



ROCKY VIEW COUNTY

BYLAW C-8120-2020

A Bylaw of Rocky View County, in the Province of Alberta, to amend Bylaw C-5354-2001, being the Central Springbank Area Structure Plan

The Council of Rocky View County enacts as follows:

Title

- 1 This Bylaw may be cited as *Bylaw C-8120-2020*.

Definitions

- 2 Words in this Bylaw have the same meaning as those set out in the *Municipal Government Act* except for the definitions provided below:
 - (1) “**Council**” means the duly elected Council of Rocky View County;
 - (2) “**Municipal Government Act**” means the *Municipal Government Act*, RSA 2000, c M-26, as amended or replaced from time to time; and
 - (3) “**Rocky View County**” means Rocky View County as a municipal corporation and the geographical area within its jurisdictional boundaries, as the context requires.

Effect

- 3 THAT the Central Springbank Area Structure Plan be amended as detailed in Schedule “A & B” forming part of this Bylaw.

Severability

- 4 If any provision of this bylaw is declared invalid for any reason by a court of competent jurisdiction, all other provisions of this bylaw will remain valid and enforceable.

Effective Date

- 5 Bylaw C-8120-2020 is passed and comes into full force and effect when it receives third reading and is signed in accordance with the *Municipal Government Act*.



ROCKY VIEW COUNTY

READ A FIRST TIME IN COUNCIL this _____ day of _____, 2020

PUBLIC HEARING WAS HELD IN COUNCIL this day of , 2020

READ A SECOND TIME IN COUNCIL this _____ day of _____, 2020

READ A THIRD TIME IN COUNCIL this _____ day of _____, 2020

Reeve

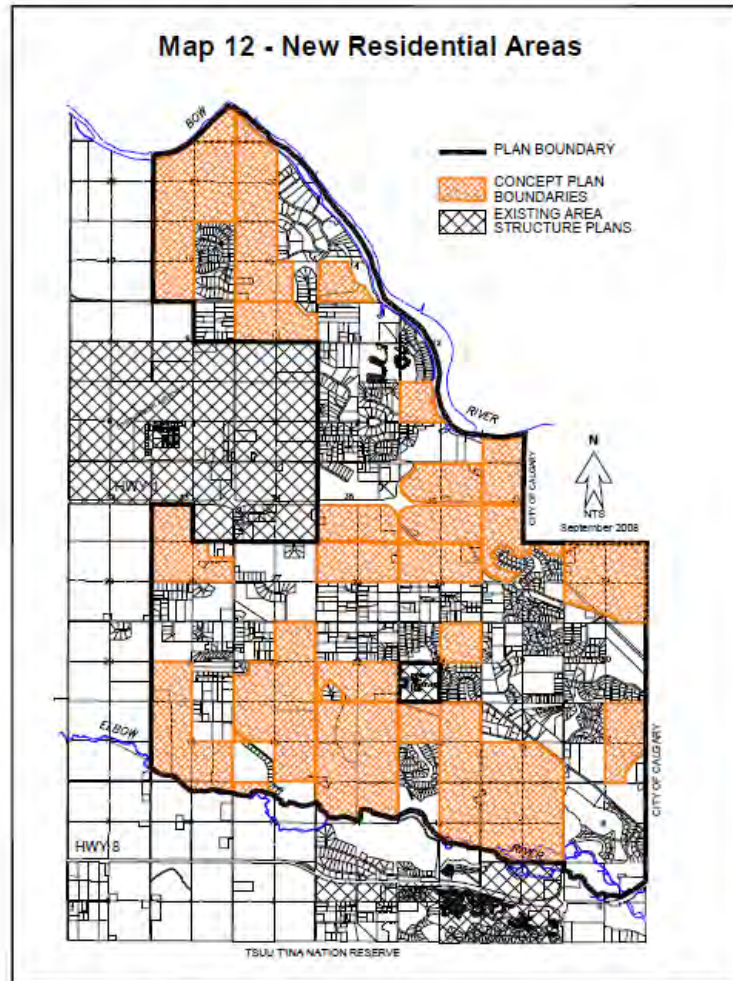
Chief Administrative Officer or Designate

Date Bylaw Signed



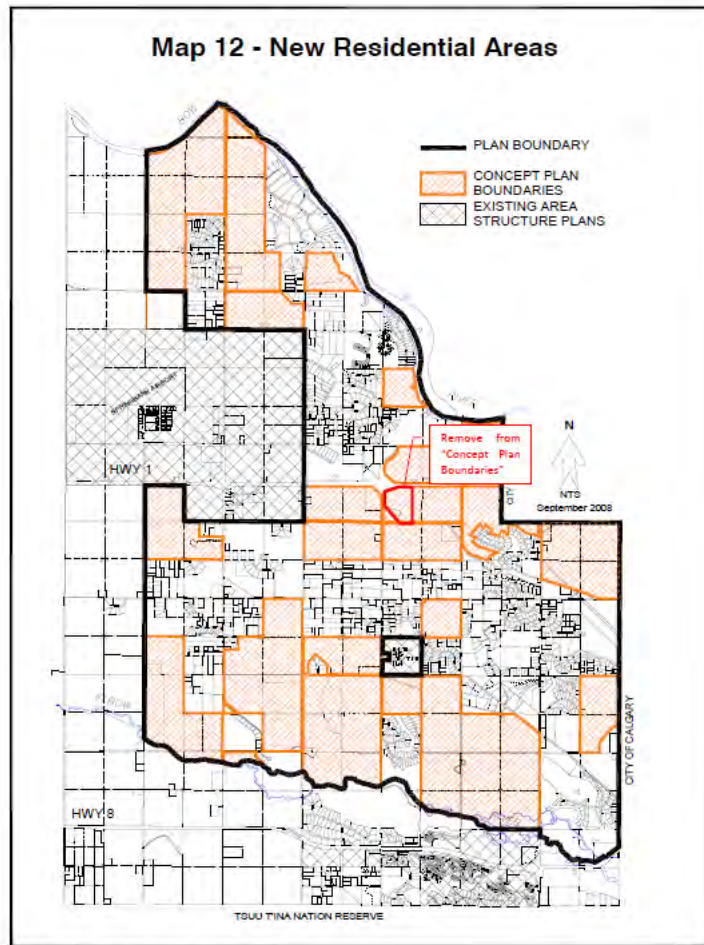
ROCKY VIEW COUNTY

SCHEDULE 'A'
FORMING PART OF BYLAW C-8120-2020

Central Springbank Area Structure Plan**Amendment # 1***Revise Map 12 which shows:**Central Springbank Area Structure Plan**Page 18**With the following:*



ROCKY VIEW COUNTY

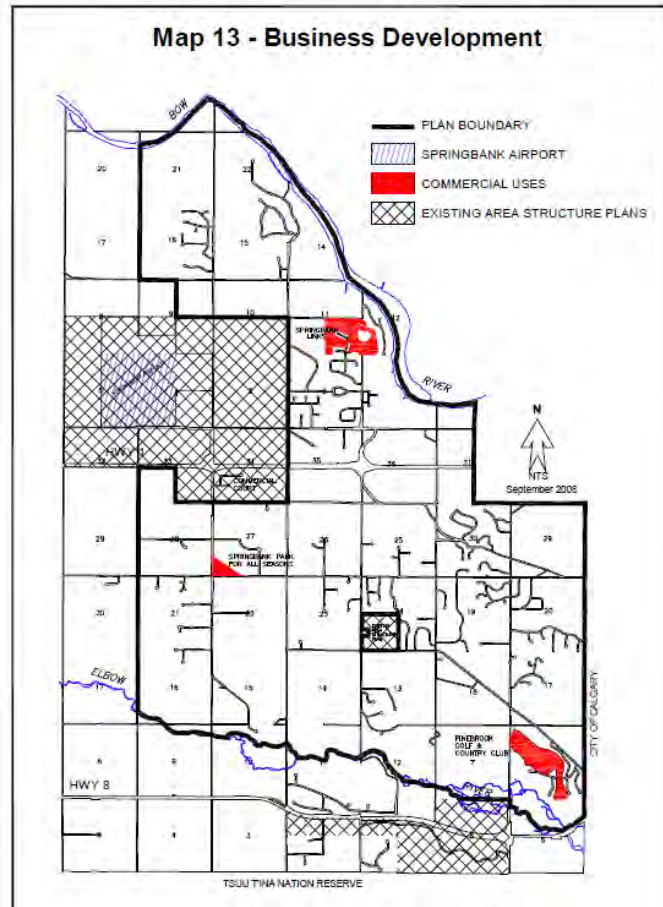




ROCKY VIEW COUNTY

Amendment # 2

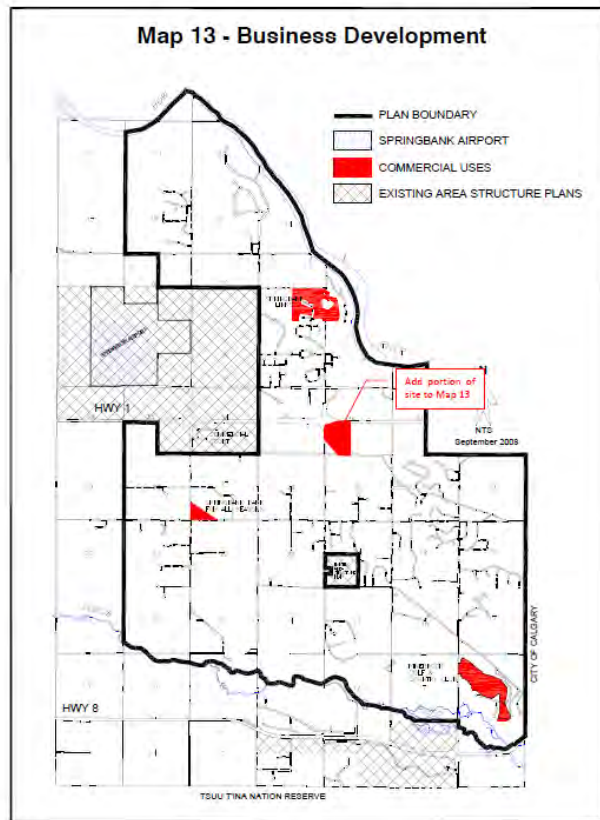
Revise Map 13 which shows:



Central Springbank Area Structure Plan

Page 19

With the following:



Central Springbank Area Structure Plan

Page 19

Amendment # 3

Replace policy 2.0.3 j) which reads:

- j) Regional business development will be directed to the Springbank Business Park, outside the Plan Area.

With:

- j) Regional business development is provided in accordance with areas identified on Map 13 or directed to the Springbank Business Park (outside of the Plan Area).

Amendment # 4

Delete the following text from policy 2.3.2.3:

- Direct development away from the highway including signage
- Access off Township Roads 245 or 250
- No further business development other than within the Springbank Regional Business Park at the intersection of Range Road 33, outside the Plan Area.

And replace the last bullet with:

No further business development other than within areas identified on Map 13.

**Amendment # 5**

Delete the following text from policy 2.9.4 g):

and Direct Control District Bylaw

Amendment # 6

Delete the following text from section 2.10 paragraph 2:

Regional business development will only locate outside the Plan Area at Springbank Regional Business Park to limit visual impacts on the landscape.

And replace with:

Regional business development will only locate within areas identified on Map 13 or directed to the Springbank Business Park (outside of the Plan Area) to limit visual impacts on the landscape.

Amendment # 7

Delete text which reads:

Strip business development is not envisioned along the TransCanada Highway.

Amendment # 8

Revise policy 2.10.1 a) which reads:

- a) To direct business development to the existing regional business park located along the south side of TransCanada Highway and Range Road 33 or other locations outside the Plan Area.

To read:

- a) To direct business development to areas identified on Map 13 or to the existing regional business park located along the south side of TransCanada Highway and Range Road 33.

Amendment # 9

Revise Section 2.10.2 header to read:

2.10.2 Business Development - Policies

Amendment # 10

Revise the following text which reads:

Existing business development is shown on Map 13. Applications for local business development in Central Springbank should be accompanied by a rationale demonstrating its economic viability within the community, the market of the proposed product or service, and the site selection.

To read:

Existing and proposed business development is shown on Map 13. Applications for business development in Central Springbank should be accompanied by a rationale demonstrating its economic viability within the community, the market of the proposed product or service, and the site selection.



ROCKY VIEW COUNTY

Amendment # 11*Replace policy 2.10.2 f) which reads:*

The Plan does not anticipate further business development along the TransCanada Highway other than that located in the regional business area at the intersection of Range Road 33, outside the Plan Area.

With:

The Plan does not anticipate further business development along the TransCanada Highway other than that located in the regional business area at the intersection of Range Road 33 or as identified on Map 13.

Amendment # 12*Add policy 2.10.2 h) to read:*

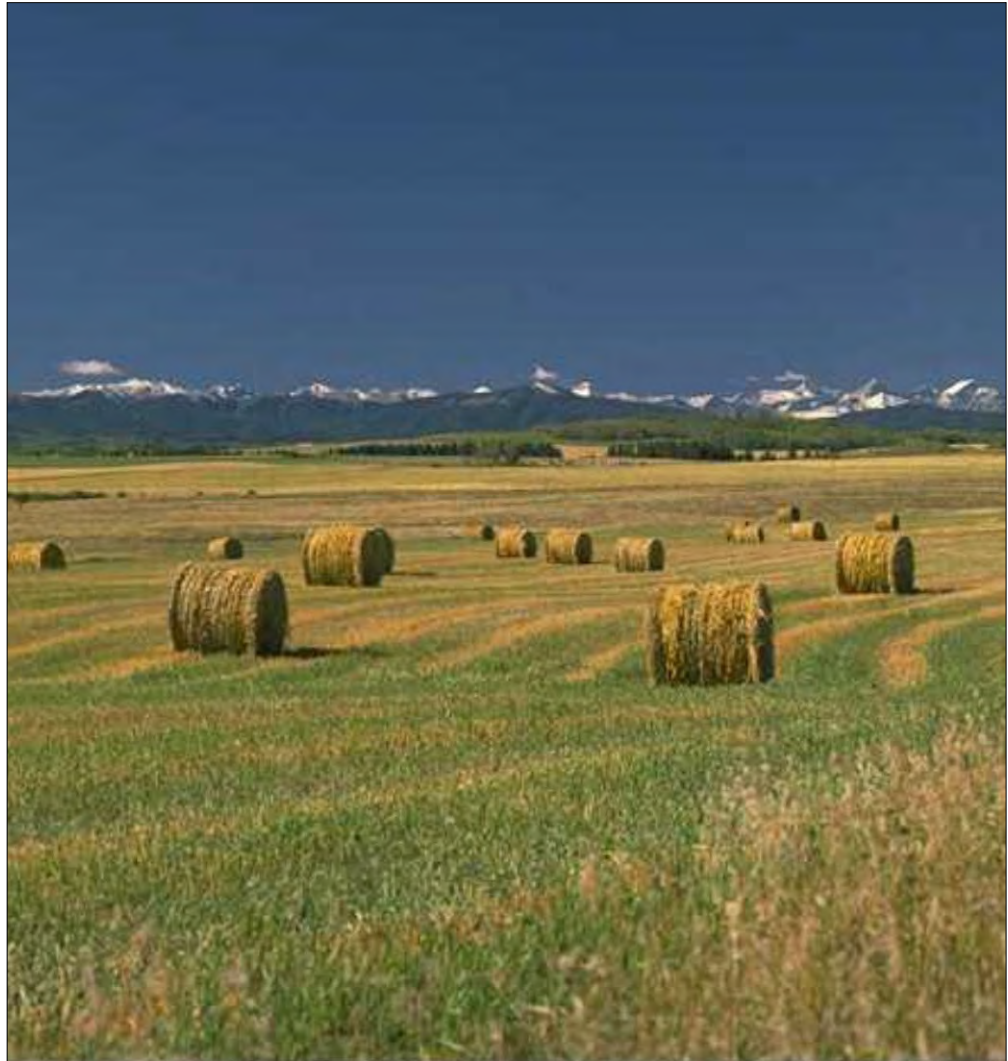
- h) Residential uses proposed adjacent to regional business development areas should provide an acceptable transition and interface.

