfail where there is a comparable level of historical industrial development; and
- although recent developments have not utilized large parcels, it is important for the Town to have larger parcels on hand should those opportunities come along.

Therefore, at 8.4 ha / 1000 new people, Rocky Mountain House would develop 35 ha of industrial land or 1.16 ha per year if growth occurs at 1.53%. With 36 ha of current supply the Town does have enough industrial land to last until 2037 although the 20 year supply would begin to be eroded by the end of 2020. Table 9 shows the rate of depletion at 1.53% average annual growth.

Infill opportunities could help maintain the available supply to a small extent. They are discussed below in section 4.2.5.

4.2.4 Demand for Employment Lands

As mentioned in 4.2.2, there is an alternate method that can be used to estimate demand for commercial and industrial lands. It utilizes a more theoretical approach to examine the issue while still incorporating tangible statistics about the town. The method uses the relationship between employment lands (mainly commercial and industrial) and residential lands within a community and projects on the basis that a balanced community should have an ample amount of employment lands for its residents. Therefore the number of people wanting a job (labour force participation), commuter patterns (what jobs are available outside the town) and job densities are used to determine the required amount of employment lands. For Rocky Mountain House the following assumptions were made:

1. The future labour force participation rate will be 70% which is slightly less than the 72.1% indicated in the 2006 census and attempts to account for the anticipated increases in the number of retired people.

2. Statistics Canada's 2006 census reported that 2,260 people lived and worked within the town. It also indicated that 2,520 people living in Clearwater County "worked in a different census subdivision (municipality) within the census division (county) of residence. The census statistics further indicated that the number of town residents who worked in Caroline (the only other census subdivision/municipality within the census division/county) was offset by an equal number of Caroline residents who worked in Rocky Mountain House. Therefore, by adding the number of people who live and work within the town and those that live in Clearwater County but work within the town it appears that at least 4,780 people were employed at a location in Rocky Mountain House.
3. As towns and cities in the region continue to grow, commuting will remain an important consideration. In addition, 2006 census data reported that 275 town residents worked at home (home occupations) while 820 had no fixed workplace address. It is being assumed that those people with no fixed workplace address include such job categories as contractors and oilfield workers. Therefore, it is also assumed that those 1,095 people do not require employment land within the town. By adding those two groups with those Statistics Canada indicates commute to work outside of the town, 38% of the town's employed labour force would not require employment land within the town.
4. From assumption #2, the number of people working at commercial or industrial sites in the Town was 4,780. This represents approximately 27 people per hectare of developed employment (commercial and industrial) lands.
5. For the purposes of future projection, the number of people commuting from Clearwater County to Rocky Mountain House to work will be held constant at 2,520 and only future demand related to town population growth is used.

The formula used is:

2006 Clearwater County Residents working in RMH + {2037 population 15+ * labour force participation rate * % of employed requiring employment lands} / # of jobs per ha – currently developed lands

Where:

- 2,520 is the current number of Clearwater County residents working in Rocky Mountain House
- 9,008 is the approximate town population in 2037 of people aged 15 and over
- 0.7 is the future labour force participation rate
- 0.62 is the people who require employment land within the town in order to work
- 27 is the current number of jobs per hectare
- 177 is the amount (ha) of currently developed employment lands

From the above assumptions, at an overall population of 11,403 in 2037, there would need to be an additional 61.1 ha of employment land. Applying the existing percentage split of developed commercial and industrial land means that 23.6 ha and 37.4 ha of land would be required respectively in order to provide a proper level of employment.

4.2.5 Demand for Infill Development

Discussed briefly at the end of 4.2.1 Residential Demand, there are opportunities within the Town for existing vacant or underutilized sites to absorb future development. Infill development, when done in a manner that doesn't have significant negative impacts on surrounding lands can be of great benefit to the Town. It reduces the need for future annexations, costly servicing extensions in terms of roads, water and sewer, and travel time for citizens. This study has identified six sites within the Town's currently built up areas that could incorporate future development. Totalling nearly 12 ha the sites are designated for commercial and industrial uses with the exception of the previously mentioned 2.2 ha residential parcel. In addition to those six parcels there other large parcels that are currently used for very low intensity uses, whether it is acreage type residential parcels or larger commercial and industrial lots that could be subdivided.