Amendment # 13

General formatting, numbering and grammar throughout.



CENTRAL SPRINGBANK AREA STRUCTURE PLAN



Bylaw C-5354-2001, Adopted October 2, 2001

MUNICIPAL DISTRICT OF ROCKY VIEW NO. 44
Department of Planning and Development

CENTRAL SPRINGBANK AREA STRUCTURE PLAN

Schedule “A” to Bylaw C-5354-2001

Note: This document is an office consolidation. The original Bylaw may be viewed at the Administration Office of the M.D. of Rocky View No. 44 and should be consulted for all purposes of interpreting and applying this Bylaw.

October, 2001

MUNICIPAL DISTRICT OF ROCKY VIEW NO. 44**BYLAW C-5354-2001**

A Bylaw of the Municipal District of Rocky View No. 44 to adopt an Area Structure Plan pursuant to Section 633 of the Municipal Government Act.

WHEREAS the Council of the Municipal District of Rocky View No. 44 wishes to adopt the Area Structure Plan affecting the lands described as:

The lands shown as being within the Plan boundary in Map 1 of Schedule A of this bylaw

herein referred to as the "Lands" and described in Schedule "A", known also as the Central Springbank Area Structure Plan, attached hereto as Schedule "A" and forming part of this bylaw; and

WHEREAS a notice was published on Tuesday, May 15, 2001 and Tuesday, May 22, 2001 in the Rocky View Five Village Weekly, a newspaper circulating in the Municipal District of Rocky View No. 44, advising of the Public Hearing for May 30, 2001; and

WHEREAS Council held a Public Hearing and have given consideration to the representations made to it in accordance with Section 692 of the Municipal Government Act, being Chapter 24 of the Revised Statutes of Alberta, 1995, and all amendments thereto.

NOW THEREFORE the Council enacts the following:

1. That the Area Structure Plan be adopted to provide a framework for subsequent subdivision and development within:

The lands shown as being within the Plan boundary in Map 1 of Schedule A of this bylaw

herein referred to as the "Lands" and described in Schedule "A", known also as the Central Springbank Area Structure Plan, attached hereto and forming part of this bylaw.

2. This Bylaw may be cited as the Central Springbank Area Structure Plan.
3. That this Bylaw shall come into effect upon the date of third and final reading.

File: 616-13

First reading passed in open Council, assembled in the City of Calgary, in the Province of Alberta, on Tuesday, May 1, 2001 on a motion by Councillor Stinson.

Second reading passed in open Council, assembled in the City of Calgary, in the Province of Alberta, on October 2, 2001, on a motion by Councillor Kent.

Third reading passed in open Council, assembled in the City of Calgary, in the Province of Alberta, on October 2, 2001, on a motion by Councillor Stinson.

REEVE OR DEPUTY REEVE

MUNICIPAL SECRETARY

**CENTRAL SPRING BANK
AREA STRUCTURE PLAN**

OFFICE CONSOLIDATION


September 2008

Note: This office consolidation includes the following amending Bylaws:

| Amendment | Description | Date |
|------------------|--|----------------------|
| C-6678-2008 | Amendments to Map Nos: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 & 14 In Section 2.7 adjust boundary line | September 9, 2008 |
| C-7738-2017 | Amendment to add a section under which to list Adopted Conceptual Schemes, and to list the "Lariat Loop Conceptual Scheme" thereunder | January 9, 2018 |
| C-7755-2018 | Amendments to add "Atkins Conceptual Scheme" | May 22, 2018 |
| C-7799-2018 | Amendment to add "Lazy H" Conceptual Scheme | May 14, 2019 |
| C-7889-2019 | Amendment to add "Devonian Ridge Estates" Conceptual Scheme | June 11, 2019 |

Note: This document is an office consolidation and amendments have been inserted for ease of reference only. The official Bylaw and all amendments thereto are available from the Administration Office of the M.D. of Rocky View No. 44 and should be consulted for all purposes of interpreting and applying this Bylaw.

TABLE OF CONTENTS

| Contents | Page |
|--|-----------|
|  | |
| 1.0 BACKGROUND | 1 |
| 1.1 Planning Process | 2 |
| 1.1.1 Plan Area..... | 2 |
| 1.1.2 Public Participation | 2 |
| 1.2 Guiding Legislation | 3 |
| 1.3 Community Settlement..... | 4 |
| 1.3.1 Demographic Data | 5 |
| 1.3.2 Anticipated Population Growth | 6 |
| 2.0 POLICY AREAS | 21 |
| 2.0.1 Plan Philosophy..... | 21 |
| 2.0.2 Vision Statement..... | 21 |
| 2.0.3 Land Use Strategies | 22 |
| 2.1 Community Development & Heritage..... | 23 |
| 2.1.1 Goals | 23 |
| 2.1.2 Social Community Development Policies | 24 |
| 2.1.3 Heritage Policies | 25 |
| 2.2 Agriculture | 27 |
| 2.2.1 Goals | 27 |
| 2.2.2 General Agriculture - Policies | 28 |
| 2.2.3 Contemporary Agricultural Opportunities in Central Springbank - Policies | 28 |
| 2.3 Physical Development Guidelines | 30 |
| 2.3.1 Goals | 30 |
| 2.3.2 Physical Development Policies..... | 30 |
| 2.3.3 Emergency Services Policies | 34 |
| 2.4 Sub-Basin Management..... | 36 |
| 2.4.1 Goals | 36 |
| 2.4.2 Sub-Basin General - Policies..... | 37 |
| 2.4.3 Master Drainage Plans - Policies..... | 37 |

| | | |
|-------------|--|-----------|
| 2.4.4 | Site Implementation Plans - Policies | 38 |
| 2.4.5 | Best Management Practices - Policies | 39 |
| 2.5 | Natural Environment | 40 |
| 2.5.1 | Goals | 40 |
| 2.5.2 | Soils, Geology & Topography - Policies | 40 |
| 2.5.3 | Natural Resource Extraction - Policies..... | 41 |
| 2.5.4 | Vegetation & Wildlife - Policies..... | 42 |
| 2.6 | Open Space | 46 |
| 2.6.1 | Goals | 46 |
| 2.6.2 | Open Space - Policies | 47 |
| 2.6.3 | General - Policies | 47 |
| 2.6.4 | Reserve - Policies | 48 |
| 2.6.5 | Walkways - Policies | 48 |
| 2.7 | Transportation | 50 |
| 2.7.1 | Goals | 51 |
| 2.7.2 | Regional Road Network - Policies | 51 |
| 2.7.3 | Municipal Road Network - Policies | 52 |
| 2.8 | Utilities | 55 |
| 2.8.1 | Goals | 55 |
| 2.8.2 | Water Supply | 56 |
| 2.8.3 | Wastewater Management | 57 |
| 2.8.4 | Shallow Utilities | 59 |
| 2.8.5 | Solid Waste | 60 |
| 2.9 | Residential Development | 61 |
| 2.9.1 | Goals | 61 |
| 2.9.2 | General Residential Development - Policies | 62 |
| 2.9.3 | Infill Residential Areas – Policies | 64 |
| 2.9.4 | New Residential Areas - Policies | 65 |
| 2.10 | Business Development | 67 |
| 2.10.1 | Goals | 67 |
| 2.10.2 | Local Business Development - Policies | 67 |

| | | |
|-------------|--|-----------|
| 2.11 | Intermunicipal Cooperation | 69 |
| 2.11.1 | Goals | 69 |
| 2.11.2 | Intermunicipal - Policies | 70 |
| 3.0 | GLOSSARY AND APPENDICES | 72 |
| 3.1 | Glossary of Terms | 72 |
| 3.2 | Appendices..... | 78 |
| 3.2.1 | Appendix 1: Executive Summary of the Landowner Survey | 78 |
| 3.2.2 | Appendix 2: Sub-Basin Study - Recommendations..... | 82 |
| 3.2.3 | Appendix 4: Native Species for the Springbank Area | 84 |
| 3.2.4 | Appendix 4: Transportation Network Study - Recommendations | 87 |
| 3.2.5 | Appendix 5: Settlement and Homesteader Names | 90 |
| 3.3 | Adopted Conceptual Schemes | 97 |

MAPS

| Contents | Page |
|--|------|
|  | |
| Map 1 – Plan Area | 7 |
| Map 2 – Current Landuse..... | 8 |
| Map 3 – Special Planning Areas..... | 9 |
| Map 4 – Sub-Basin | 10 |
| Map 5 – Gravel Resources | 11 |
| Map 6 – Environmental Constraints | 12 |
| Map 7 - Reserves | 13 |
| Map 8 – Existing Road System | 14 |
| Map 9 – Existing Water Systems | 15 |
| Map 10 – Natural Gas / Electrical Utilities | 16 |
| Map 11 – Infill Residential | 17 |
| Map 12 – New Residential Areas | 18 |
| Map 13 – Business Development..... | 19 |
| Map 14 – Intermunicipal Considerations | 20 |

PART I

1.0 BACKGROUND

At the time of the preparation and adoption of the Municipal Development Plan (July, 1998), the Central Springbank area was identified as a candidate for an Area Structure Plan. The planning process began with the adoption of the Terms of Reference in October 1998, which was amended in December 1998. The Area Structure Plan defines a planning and development framework to guide future growth and development within the area, and provide some certainty for landowners and land uses in the years to come.

The Terms of Reference identified nine (9) goals for the Area Structure Plan:

- 1) To establish a range of acceptable and compatible land uses and a development strategy for the Study Area having regard for existing uses, physical and/or environmental characteristics of the Study Area, infrastructure requirements, anticipated growth trends, infill/density potential and a phasing strategy.
- 2) To establish a transportation infrastructure system that is appropriate for the range of uses proposed in the Plan and identifies a framework to determine when improvements are required.
- 3) To identify significant utilities including, but not limited to, private water and sewer operations that may have an influence on existing and future land uses.
- 4) To determine the appropriateness of establishing or expanding business development nodes within the Plan Area. To establish design standards and development guidelines to harmonize development with the natural and built environments.
- 5) To develop a land use planning framework that recognizes the current land uses, reflects the lifestyle interests and/or concerns of the residents and landowners; and protects stable, long and medium term land uses.
- 6) To identify existing uses along the Bow and Elbow Rivers and develop policies that recognize and protect the Bow and Elbow Rivers and their watersheds as an important regional resource.
- 7) To determine, in consultation with school authorities, future facility demands and potential school sites.
- 8) To establish a broader recreational open space and trail system that is appropriate for the range of uses proposed in the Plan and identifies a framework to determine when and how areas could be acquired and improvements implemented.
- 9) To establish financial responsibility for the improvements identified in the Plan.

1.1 Planning Process

1.1.1 Plan Area

The Plan Area, as shown on Map 1, encompasses approximately 22,000 acres of land extending from the Bow River at its north boundary to the Elbow River at the southern boundary. The City of Calgary boundary establishes the eastern edge of the Plan Area to an irregular western boundary that generally follows the municipal electoral boundary of Division 2 at the time the Plan Terms of Reference were adopted. Traversing through the Plan Area is the TransCanada Highway and Highway 8 touches its southeastern corner. There is an existing adopted Area Structure Plan that addresses development on the SW 24-24-02 W5M , which is not considered part of this Area Structure Plan.

1.1.2 Public Participation

A Steering Committee was appointed by Council to assist staff in coordinating the drafting of the Area Structure Plan. The committee consisted of six members residing in the community, two members from Council plus a staff member of Planning Services of the Municipal District of Rocky View. The committee met over a 19-month period, and was actively involved in the public participation program, as well as the generation of the land use strategies and plan policies.

The public participation program consisted of six unique elements:

- Open houses
- Focus groups
- Landowner survey
- Visioning workshop
- Stakeholder groups
- Meetings with community groups or agencies.



Visioning Workshop

Four open houses for the community were held at Springbank Community High School. The first two open houses were held in March and June 1999 to identify and then to confirm the community planning issues. The third open house in April 2000 introduced draft land use strategies that form the foundation of the policy directions for the Plan. The fourth open house held in September, 2000 released the draft of the Central Springbank Area Structure Plan. Each of the open houses was well attended by area residents.

Focus Groups were held early in the issue identification segment of the plan preparation. Over three evenings in the fall of 1999, members of the community met at the Springbank Community High School and shared their views and issues regarding 'land use and density', 'transportation and infrastructure' and 'recreation, open space and watersheds'. Many of the issues and concerns heard at the first two open houses and the focus group forum framed the questions for a landowner survey conducted in October 1999. The self-administered questionnaire was mailed to all landowners in the Plan Area (1,777) and a total of 785 questionnaires or 44% were

completed and returned. The results provided an insight from the residents about living in Springbank, preferences for servicing and recreation, their views regarding open space and development issues. An Executive Summary of the results is attached as Appendix 1.

In January 2000, approximately 100 participants met at the Springbank Heritage Club for an all day visioning workshop. Alberta Community Development facilitated the workshop where the day began with a panel of speakers urging the community to explore and consider a variety of new opportunities for the future.



Visioning Workshop Group

Two group visioning exercises rounded off the day, the first identifying 'Characteristics of our Community in 2015' and the second 'Mapping Our Future'. Independently, participants assessed each of the future vision maps of the second exercise which revealed their desired view of Central Springbank's future.

Two stakeholder groups, Agency and Non-resident, were established to provide input during the preparation of the Plan and to advise the Steering Committee about issues pertinent to the developability and serviceability of the area. The Steering Committee and the Rocky View West Recreation Board also worked closely together to build a partnership for the designation and implementation of an open space system and recreational services for the community. Additional meetings were held with community representatives pertaining to commercial and agricultural uses, and government agencies assisted with a future wastewater management strategy.

A public hearing to consider the adoption of the Central Springbank Area Structure Plan was held on May 30, 2001 and Bylaw C-5354-2001 was adopted on October 2, 2001.