The effect of this additional infill development land is difficult to predict. Currently, table 9 predicts demand for commercial and industrial land without accounting for the infill parcels on the supply side. Based on the calculations to determine predicted future demand, approximately 1.6-1.8 ha of land will be required each year for industrial and commercial uses. Combining the five identified parcels with a possible 2-4 ha of land that could be redeveloped for more intensive use could increase the Town's supply of commercial and industrial land by 7-9 years.

5.0 Potential Development Scenario

Based on the information discussed throughout section 4.2 and information from available area structure plans and outline plans, an estimate of future land absorption patterns has been developed. Map 2 shows the anticipated areas of subdivision and development activity within the current Town boundaries to 2033 and beyond. Anticipated rates of location of future development have been grouped into 4 categories: 2008-2012, 2013-2022, 2023-2032, and 2033 and beyond. The suggested pattern of development, especially beyond the first stage (now until 2012) is highly subjective and heavily influenced by landowner interest in developing, ability to develop and the economic climate. Collectively, the size of the various pods of development exceed the amount of land needed for development in the future to reflect the presence of competition amongst local developers and landowners. It should also be noted that the suggested scenario does not reflect efforts to intensify development within the existing built area.

The scenario presented in Map 2 suggests that after 2012, major areas of residential development will be focused in the southwest area of the Town for a number of years up to 2022. Beyond 2022, future residential development will occur in the north but still remain heavily concentrated in the Town's south end.

Industrial development is anticipated to be concentrated around the west side of Mud Lake once small pockets on the west side of Highway 11 in the south end are developed. Significant geotechnical constraints northeast of 53rd avenue triggered the removal of land previously considered for industrial development from the future land supply. The amount of fill thought to be required makes it difficult to economically develop this area and compete with other developers of industrial land. Therefore it is shown as open space on Map 2. The major concern

regarding industrial is the availability of future sites should there be delays in developing the land west and north of Mud Lake.

The scenarios for future commercial indicate future availability in the north, east, south and core of the Town. The current allotment provides a good variety of locations and parcel sizes to accommodate a range of commercial opportunities. One concern illustrated by the potential scenario is the apparent lack of short term commercial development opportunity, however it is anticipated that infill development will provide the necessary short term supply until such time as development is ready to occur on other parcels around the perimeter of the Town.

6.0 Summary and Conclusions

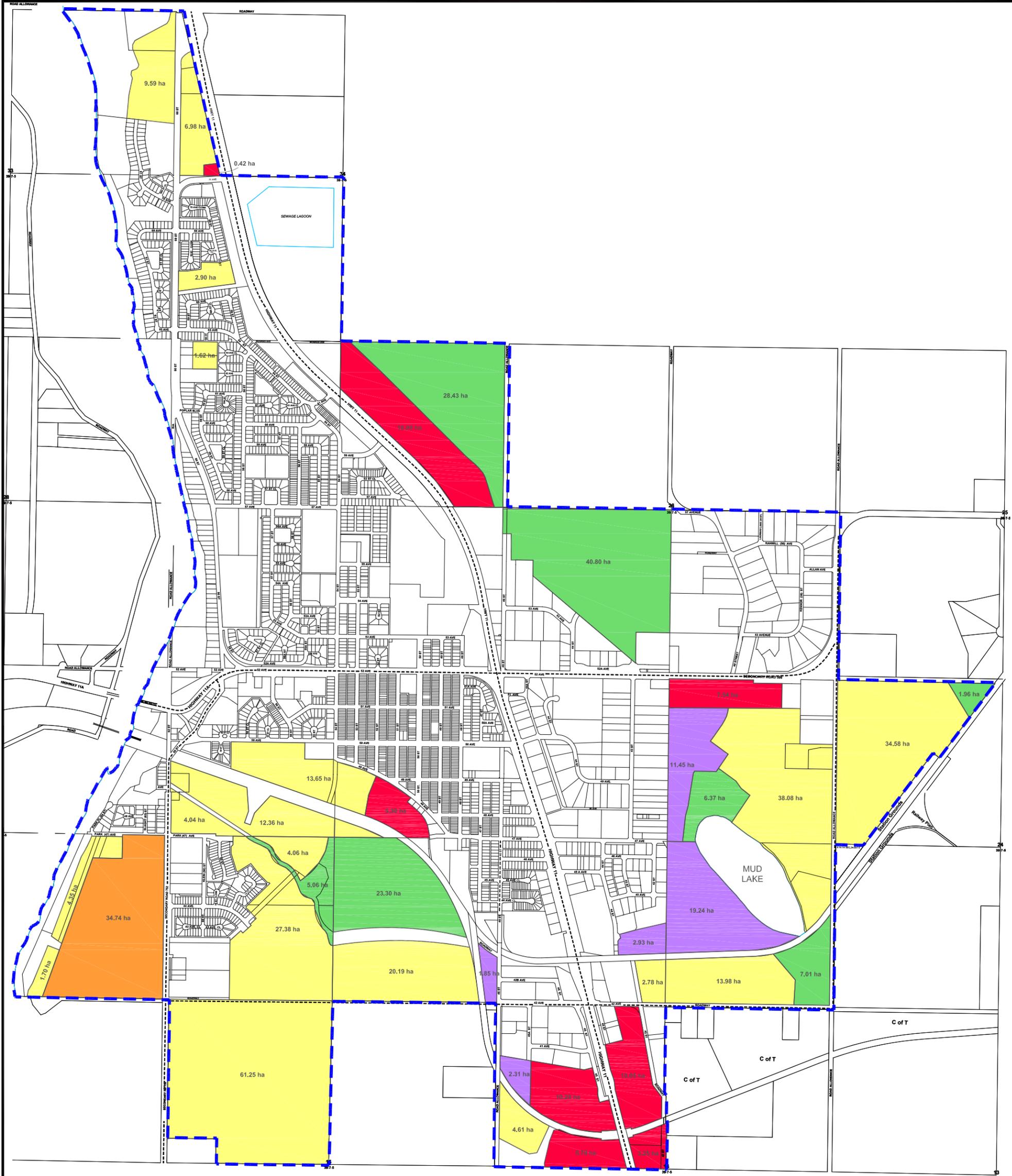
This study found that in August 2008:

- The Town's population according to a 2007 census was 7,231;
- Predictions of future annual growth for the Town, by other agencies ranged from 1.06% to 3%;
- Growth in the Town has experienced dramatic fluctuations over the past 35 years;
- Of the approximately 2,719 dwelling units, 45% had been constructed within the past 25 years;
- The Town has approximately 265 ha of land available and designated for residential development;
- The Town has approximately 60 ha of land available and designated for commercial development, however up to 21 ha of the land may not be developable due to organic soil constraints;
- The Town has approximately 36 ha of land available and designated for industrial development; and
- Infill development parcels could potentially increase the Town's commercial and industrial land supply by 7-9 years.

Based on a number of assumptions and calculations made in this study it is expected that:

- Annual average growth over the next 30 years will be 1.53%, which represents the annual average growth over the past 25 years. At that rate, the Town would have a population of 11,403 people by 2037;
- By 2037:
 - 130 ha of land will have been consumed for residential purposes leaving a supply of 163 ha;
 - 31.7 ha of land will have been consumed for commercial purposes leaving a supply of 28.3 ha;
 - 35 ha of land will have been consumed for industrial purposes leaving a supply of only 1.3 ha.