1.2 Guiding Legislation

The *Municipal Government Act, Part 17, Division 4, Section 633 (1)*, outlines the specifications for municipalities in the Province of Alberta to prepare and adopt an Area Structure Plan within a municipality. An Area Structure Plan:

633 (1)

must describe:

- 1) the sequence of development proposed for the area;
- 2) the land uses proposed for the area, either generally or with respect to specific parts of the area;
- 3) the density of population proposed for the area either generally or with respect to specific parts of the area; and
- 4) the general location of major transportation routes and public utilities.

and may contain any other matters the Council considers necessary. (*MGA, 17.D, 633(1)*)

In addition, the *Municipal Government Act* requires that:

638 All statutory plans adopted by a municipality must be consistent with each other. (MGA, 17.D, 638)

The Municipal District of Rocky View's *Municipal Development Plan (MDP)* encourages the preparation of Area Structure Plans where residential development is emerging as the dominant land use and where a more localized and integrated approach to land use planning and development is required. The Municipality may also require a conceptual scheme that relates to future subdivision and development of adjacent areas to encourage collaboration between landowners and to achieve an economical and orderly settlement pattern.

In accordance with the provisions of Section 636 1(e) of the *Municipal Government Act*, the Municipality has notified the City of Calgary throughout the preparation of the plan and provided opportunities for comment through formal circulations and the Intermunicipal Committee.

An Intermunicipal Development Plan was adopted by the Municipal District of Rocky View and the City of Calgary in November 1998 identifying a joint planning area, areas of mutual interest, common policies for land outside of a policy plan area, and a method to deal with Intermunicipal issues. The M. D. of Rocky View/City of Calgary Intermunicipal Development Plan (IDP) acknowledges that both municipalities may adopt statutory plans in the future that apply to land within the IDP area and "any such plans, plan amendments or policies that have been adopted, subject to appropriate intermunicipal referral and consultation, through either statutory or non-statutory public hearings of either Council, shall prevail." The policies of the Central Springbank ASP, once adopted, will take precedence over IDP policies in the Intermunicipal Development Plan Area.

1.3 Community Settlement

Non-indigenous settlement of the Springbank area began in earnest with federal legislation for homesteaders under the *Dominion Lands Act*. Settlers were attracted from Europe and Eastern Canada with the opportunity to own land. By the early 1900s Springbank had become a productive and socially vibrant agricultural community. Agriculture was based on pastureland and fertile cropland, followed by the introduction of dairy farming as a primary agricultural pursuit.



Homesteader Family

A closer look at the history of Springbank reveals that the community has been greatly influenced by development trends in the City of Calgary. By the 1940s, when Calgary's population was in excess of 90,000, Springbank played an important role as an agricultural supply region for the city. Springbank supplied the City with much of the raw agricultural materials that sustained the agricultural processing based economy of the Calgary region. The discovery of oil and gas in 1947 established Calgary as the hub for industry. Migration to Calgary from rural residents, in addition to other cities, led to Calgary's largest population boom since the settlement of the west in the early 1900s. Pressure for residential development was beginning to compound in the Springbank area given its close proximity to Calgary and the increased availability of urban

conveniences. As early as the 1950s, the Springbank area was attracting rural residential living. Rural land was cheaper to buy, taxes were low and improved roads made the commute to Calgary manageable.

The current settlement pattern evolved under the governance of successive Calgary Regional Plans, prepared by the Calgary Regional Planning Commission, which attempted to preserve agricultural land and deter the intrusion of residential development. In 1963, regional policies tried to discourage non-agricultural development from locating in rural areas by introducing a minimum parcel size of twenty-acres. It was assumed a twenty-acre parcel size would deter small rural residential development and preserve agricultural land. By 1971, the 20-acre parcel rule was revoked, and in its place, residential development was limited to seven four-acre lots per quarter section. By 1984, regional policy permitted residential development on lower capability agricultural land, and encouraged further subdivision of previously subdivided 20-acre lots.

Over the last decade, Central Springbank has experienced a wave of applications for subdivision and development. Over 1,000 lots have been created since 1989 with 65.8% of them two to four acres in size for residential purposes.

The number of dwelling permits mirrors the subdivision statistics where 874 residential permits were approved in the Plan Area over the previous ten years, with the average values escalating from \$169,770.00 to \$376,586.21.

Table: Number of Lots Approved by

| | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | Total |
|------------------------|------------|------------|-----------|-----------|------------|-----------|------------|------------|-----------|-----------|-----------|-------------|
| 0 - 1.9 Acres | 0 | 2 | 0 | 2 | 0 | 0 | 1 | 65 | 1 | 1 | 0 | 72 |
| 2 - 3.9 Acres | 78 | 154 | 25 | 28 | 102 | 23 | 92 | 73 | 58 | 5 | 50 | 688 |
| 4 - 9.9 Acres | 35 | 39 | 32 | 23 | 20 | 22 | 8 | 26 | 22 | 9 | 5 | 241 |
| 10 - 19.9 Acres | 3 | 4 | 5 | 2 | 5 | 1 | 1 | 3 | 3 | 1 | 1 | 29 |
| 20 + Acres | 0 | 0 | 1 | 2 | 0 | 4 | 2 | 2 | 1 | 3 | 0 | 15 |
| Total | 116 | 199 | 63 | 57 | 127 | 50 | 104 | 169 | 85 | 19 | 56 | 1045 |

(Source: M.D. of Rocky View records)

1.3.1 Demographic Data

In 1996 Statistics Canada recorded 4,209 persons residing in the Plan Area, representing 18% of the population of the Municipality. The average number of people in each household in 1996 was 3.3 persons. This is slightly higher than the municipal household size of 3.2 persons per household and the provincial average of 3.1 persons per household.

The community profile generated from the landowner survey conducted in October 1999, confirms the historical development statistics and the 1996 census information. The majority of people have lived in Springbank less than 10 years, own 4 acres or less, and use their land primarily for residential purposes. Two-thirds of the adults are between 35 and 54 years old and

54% of the households have one or more school-age children. The Executive Summary of the landowner survey is included in Appendix 1.

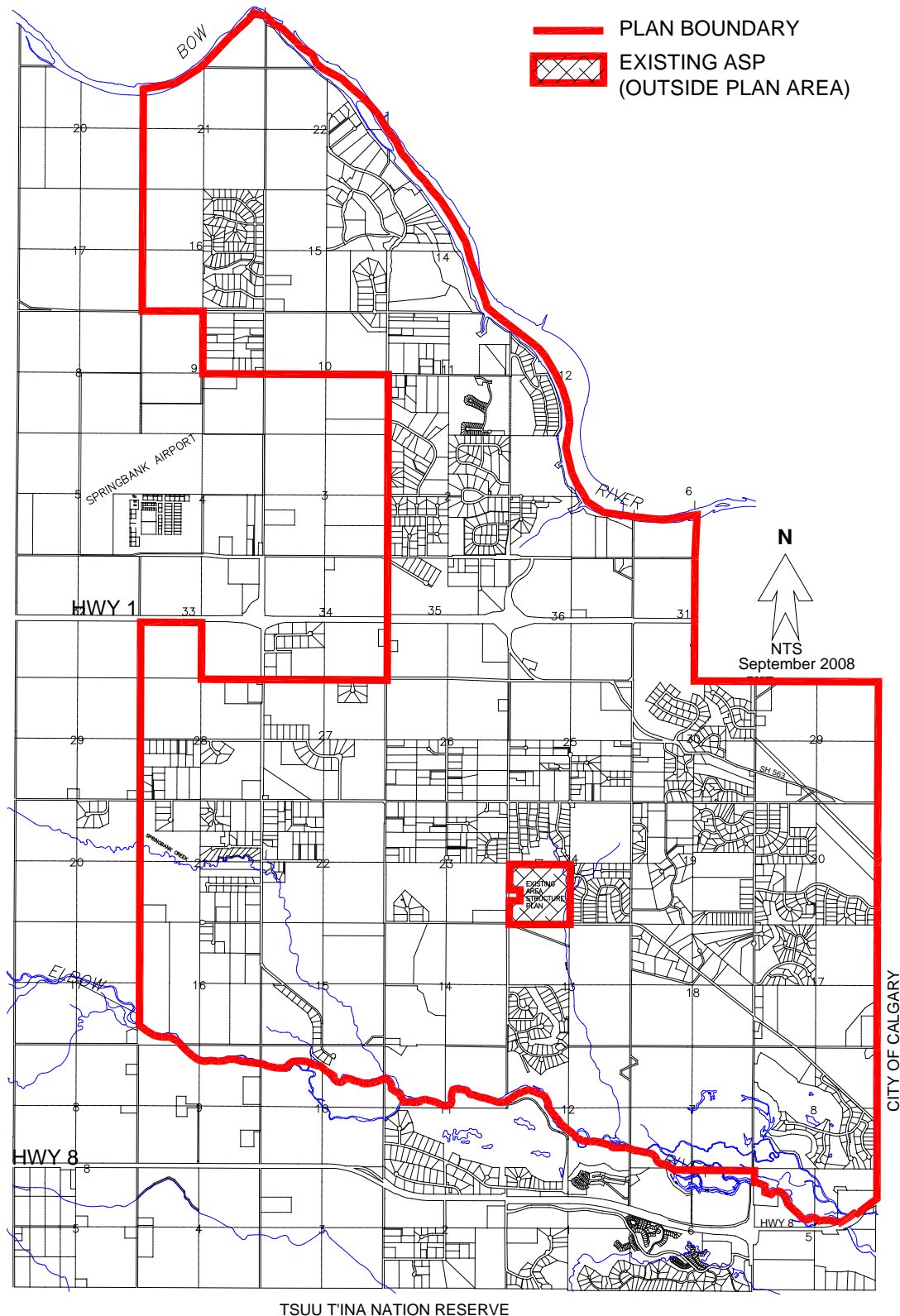
1.3.2 Anticipated Population Growth

Anticipated population growth for the Central Springbank area has been calculated using historical information and projections based on the full build out of the Plan Area.

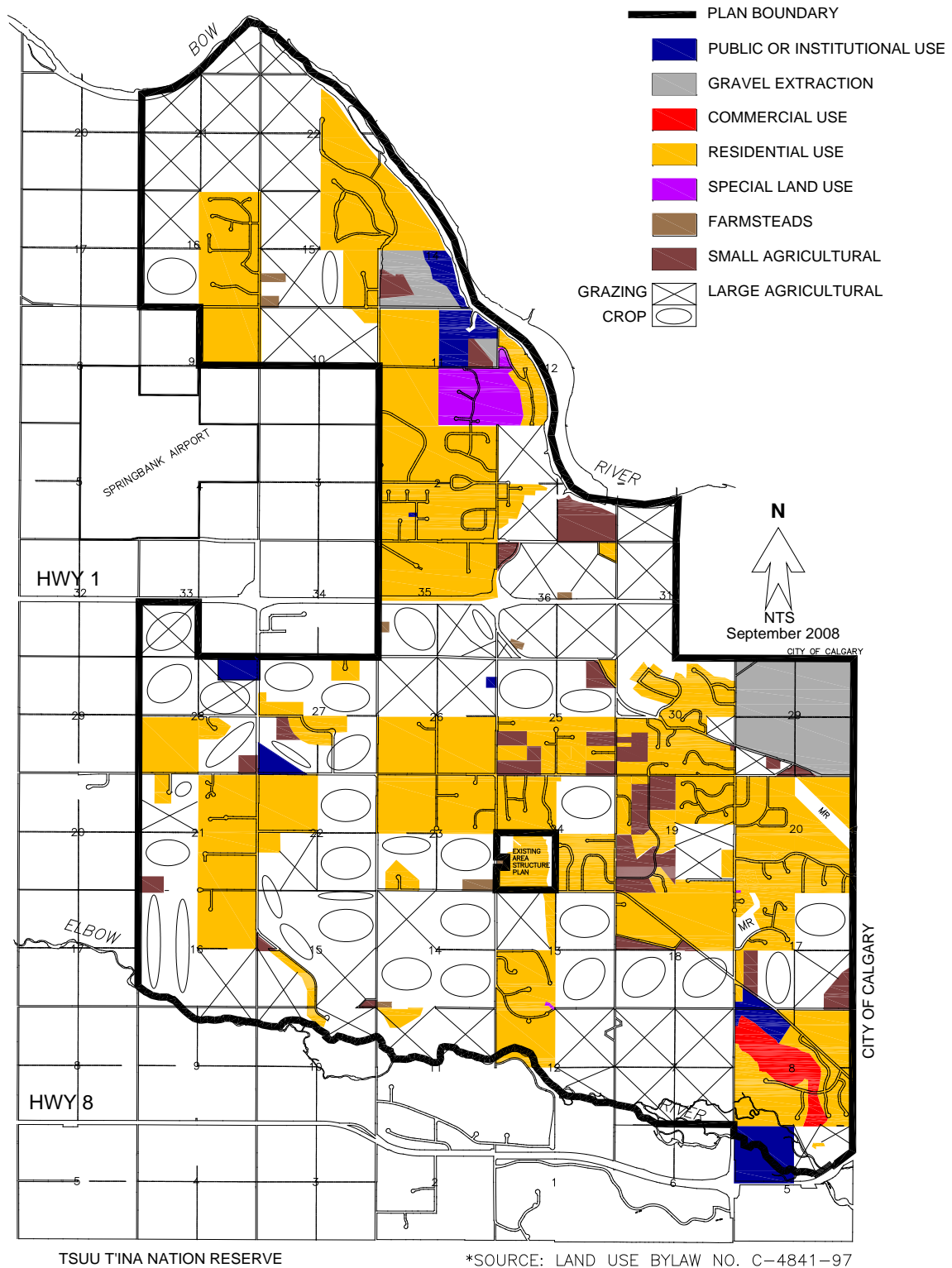
The cumulative long-term growth rate average for the Municipal District of Rocky View between 1981 and 1996 is 10.73% in the regional context.

The anticipated population for the Central Springbank area including the existing development, the re-subdivision potential of existing larger parcels and new residential development will likely be in the maximum range of 29,000 to 36,000 people at full build-out, depending on the density and development guidelines for the Plan Area. The actual population for the area will also be dependant on the serviceability of the area, the market and the desire to change the existing land use.