Table 9 – Future Growth Projections											
Year	Total Population	Avg. Annual Population Increase	Average Household Size	Annual # of New Dwellings	Total # of New Dwellings	Residential Demand at:	Residential Supply	Commercial Demand at:	Commercial Supply:	Industrial Demand at:	Industrial Supply at:
	Growth Rate:	1.53%				12.5 units/ha	7.6 ha/1000 people	8.4 ha/1000 people			
2007	7231		2.63				264.1		59.9		36.4
2008	7342	111	2.6	43	43	3.2	260.9	0.8	59.1	0.9	35.5
2009	7454	223	2.6	43	86	6.5	257.6	1.7	58.2	1.9	34.5
2010	7568	337	2.6	44	130	9.9	254.2	2.6	57.4	2.8	33.6
2011	7684	453	2.5	46	176	13.4	250.7	3.4	56.5	3.8	32.6
2012	7801	570	2.5	47	223	16.9	247.2	4.3	55.6	4.8	31.6
2013	7921	690	2.5	48	271	20.6	243.5	5.2	54.7	5.8	30.6
2014	8042	811	2.5	48	319	24.3	239.8	6.2	53.8	6.8	29.6
2015	8165	934	2.5	49	368	28.0	236.1	7.1	52.8	7.8	28.5
2016	8290	1059	2.4	52	420	32.0	232.1	8.0	51.9	8.9	27.5
2017	8417	1186	2.4	53	473	36.0	228.1	9.0	50.9	10.0	26.4
2018	8545	1314	2.4	54	527	40.0	224.1	10.0	49.9	11.0	25.3
2019	8676	1445	2.4	54	581	44.2	219.9	11.0	49.0	12.1	24.3
2020	8809	1578	2.4	55	637	48.4	215.7	12.0	47.9	13.3	23.1
2021	8944	1713	2.4	56	693	52.7	211.4	13.0	46.9	14.4	22.0
2022	9081	1850	2.4	57	750	57.0	207.1	14.1	45.9	15.5	20.9
2023	9220	1989	2.4	58	808	61.4	202.7	15.1	44.8	16.7	19.7
2024	9361	2130	2.4	59	867	65.9	198.2	16.2	43.8	17.9	18.5
2025	9504	2273	2.4	60	926	70.4	193.7	17.3	42.7	19.1	17.3
2026	9649	2418	2.4	61	987	75.0	189.1	18.4	41.6	20.3	16.1
2027	9797	2566	2.4	62	1048	79.7	184.4	19.5	40.4	21.6	14.8
2028	9947	2716	2.4	62	1111	84.4	179.7	20.6	39.3	22.8	13.6
2029	10099	2868	2.4	63	1174	89.2	174.9	21.8	38.1	24.1	12.3
2030	10253	3022	2.4	64	1239	94.1	170.0	23.0	37.0	25.4	11.0
2031	10410	3179	2.4	65	1304	99.1	165.0	24.2	35.8	26.7	9.7
2032	10570	3339	2.4	66	1370	104.1	160.0	25.4	34.6	28.0	8.3
2033	10731	3500	2.4	67	1438	109.3	154.8	26.6	33.3	29.4	7.0
2034	10895	3664	2.4	68	1506	114.5	149.6	27.9	32.1	30.8	5.6
2035	11062	3831	2.4	69	1576	119.7	144.4	29.1	30.8	32.2	4.2
2036	11231	4000	2.4	71	1646	125.1	139.0	30.4	29.5	33.6	2.8
2037	11403	4172	2.4	72	1718	130.5	133.6	31.7	28.2	35.0	1.3