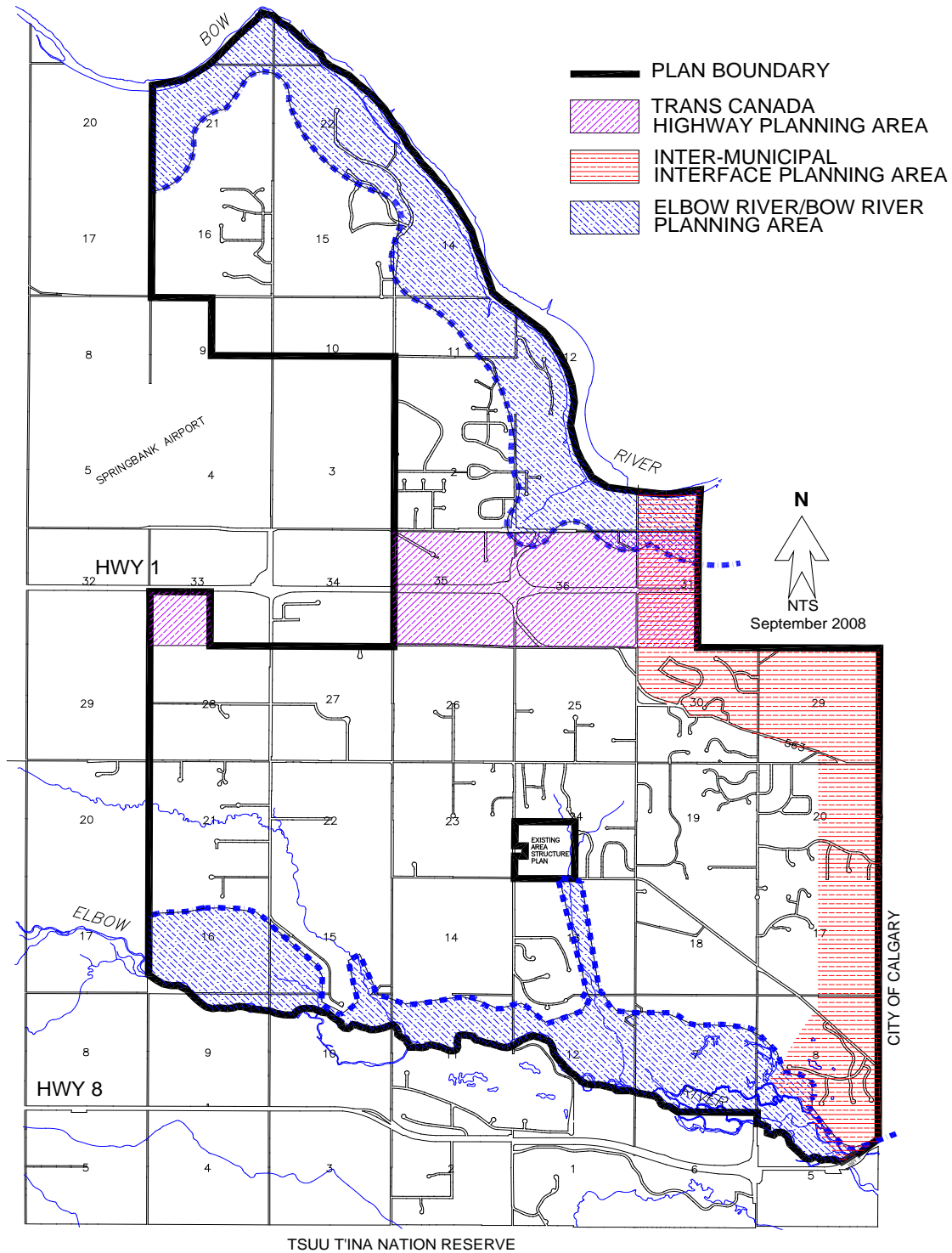
Map 1 - Plan Area



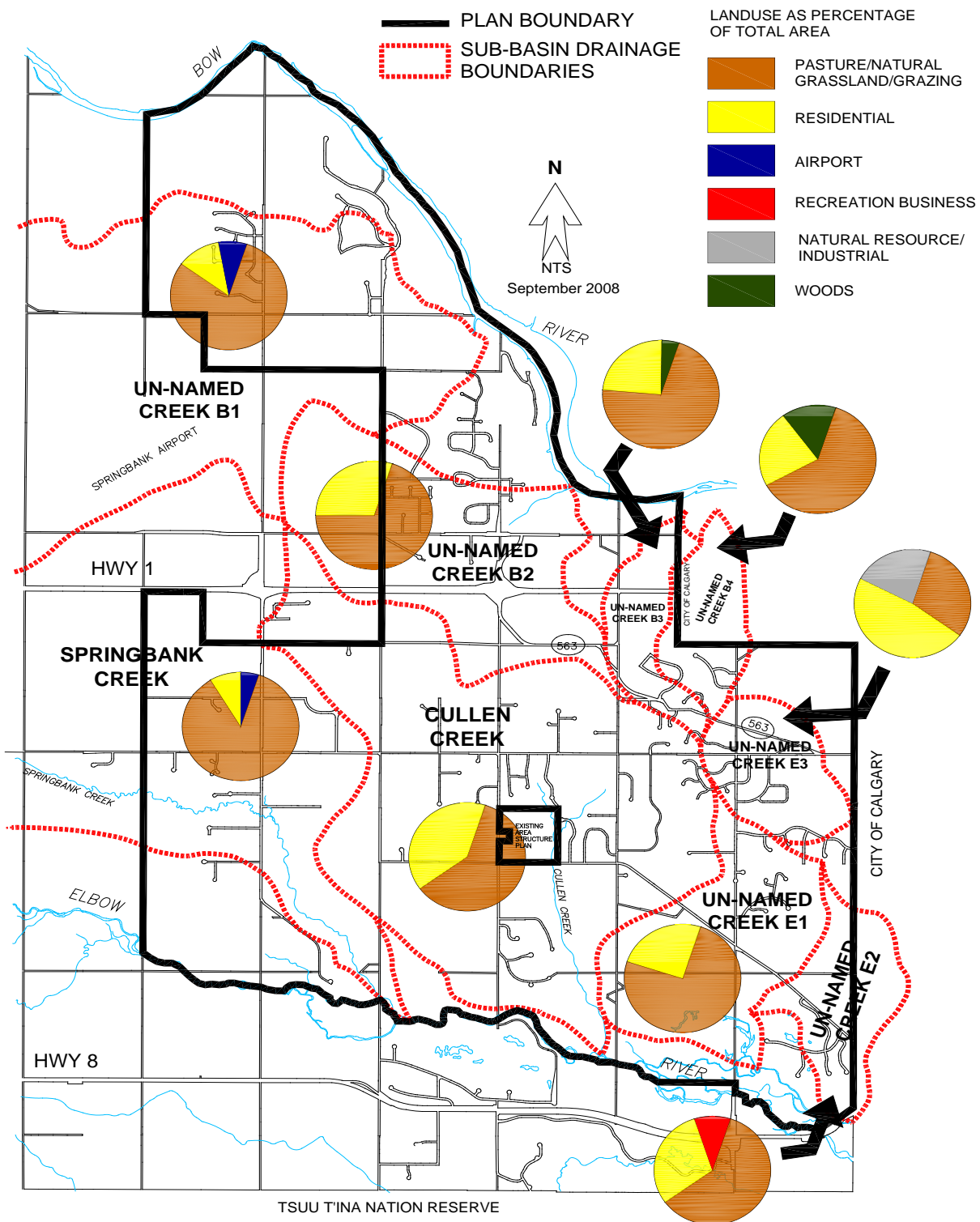
Map 2 - Current Landuse



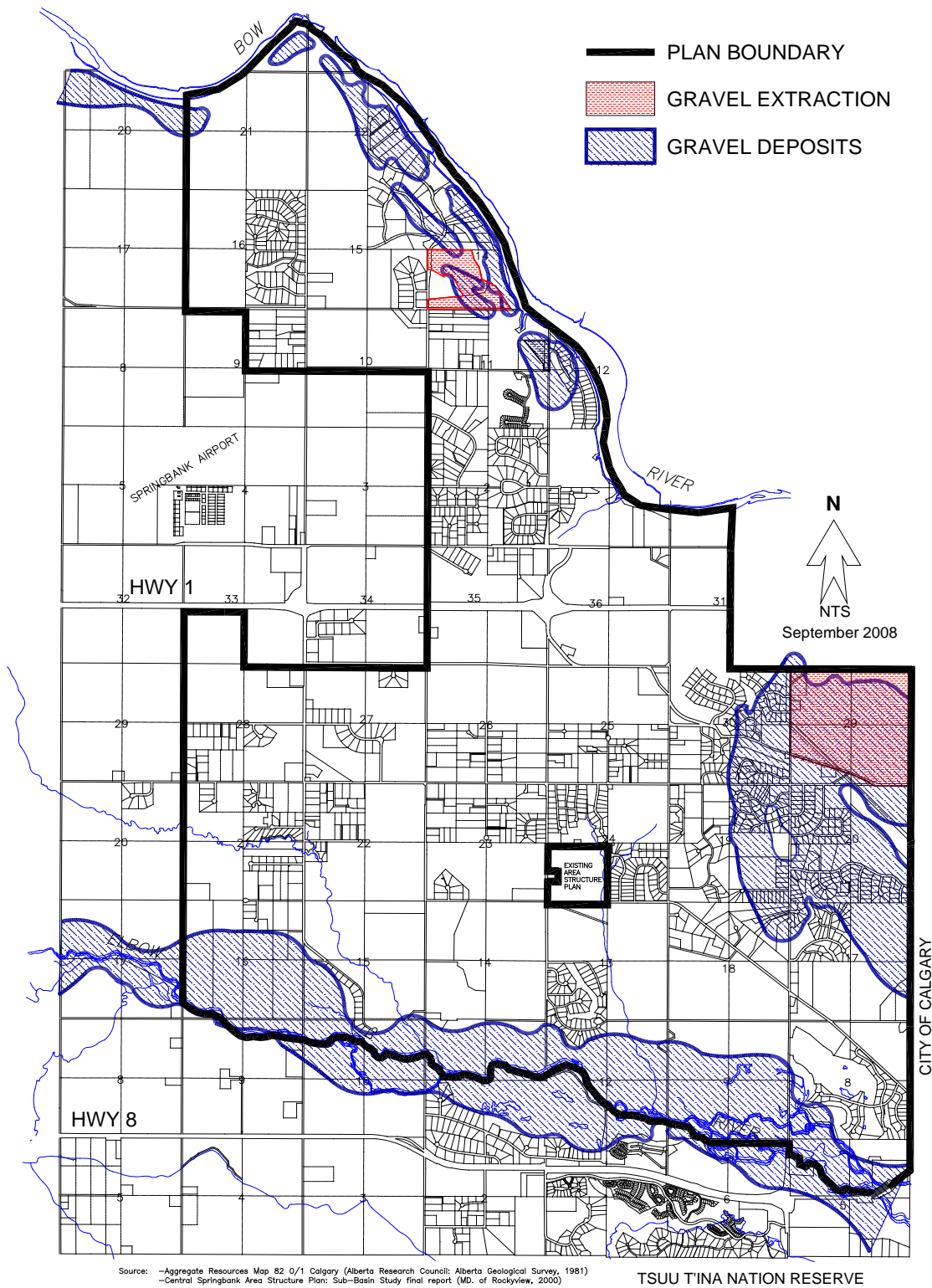
Map 3 - Special Planning Areas



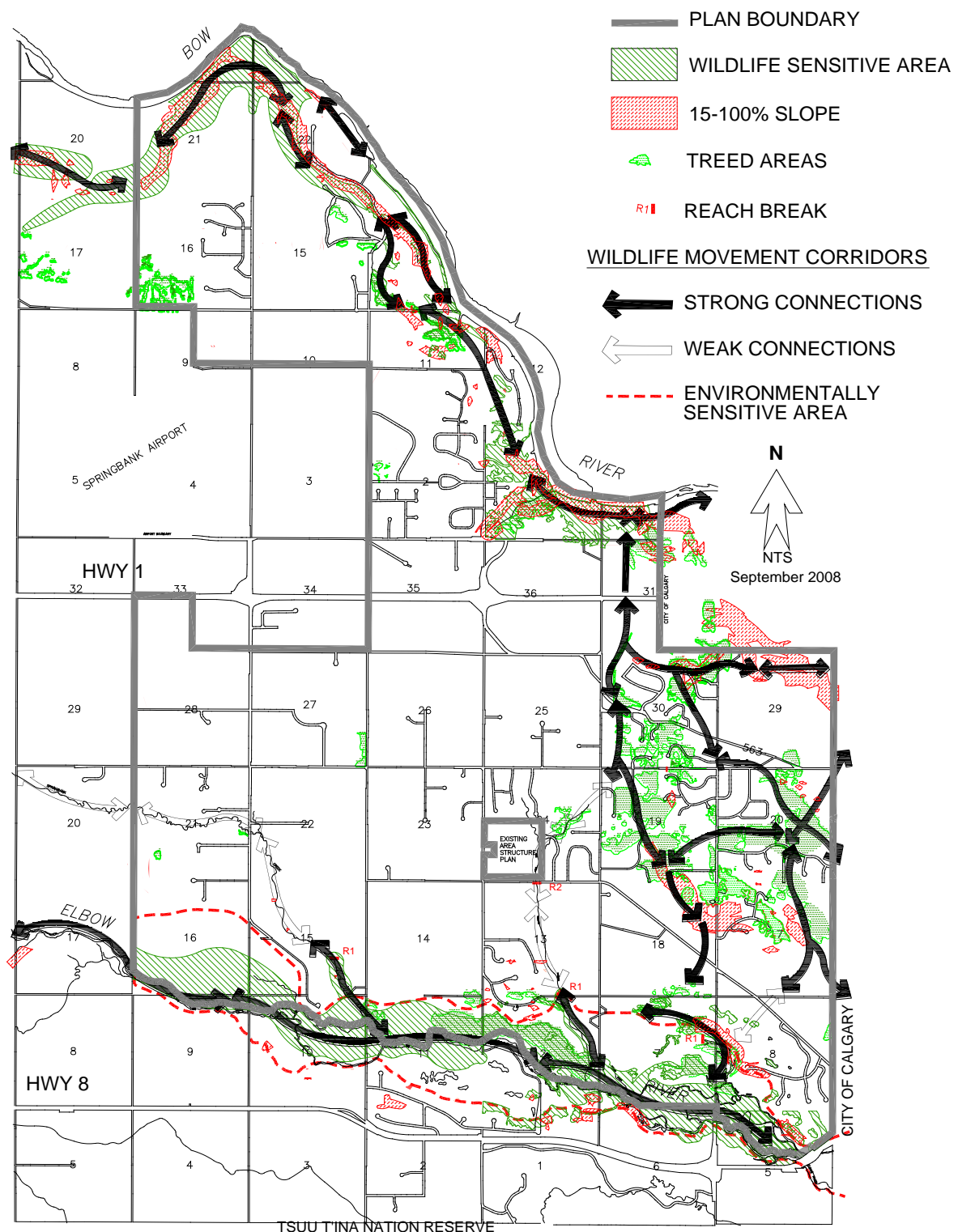
Map 4 - Sub-Basin



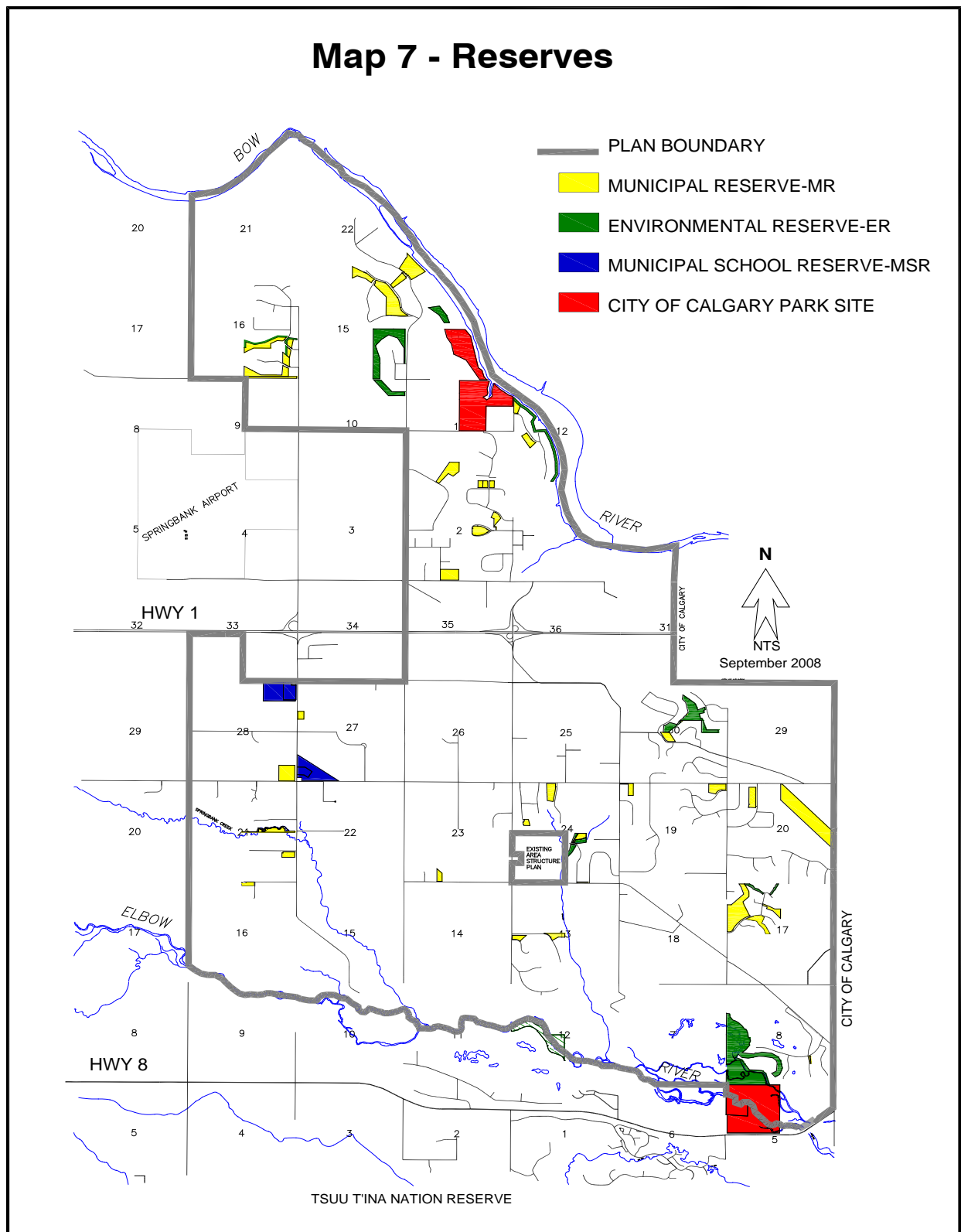
Map 5 - Gravel Resources



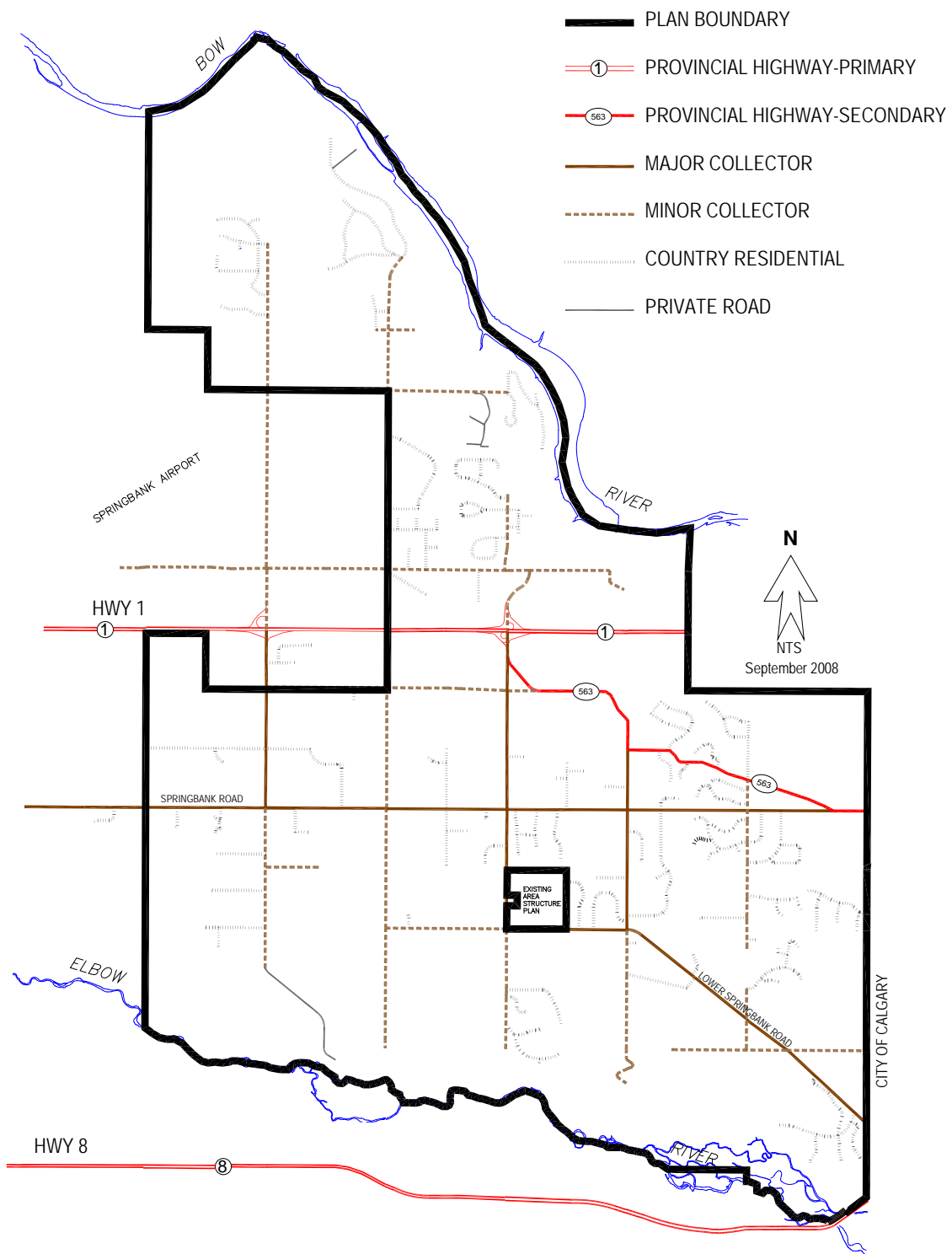
Map 6 - Environmental Constraints



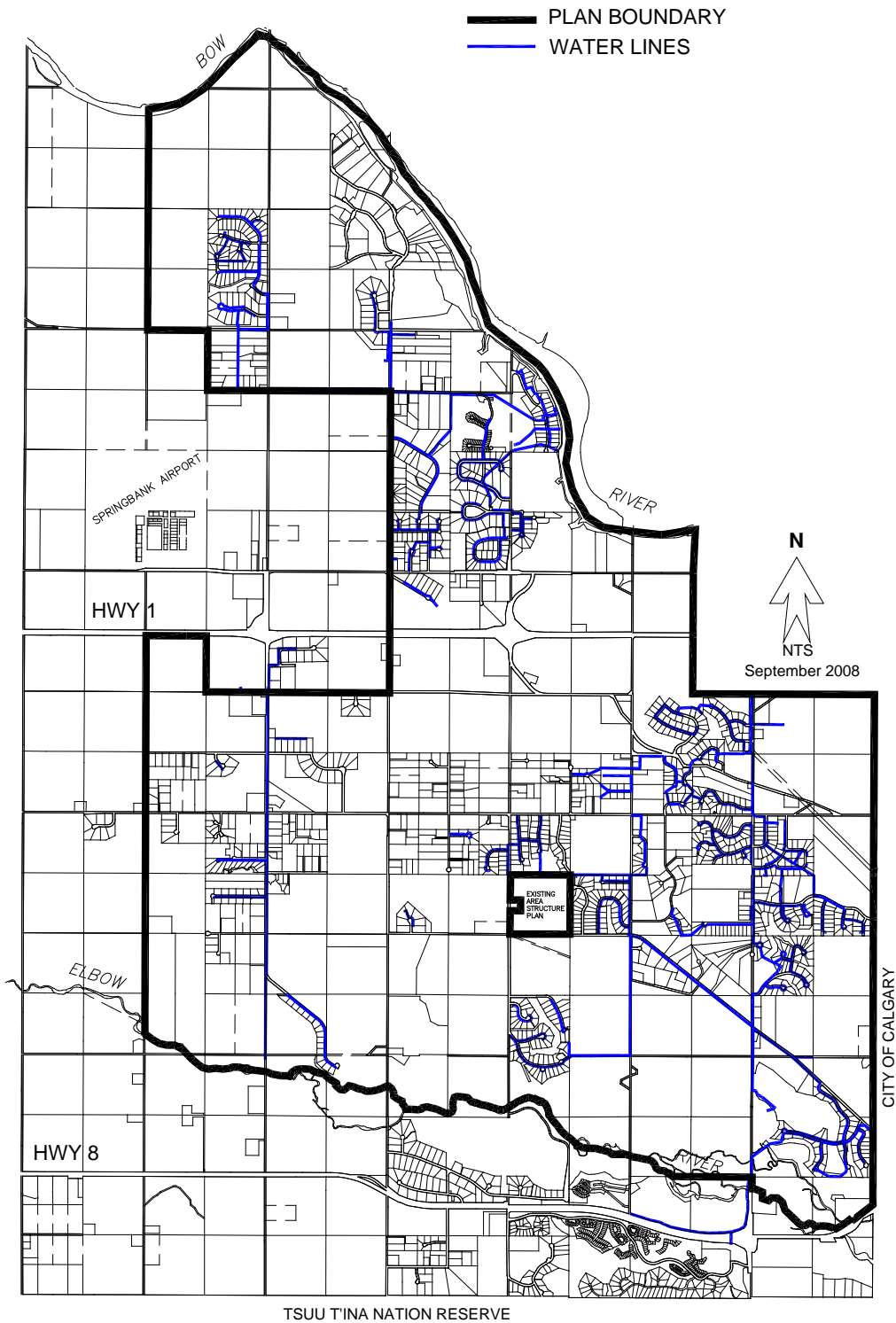
SOURCES:
 ENVIRONMENTALLY SENSITIVE AREAS OF THE CALGARY REGION (CALGARY REGIONAL PLANNING COMMISSION, 1983)
 BIOSPHERIC INVENTORY AND ANALYSIS OF THREE ENVIRONMENTALLY SENSITIVE AREAS WITHIN THE CALGARY AREA (ALTA ENVIRONMENT, 1984)
 PROPOSED MD. OF ROCKYVIEW/CITY OF CALGARY INTERMUNICIPAL DEVELOPMENT PLAN (CITY OF CALGARY/MD OF ROCKYVIEW, 1998)
 PASKAPOO SLOPES/HABITAT & ENVIRONMENTALLY SIGNIFICANT AREAS MAPS (CALGARY PARKS AND RECREATION, 1997)
 PRELIMINARY ENVIRONMENTAL ASSESSMENT OF ARTIST'S VIEW MOUNTAIN & CULTURAL HERITAGE SOCIETY, 1993)
 CENTRAL SPRINGBANK AREA STRUCTURE PLANSUB-BASIN STUDY-FINAL REPORT (MD. OF ROCKYVIEW, 2000)



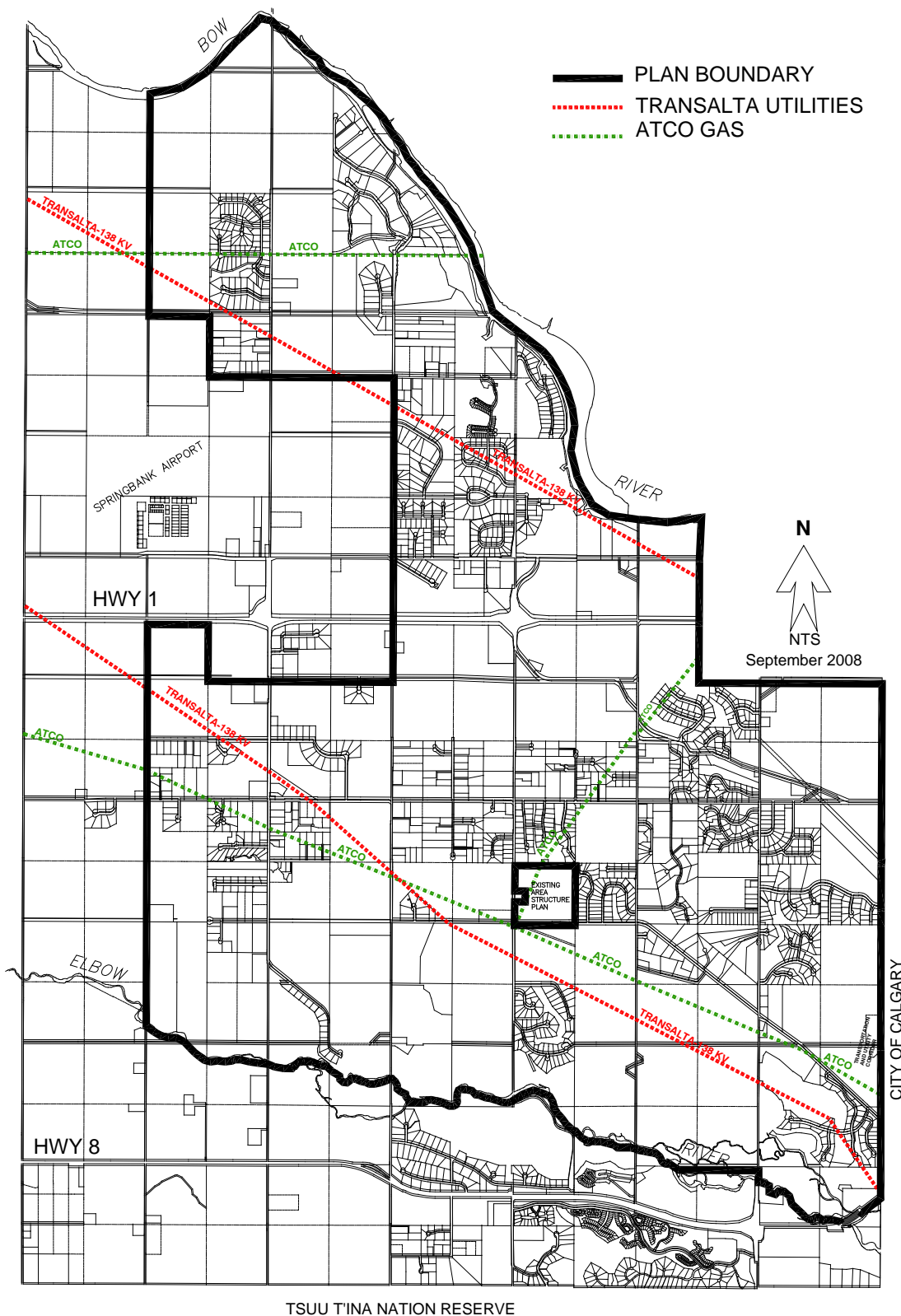
Map 8 - Existing Road System



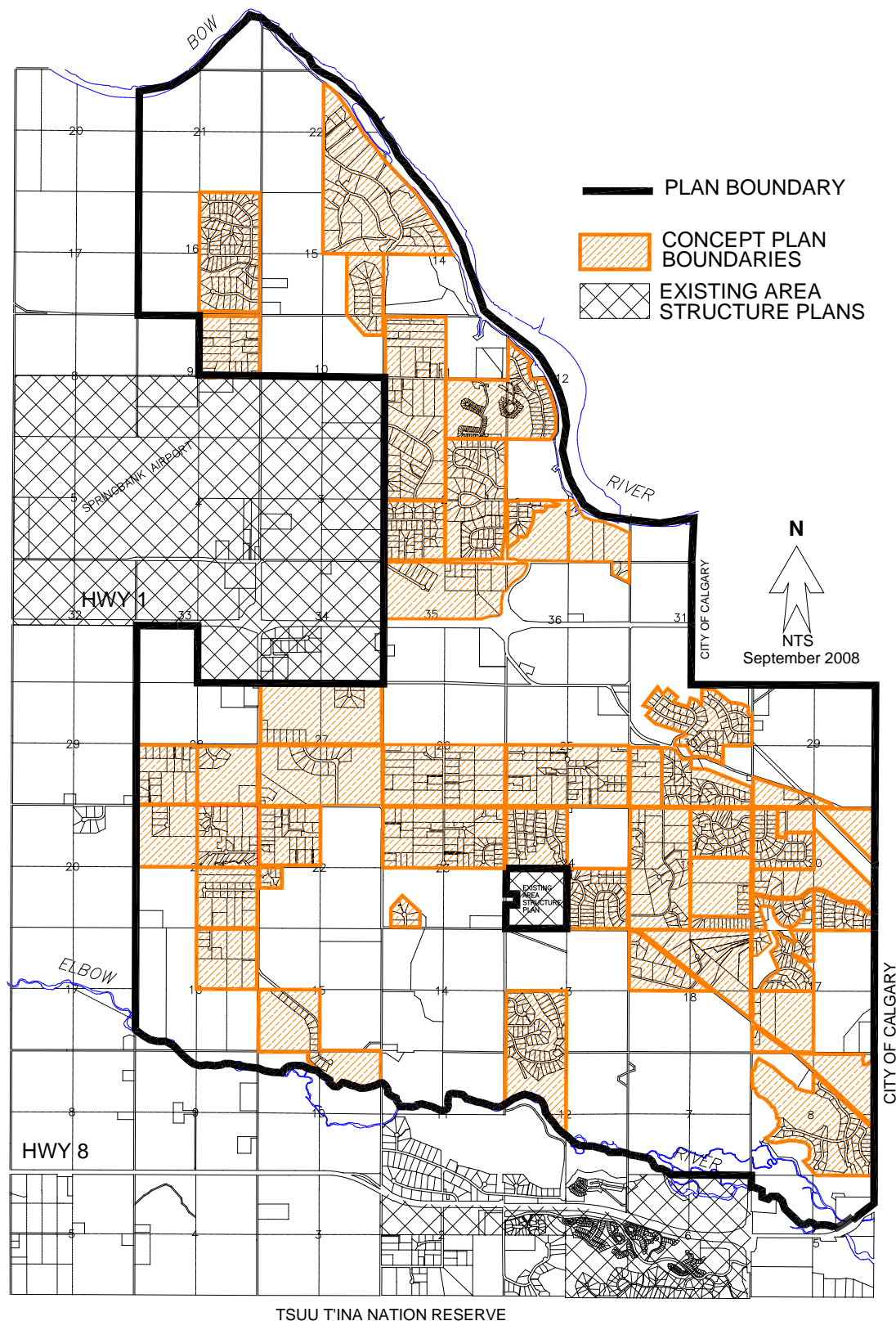
Map 9 - Existing Water Systems



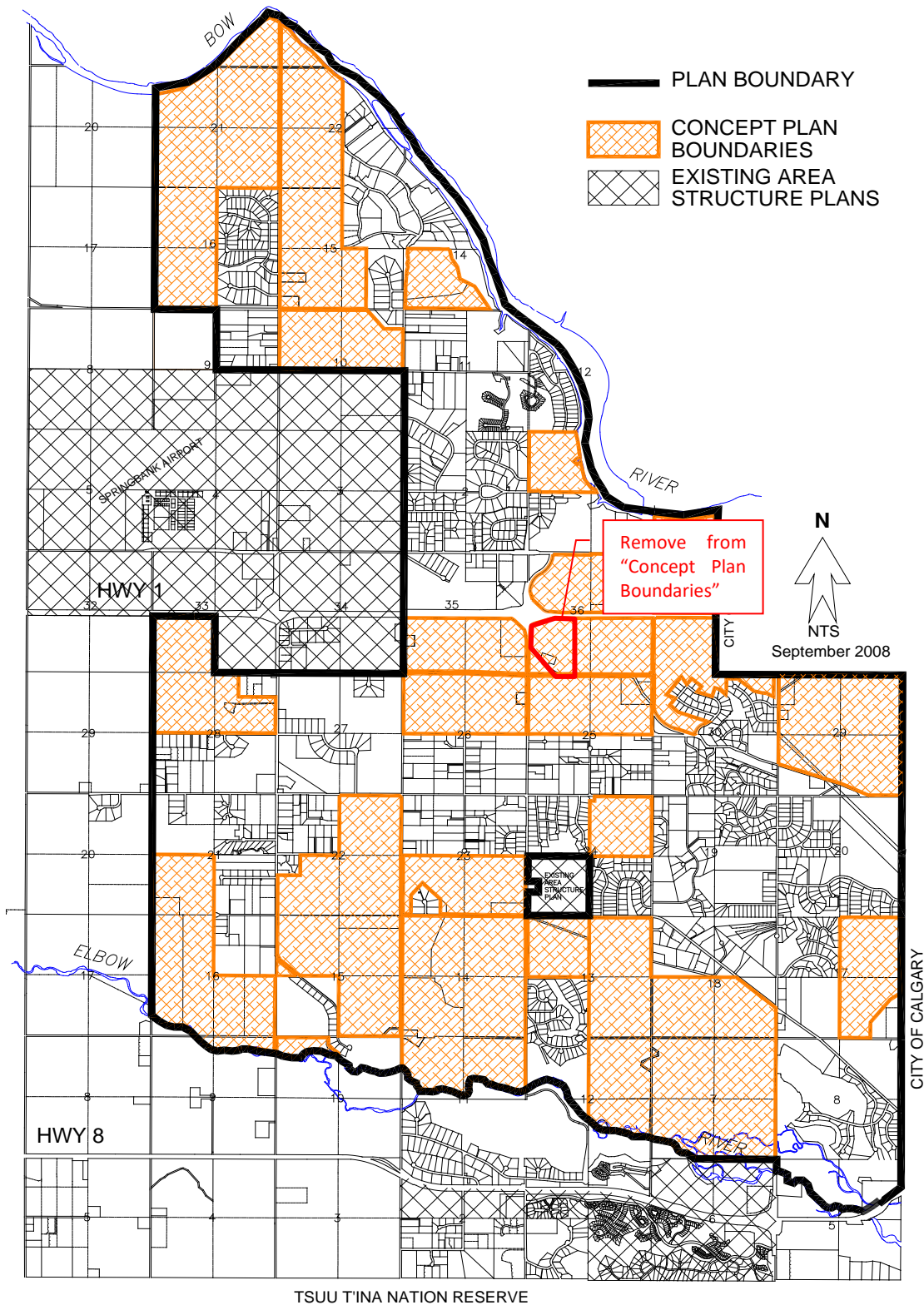
Map 10 - Natural Gas / Electrical Utilities



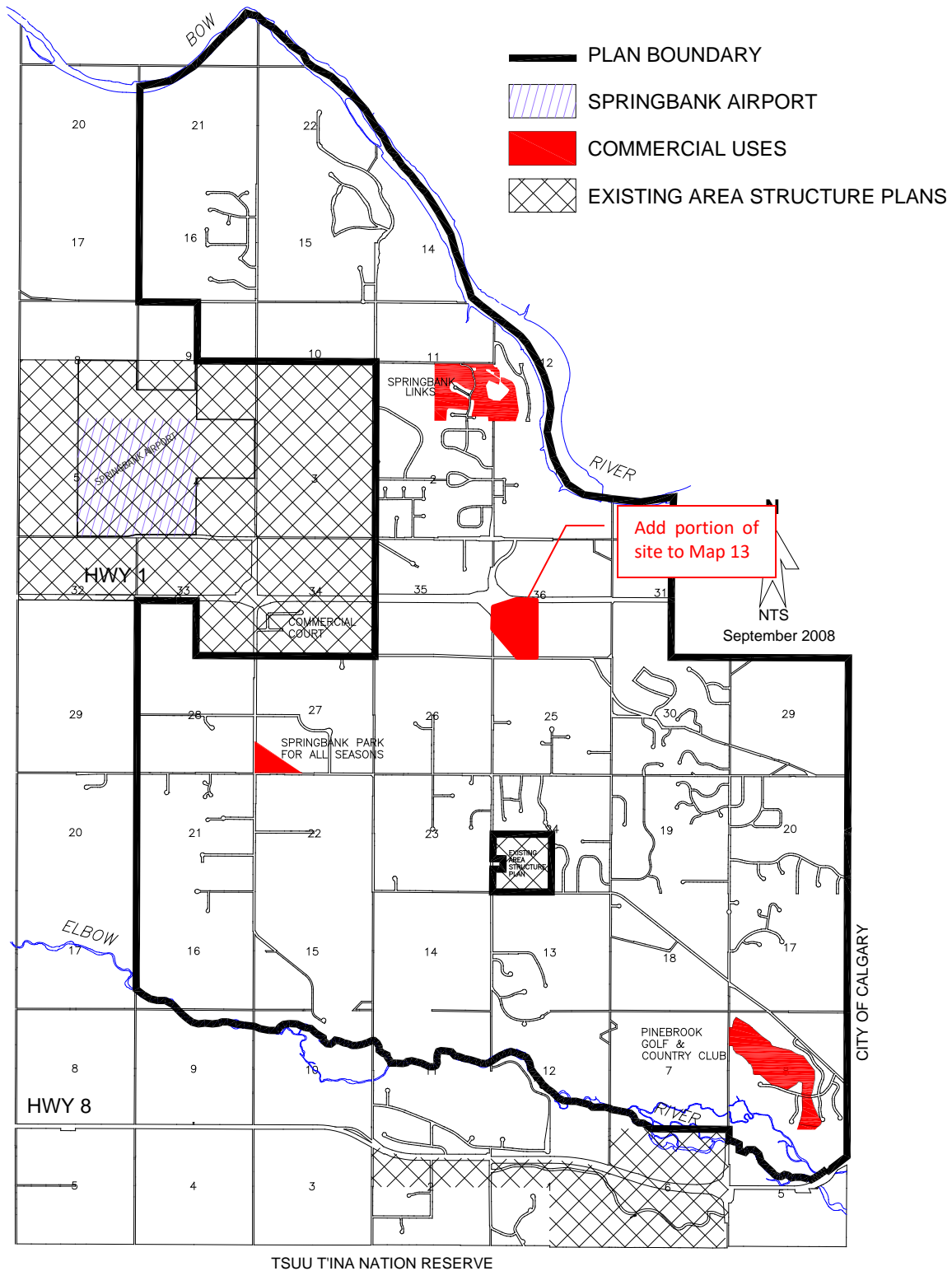
Map 11 - Infill Residential



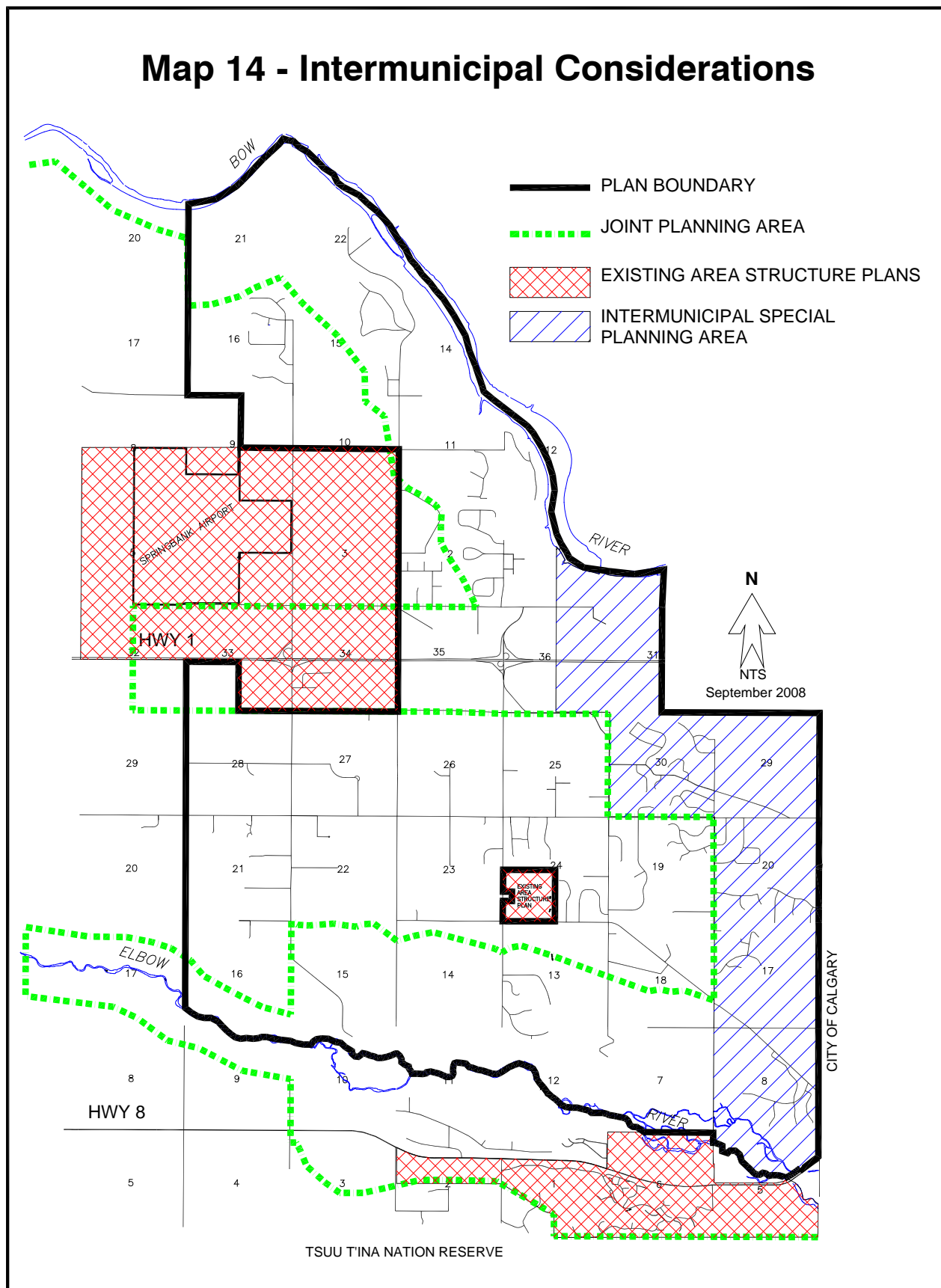
Map 12 - New Residential Areas



Map 13 - Business Development



Map 14 - Intermunicipal Considerations



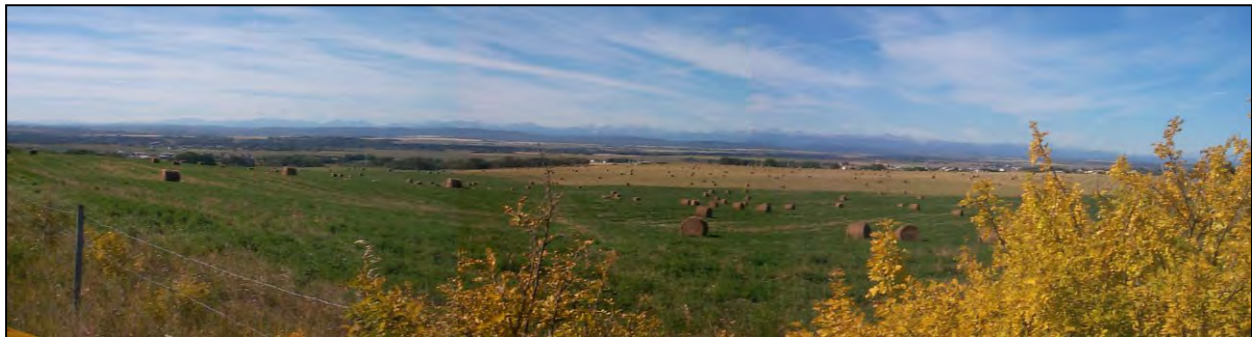
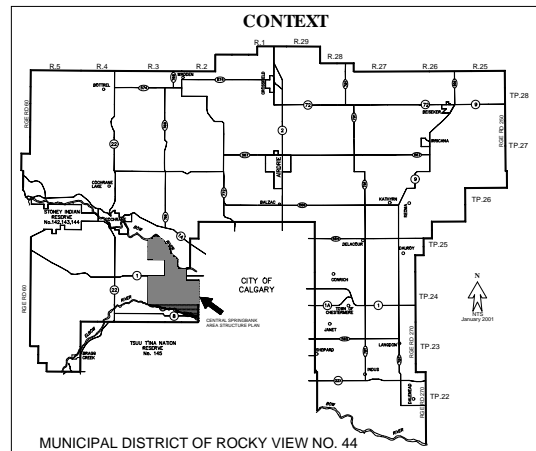
PART II