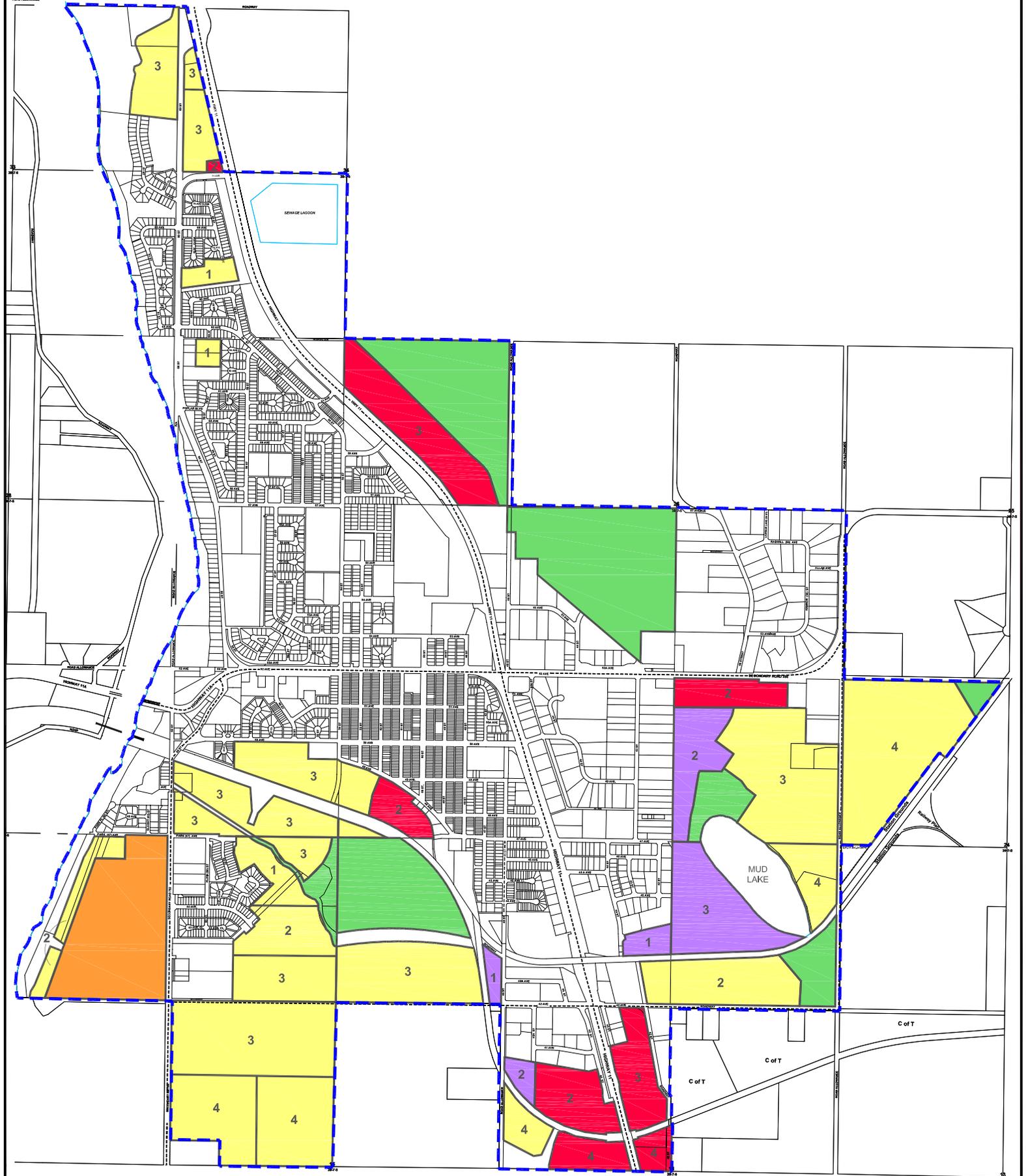


- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- OPEN SPACE
- RECREATIONAL

Town of Rocky Mountain House

Map 1 - Undeveloped Land





- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- OPEN SPACE
- RECREATIONAL

Town of Rocky Mountain House

Map 2 - Anticipated Areas of Subdivision and Development
Activity within the Town Boundaries

- 1 - PRESENT - 2012
- 2 - 2013 - 2022
- 3 - 2023 - 2032
- 4 - 2033 AND BEYOND