2.0 POLICY AREAS

2.0.1 Plan Philosophy

The philosophy of the Plan has evolved through consultation with stakeholders, investigative research, discussion, and debate. The philosophy of the Central Springbank Area Structure Plan is to:

- Guide change, identify expectations for future land use changes, subdivisions and development by providing clear direction to the existing community, the development industry, Council, and Municipal Administrators
- Plan for responsible and balanced growth
- Create a harmonious integration of future subdivision and development with existing land uses and developments
- Minimize development impacts on the environment particularly with respect to watershed issues
- Treat all landowners equitably



View to the West

2.0.2 Vision Statement

The following statement is a vision developed by community residents, stakeholder groups and the Steering Committee to guide future growth in the Central Springbank area:

Central Springbank offers a rural lifestyle that blends residential uses with its agricultural heritage. The beauty and tranquility of Central Springbank coupled with the environmental sensitivity of the area, including the Bow and Elbow Rivers and their watersheds, requires responsible integration of further development through the guidance of the Area Structure Plan.

2.0.3 Land Use Strategies

The land use strategies implement the vision statement and form the basis for the subsequent policies in Part II.

- a) Agriculture is a dominant land use within the Plan Area and will continue to have a strong presence in the community. Any conversion to non-agricultural uses must be integrated with and respectful of agricultural operations.
- b) Sub-Basin planning throughout the Central Springbank area will be required as an initial assessment for development potential and capacity for any site using Best Management Practices as a standard.
- c) Appearance and visual impact on the landscape and existing development will be important for development in the future.
- d) Conceptual schemes for defined areas will be required throughout the Plan Area to provide greater input by those directly affected by proposed land use and development changes within a defined area.
- e) Open space and pathway systems will be expanded through future development and the protection of environmentally sensitive areas.
- f) Connective open space systems including pathways, parks and open areas throughout the community will be established and developed.
- g) Existing and future transportation networks will be identified and protected for the Central Springbank area and the Municipality.
- h) Utility servicing will play a major role in future development and its phasing within the Plan Area. A comprehensive utility servicing strategy involving possible regional solutions must be established before any further development occurs within the Plan Area.
- i) Guidelines for residential areas will establish the future parcel size and density ranges for the three defined residential areas.
- j) ~~Regional business development will be directed to the Springbank Business Park, outside the Plan Area.~~ Regional business development is provided in accordance with areas identified on Map 13 or directed to the Springbank Business Park (outside of the Plan Area).
- k) Local business development should accommodate only services in the Plan Area that cannot be provided elsewhere.
- l) Interface treatment between the City of Calgary and M.D. of Rocky View will be incorporated to integrate the different forms of land use and reduce the potential for conflict.
- m) On-going dialogue between the Municipality, The City of Calgary and the Province on issues of mutual interest, will be encouraged.

CHAPTER 2.1

2.1 *Community Development & Heritage*

Building a community is not the result of a single individual, a development, or one event, but through a series of activities, maturing development, and detailed designs accompanied by a concerted effort of many, a community will evolve. Design encourages community interaction and fosters openness to create a place that can be enjoyed and treasured. Visually, the landscape is both a spiritual and historical resource and forms the basis of our sense of location, identity, security and well being.

Community activities, recreational facilities, cultural events or celebrations provide the foundation for introductions, relationships, and commonalities resulting in community pride and a sense of belonging.



Springbank Cheese Factory as rebuilt in 1906

Part of community building is developing awareness for an area's heritage. Rural heritage includes not only knowledge of it's archeological and settlement past, but also includes landscape features. Rural landscapes include panoramic views, stands of vegetation, fence lines, historic trails or routes and structures. Recording these features or structures will be important as changes occur throughout the community. Opportunities will present themselves to retain and incorporate the 'historical story' that will enrich the community with its knowledge of its past.

Quality of life is a magnet that draws people to an area for a desired lifestyle and amenities to enhance their lives. Living in a rural environment is a personal choice that provides a unique living alternative for many people that work, shop, and entertain in the City of Calgary. Lifestyle attracts development, yet people build community. Future conceptual schemes will initiate a comprehensive approach to planning of the physical community, with the interest of retaining and building community spirit as the physical environment matures.

Recreation and cultural programs enhance the quality of life and to date have been available through the Rocky View West Recreation Board. A variety of recreation facilities exist in the community that are associated with the Recreation Board such as Springbank Park for All Seasons and the Springbank Equestrian Centre. Other independently operated facilities such as the Springbank Heritage Club, Springbank Community Hall, golf courses, driving ranges and the nearby Springbank Airport offer unique recreational experiences for residents. Recreational venues often become a community meeting place that fulfill both personal and community benefits socially, emotionally and physically.

2.1.1 **Goals**

- a) To guide future changes that will facilitate a community suitable for all ages.
- b) To seek opportunities that will build community pride and sense of belonging.
- c) To encourage the creation of public space and public events that foster and contribute to the interaction of residents in future development.

- d) To identify and protect heritage structures by integrating them, along with rural landscapes, settlement events, and homesteader names, in new development.
- e) To encourage a wide range of recreation and cultural activities for a broad cross section of the community.

2.1.2 Social Community Development Policies

2.1.2.1 General Policies

- a) The Municipality will support programs that broaden the understanding, awareness and appreciation of the settlement history of the area, the health of the watershed, open space systems, and cultural events.
- b) The Municipality will support programs and educational opportunities that recognize and celebrate the presence of agriculture in the community such as agricultural demonstrations, fairs, working farms or ranch visits and/or farm stays.
- c) Distinctly different but adjacent land uses should be encouraged to adopt a 'good neighbour policy' in such matters as setbacks, agricultural hours of operation, agricultural practices, domestic animals, site lighting, and joint maintenance of fence lines.
- d) Residential development adjacent to wildlife habitat should consider restricting the number and/or range of domestic pets reducing any potential conflicts that may arise.
- e) Public and private agreements to create, manage and maintain a linked open space system should be encouraged.
- f) At the time of conceptual scheme preparation, the safe and appropriate location for support services such as community mailboxes should be considered in conjunction with the future transportation network and walkway system.

2.1.2.2 Institutional Policies

- a) Cultural growth and enhancement should be encouraged through programs and support facilities such as museums, studios for music or art, libraries or community centers and their location should be incorporated into future conceptual schemes.
- b) Institutions serve as meeting places for both residents and visitors. They should be architecturally recognizable on the landscape to express they are public spaces, while considering the compatibility with adjacent land uses, building setbacks, servicing, the functionality of the site, visual impacts, and signage.
- c) Future institutional development such as schools, places of worship, and other community institutions, should benefit the local community by adding community amenities and open space for area residents, and such benefits should be outlined in future conceptual schemes.



- d) Early consultation with the affected school boards is required to identify future school sites and assist in securing additional sites throughout the community.
- e) School facilities should be developed as multi-disciplined joint use facilities, offering access to a wide composition of the community to satisfy a variety of needs and opportunities, including the provision of open space and daycare.
- f) Community awareness and participation in recreational activities should be promoted by offering a wide range of recreational and cultural programs, which will include but not be limited to agricultural, athletic, social and educational events and programs.
- g) The Municipality should endeavour to support existing and new community recreational facilities, such as the Park for All Seasons, financially and otherwise in accordance with a comprehensive strategy established by the Rocky View West Recreation Board's Master Plan.
- h) In accordance with the Rocky View West Recreation Board's Master Plan, a comprehensive strategy for the future recreational needs and facilities serving the area should be established with the aim of making future facilities as financially self-sustaining as possible. Development of new recreational opportunities will investigate the use of joint use sites and facilities.
- i) Future expansion opportunities for Springbank Park For All Seasons and the Springbank Equestrian Centre should be incorporated into the conceptual scheme for lands adjacent to these facilities.

2.1.3 Heritage Policies

An understanding of an area's past enriches a community's future. The productive land and the river valleys were the basis for settlement of both native and non-native peoples. The Peigan people of the Blackfoot Nation and Stoney tribe hunted in the Springbank area for the buffalo that grazed the plains to provide for their food, clothing, fuel and shelter. Other animals that lived along the rivers, such as deer and elk were another supply of food and clothing. The non-indigenous settler was drawn to the area for its pastureland and rich cropland

through the Dominion Lands Act (1872), which was a piece of Federal legislation that encouraged the settlement of western Canada. With the extension of the Canadian Pacific Railway in 1886, the area became an attractive location for settlement. Many homesteaders journeyed west by train from eastern Canada and Europe to capitalize on the offer of rich agricultural land throughout Alberta. This optimism came to define Springbank's role in the region as a hinterland of agricultural production for the Calgary region and beyond.

Central Springbank has evolved from a rural agricultural community to a community in transition. The transition from an agricultural hinterland to a rural residential community has altered the physical form and social composition. Recording and retaining either the structures, features or simply the story of an area's past is the mutual responsibility of the community, the



Heritage Barn

Municipality and the Province. The Province requires the documentation and possible retention of pre-historic and native settlement past, and the Plan encourages signs of previous agricultural settlement to be documented and retained wherever possible. Farmhouses and barns, fence lines and windbreaks, bridges and trails are pieces of the area's past and the story of their establishment should be re-told.

- a) Agriculture played an important role in the original settlement of the community. In order for the community to develop an appreciation for the agricultural industry and its cultural landscapes, greater collaboration between landowners, agricultural operators and the community is encouraged.
- b) In the preparation of a conceptual scheme, consultation with the Province is encouraged to determine if the defined area has been identified as having potential for archeological or historic sites and the appropriate alternatives to protect the resource should be included in the conceptual scheme.
- c) In conjunction with the Springbank Historical Society, existing historical resources should be documented by assessing and completing an inventory of buildings of settlement vintage to record the Plan Area's pioneer heritage. The list of historical resources is available from the Springbank Historical Society, or the M.D. of Rocky View.
- d) Good stewardship of heritage resource management should be encouraged to retain, recycle and/or restore features and buildings of local significance to settlement history into conceptual schemes and future land use changes. This could be achieved by a variety of means including the dedication of reserves, the creation of a private park, or if necessary, the relocation of notable structures to other locations within the conceptual scheme area.
- e) Restoration, designation and preservation of provincially significant buildings should follow the guidelines established by the Province of Alberta.
- f) Features of cultural landscapes, such as the Old Banff Coach Road right-of-way, hedgerows, wind breaks, bridges or fence lines, should be integrated into future land uses and subdivision wherever possible to retain the heritage features of the area.
- g) Preservation of heritage and local historical sites or features such as the Old Banff Coach Road corridor from Upper Springbank Road to Highway 22 is encouraged. Heritage routes, features or points of interest such as Old Banff Coach Road should be incorporated into route design. Interpretative signage is encouraged where applicable.
- h) Names for future development and/or roads should incorporate the names of settlement families, historical events or locations.



*Portion of original Old Banff
Coach Road Route*

CHAPTER 2.2

2.2 Agriculture

Agriculture was the driving force of settlement in the late 1800s and early 1900s and the opportunity to own land drew homesteaders by the hundreds. Springbank settlers were attracted by the pasture and cropland and Calgary's market led the way for the introduction of dairy farming.



Colpitts Dairy Barn

Today in Springbank, the raising of livestock, mostly beef cattle and horses, hay and green fodder and cereal crops are the predominant forms of agriculture. Active farmland is primarily found in large unsubdivided parcels covering over half of the Plan Area (as shown on Map 2) which are owned by a limited number of long-time residents. Smaller agricultural parcels, such as equestrian facilities and horticultural operations, can also be seen on the landscape. Large segments of Springbank's farmland

have experienced a transition from agriculture to residential uses over the past four decades.

Shifts in agricultural markets and the introduction of competing non-agricultural developments have diminished opportunities to expand traditional agricultural operations and lessened the viability of traditional agricultural pursuits. However, the Municipality supports the Provincial legislation under the Agricultural Operations Practices Act and the Farming Practices Statutes Amendments Act ("Right To Farm" Legislation), which protect farming operations from nuisance lawsuits where producers are following municipal land use bylaws, generally accepted agricultural practices, and any regulations that are established by the Minister.

Agriculture, its role within the sub-basins for both stormwater quantity and quality, and the visual amenity it provides also heightens the significance and importance of efficient and effective land use decisions for the 57% of the land within the Plan Area that is currently used for agricultural purposes. A conscious effort and dual responsibility to both the present and future community will be an important factor in maintaining the viability of agriculture in Central Springbank.

Given the intense residential development pressures in Springbank, an objective of this Plan is to ensure that any residential development is respectful to existing agricultural operations and integrated sensitively into agricultural areas. Through the preparation of conceptual schemes in support of redesignation and subdivision applications, new development will be required to create transitions between agricultural and residential land uses.

2.2.1 Goals

- a) To support and implement the Province's Right to Farm legislation, and to uphold and individual's right to continue farming.
- b) To ensure that if non-agricultural development is deemed appropriate, it is sensitively integrated with existing agricultural areas through the preparation of conceptual schemes.

- c) To protect the future development potential of existing agricultural lands by guiding the transition of future development through conceptual schemes.
- d) To integrate agricultural land uses, both traditional and contemporary, into existing and future development.
- e) To foster a greater understanding and appreciation for a healthy, responsive agricultural environment in the community.
- f) To raise awareness of the significance of agricultural lands in Best Management Practices, and in preserving healthy watersheds.

2.2.2 General Agriculture - Policies

- a) In support of the Province's 'Right to Farm' legislation, conceptual schemes must acknowledge and strive for compatibility with adjacent agricultural lands and operations.
- b) Non-agricultural uses should only be considered through the guidance of conceptual schemes and should not compromise the productivity, health and viability of local agricultural activities.
- c) Agricultural land uses should:
 - Incorporate and implement Best Management Practices for all agricultural operations
 - Participate with Provincial and Municipal initiatives to improve and implement methods of Best Management Practices
- d) The creation of a single residential lot from an unsubdivided quarter section for the purposes of a farmstead should be considered in accordance with the Municipal Development Plan.
- e) The creation of new or the expansion of existing intensive livestock operations shall be in accordance with any Provincial regulations and shall be sensitive to the proximity of residential uses, and any potential impacts on the City of Calgary and the Bow and Elbow River watersheds.
- f) Agriculture played an important role in the original settlement of the community. In order for the community to develop an appreciation for the agricultural industry and its cultural heritage, a greater collaboration between landowners, agricultural operators and the community is encouraged.
- g) Agricultural heritage buildings and cultural landscapes should be integrated wherever possible into future land use and development changes.
- h) Acknowledgement of the presence of agriculture in the community should be encouraged through educational opportunities.

2.2.3 Contemporary Agricultural Opportunities in Central Springbank - Policies

- a) The introduction or practice of contemporary agricultural uses in the community can be facilitated provided:
 - It is compatible with the character of the area

- The site can sustain the proposal as it relates to the type, scale, size and function
 - A rationale has been provided and is accepted by the Approving Authority
 - There is minimal impact on adjacent lands
 - There is minimal impact on Municipal infrastructure, such as the road network and stormwater management
 - There is minimal impact on the environment, including air quality, surface and groundwater hydrology
- b) All existing or proposed contemporary agricultural development must follow Best Management Practices for stormwater runoff.
- c) If deemed necessary by the Municipality, a Traffic Impact Assessment detailing traffic generation from the development and its cumulative impacts on the road network should be prepared. Road improvements to support the development will be provided by the proponent to the satisfaction of the Municipality.



Contemporary Agriculture – Tree Farm

CHAPTER 2.3

2.3 Physical Development Guidelines

The Central Springbank Area Structure Plan strives to maintain and strengthen the community that enriches the lives of present and future residents. Components include features such as connecting open areas and walkways, to a better understanding and appreciation of the physical features and environmental health of the land and watersheds. Policies alone cannot build a better community but lay the groundwork for its realization. The implementation of the policies will be the responsibility of citizens and the Municipality to build and retain a sense of community and belonging through future development.

The purpose and intent of this chapter is to establish the requirements for development within the Plan Area. It outlines the required elements of conceptual schemes and the special requirements in the identified Special Planning Areas. All future development proposals will be required to address the criteria established in this chapter.

An aspect of community development is the protection of its residents. Police, Fire, and Ambulance services are integral in fostering the development of a safe and livable community.

Emergency services are provided to the community of Central Springbank by several sources. Presently, the RCMP Detachment in Cochrane serves the community along with a detachment of Municipal District of Rocky View Special Constables enforcing the bylaws of the Municipality and statutes of the Highway Traffic Act. Medical services are available within the City of Calgary, the Hamlet of Bragg Creek and the Town of Cochrane. A contractual arrangement with the City of Calgary Fire Department provides fire services. As the community of Central Springbank grows, the levels of servicing for police, fire and medical services should be monitored to meet emerging needs and the demographic profile of the community.

2.3.1 Goals

- a) To retain and broaden awareness and respect for the landscape and view.
- b) To integrate new development into the rural character of the area.
- c) To sensitively plan new development through the preparation and adoption of conceptual schemes.
- d) To incorporate the policies of Special Planning Areas into new development for the benefit of transitional land uses, open space, and the living environment.
- e) To promote and provide for adequate levels of public safety and service in the community through infrastructure design and location.
- f) To provide appropriate levels of emergency services within the Plan Area.

2.3.2 Physical Development Policies

2.3.2.1 General Policies

- a) Planning for all development should begin with a site analysis to sensitively integrate future changes into the landscape. This analysis should include but not be limited to:

- An understanding of topography, soils, hydrology and climate
 - An evaluation of the environmental sensitivity of the site
 - The identification and preservation of prairie sight lines and views
 - An evaluation of the compatibility with adjacent land uses
- b) Site and building design criteria should be incorporated into new development demonstrating its compatibility with the land and adjacent uses. The criteria should include, but not be limited to:
- Attention to impervious surface coverage per lot
 - Building height and profile
 - Building materials of local origins or character and colours
 - Building and site development envelope
 - Site plan
 - Landscaping plan
- c) A landscape plan will be necessary to integrate new development into the community and provide for transitional treatment between different or incompatible land uses, parcel sizes and/or varying ages of development, in addition to forming an important component of Best Management Practices.
- d) Conceptual schemes adjacent to environmentally significant areas should include a landscape plan that will buffer the proposed development and the significant habitat to reduce any edge effects and restrictions on movement corridors.
- e) A landscape plan should include mature stock that is either native or an adaptable species to the area. A landscape plan may also include other functional site design elements such as paving materials, walkways, appropriate signage, and light standards to reinforce the overall visual character of the area.
- f) A buffer such as landscaping treatment, screening berming, and/or building setbacks on lands adjacent to major and arterial roads, should be implemented to separate residential land uses to mitigate potential conflicts.
- g) Any development requiring a parking lot should consider locating the facility to compliment adjacent land uses, incorporate landscaping, consider the surface finish and the management of stormwater runoff when determining the Best Management Practices for the overall site.
- h) Third party advertising or billboards are not permitted along the right of way of any roads within the Plan Area.
- i) Business and community groups are encouraged to work collaboratively with the Municipality and the Province to develop roadside signage criteria for points of entry, orientation and development identification.
- j) Roadside signage should be compatible with the rural character of the community, un-lit, and consistent in its design and placement along the transportation network.

- k) To avoid any interference with the beauty of the night sky, all outdoor lighting should limit any off-site light pollution.
- l) All development will be responsible for the management and disposal of the solid waste (garbage) generated on site.

2.3.2.2 Conceptual Schemes

- a) In order to provide a wholistic, efficient and thorough approach to community development in Central Springbank, conceptual schemes will be required to guide future land use changes and subdivision within predetermined conceptual scheme boundaries shown on Maps 11 and 12. A conceptual scheme will include, but not be limited to:
 - A future land use scenario including lot design and configuration, parcel size, on and off-site visual impacts, open space connections, servicing strategies and compatibility with adjacent land use
 - A scenario for the integration of the proposed development with existing and adjacent development including the preservation or improvement of existing sight-lines
 - Development phasing illustrating full build-out
 - Any and all constraints to development including, but not limited to topography, environmentally sensitive areas as determined by a biophysical inventory, archaeological or historical sites
 - Architectural controls to guide structural style, building materials and structural siting
 - A Landscaping Plan
 - A Master Drainage Plan and/or Site Implementation Plan including possible alternatives for Best Management Practices for storm water management
 - The location of municipal, school and if necessary, environmental reserve areas
 - The provision of open areas for the purposes of habitat preservation, archaeological or historical sites, regional Best Management Practices, agricultural uses, recreation, highway interface, and/or City of Calgary interface
 - A Traffic Impact Assessment that addresses the location of existing and future transportation networks detailing traffic generation and its cumulative impacts on the road network including the necessary improvements
 - Utility servicing strategies
 - Population densities and projections
 - Input from all directly and indirectly affected landowners within and adjacent to the conceptual scheme boundary throughout the preparation of the conceptual scheme, including a minimum of one (1) open house for the proposal
 - The support of the proposed conceptual scheme by the majority of affected landowners
 - Road names incorporating neighbourhood themes or heritage names

- Any other matter deemed necessary by the Municipality
- b) Conceptual schemes must be adopted by Council and will be appended to this Plan.
- c) Minor subdivision applications may proceed without a conceptual scheme when for agricultural purposes, or when all of the following conditions are present:
 - Direct road access is available
 - One (1) lot is being created
 - The proposed lot is 0.8 ha (2 acres) or greater in size
 - The creation of the new lot will not adversely affect or impede future subdivision of the balance lands

2.3.2.3 *Special Planning Areas*

- a) Special Planning Areas geographically group locations of similar characteristics. These areas include the Bow and Elbow River valleys, the TransCanada Highway, and the interface with the City of Calgary as shown on Map 3. Each planning area has specific needs and should be incorporated into the conceptual scheme, over and above the requirements of the conceptual scheme, at the time of its preparation.
 - i) The Bow and Elbow Rivers are significant watercourses throughout the Plan Area that provide natural beauty, a drinking water source, wildlife corridors, fisheries and open space. In the Bow and Elbow River Valleys Special Planning Areas, additional requirements in the preparation of a conceptual scheme include, but are not limited to the following:
 - Maintenance of drinking water quality and supply in the Bow and the Elbow rivers
 - Identification and integration of wildlife corridors
 - Preservation of fisheries
 - Limited removal of vegetation cover
 - Flood fringe and flood way considerations
 - Slope stability
 - Gravel resources and their extraction potential
 - Open space connections to the rivers
 - ii) The TransCanada Highway is a major provincial transportation link for the Calgary region, which requires special consideration for any land use changes along its right-of-way to preserve its regional and provincial scenic significance. In the TransCanada Highway Special Planning Area, additional requirements in the preparation of a conceptual scheme include, but are not limited to the following:
 - Protection of scenic views
 - Development should complement the landscape characteristics of the area
 - No impacts on the functionality of the highway

- ~~Direct development away from the highway including signage~~
- Sensitive height, massing, and architectural detailing of buildings
- ~~Access off Township Roads 245 or 250~~
- Open landscapes abutting the highway right-of-way and appropriate landscaping plans
- Attention to noise and light attenuation and buffering



Berming Example

- Any signage along the TransCanada Highway should be unlit directional signage and meet the satisfaction of the Province
- d) ~~No further business development other than within the Springbank Regional Business Park at the intersection of Range Road 33, outside the Plan Area.~~ **No further business development other than within areas identified on Map 13.** To achieve a compatible and gradual transition between the Plan Area and urban development in the City of Calgary, interface considerations should be incorporated into all forms of future development to create a harmonious transition from one municipality to another. In the Intermunicipal Special Planning Area additional requirements in the preparation of a conceptual scheme include, but are not limited to the following:
- Parcel sizes
 - Site design and building envelopes
 - Visual separation and sound attenuation
 - Integration of open space alternatives
 - Vegetation and building materials
 - Wildlife corridors
 - Transportation links
 - Sensitivity to existing land uses and community characteristics within the City of Calgary
 - Demonstration of initiatives to include City of Calgary residents and planning stage in the preparation of conceptual schemes

Unique features of each Special Planning Area should be integrated into open areas, and preserved for the long-term benefit of the land and future enjoyment of the community.

2.3.3 Emergency Services Policies

- a) The need for emergency services shall be addressed during the preparation of conceptual schemes and during the review of applications for subdivision and development in collaboration with Protective Services and other relevant agencies.

- b) Applications for redesignation, subdivision, or development should ensure proper emergency vehicle access as directed by the Municipality.
- c) Along with other agencies, the Municipality shall monitor the needs of the community over time to ensure appropriate levels of protective service.
- d) In association with the RCMP and other emergency service providers, an adequate level of protection and service should be provided to meet the needs of the population growth and demographic change.
- e) To reduce emergency response time and provide a community focal point, the Municipality should work with relevant agencies to evaluate the feasibility and appropriate location of a new emergency services facility that includes police, emergency medical, and fire services.
- f) Future road names will be approved in accordance with the Municipality's procedures, providing unique identification for emergency services, mail service and local identification.
- g) Organizations and initiatives that support crime prevention should be encouraged by the Municipality.
- h) The Municipality should work with other relevant agencies to promote Architecture and design that deter and prevent crime.
- i) Further public education shall be encouraged that promotes the deterrence of crime.
- j) The Municipality encourages developers to investigate alternate measures to prevent and suppress the threat of fire in new developments in conjunction with the Municipality and other relevant agencies.
- k) Applications for redesignation, subdivision or redevelopment for business uses in the Plan Area may be required to submit Emergency Response Plans to the satisfaction of the Municipality.

CHAPTER 2.4

2.4 Sub-Basin Management

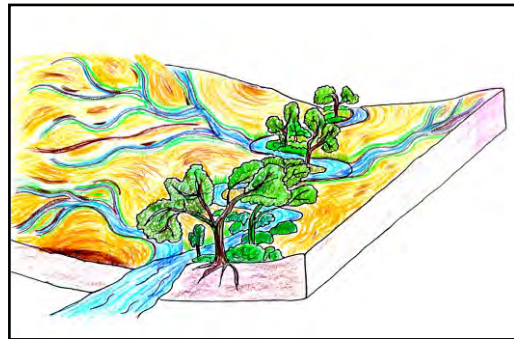
Stormwater accumulates from an individual drop on a parcel of land through the whole catchment of a watershed. Drainage is a combined process of collection and treatment repeating constantly, increasing in volume until stormwater reaches its point of discharge into a river or stream. Assessments of a watershed should include the amount of accumulation to determine the stormwater management methods for future land uses in each sub-basin.

Under the guidance of the Sub-Basin Study prepared for the Plan Area, nine different drainage catchment areas have been identified. Four catchment areas drain into the Bow River while five catchment areas drain into the Elbow River. The Sub-Basin Study provides a biophysical assessment for each basin identifying known areas of significance and the general environmental health of each catchment area. The Study outlines the need for a stormwater management program for both water quantity and quality through Master Drainage Plans and Site Implementation Plans in each catchment area. Refer to Map 4, Sub-basins and Appendix 2 for extracts from the study.

Master Drainage Plans and Site Implementation Plans will guide future changes in each catchment area and assist in determining Best Management Practices. Sub-basins and catchment areas will also play a vital role in the establishment of a future utility strategy. Minimizing future impacts to the Bow and Elbow River watersheds will address water quality and water quantity issues for the consideration of the downstream users and to meet the expectations of the Province and the Bow River Basin Council.

2.4.1 Goals

- a) To prepare, adopt and implement Master Drainage Plans for the Bow and Elbow River sub-basins that incorporate a cumulative effects approach to stormwater management.
- b) To require Site Implementation Plans for development or land use, as guided by the respective Master Drainage Plans.
- c) To implement effective Best Management Practices at a site-specific level, as guided in a Master Drainage Plan and/or a Site Implementation Plan.
- d) To establish water quantity and quality monitoring programs for each sub-basin endeavoring to retain the same levels as recorded January 2000.
- e) To monitor the impacts of stormwater runoff on registered and unregistered wells wherever possible.
- f) To maintain post-development rates of stormwater runoff that equal predevelopment rates on both a regional and site specific basis.



Land use impacts on stormwater quantity and quality

- g) To seek public/private partnerships for the development, operation and maintenance of regional stormwater management facilities.
- h) To inform and educate landowners about stormwater management in their daily lives.

2.4.2 Sub-Basin General - Policies

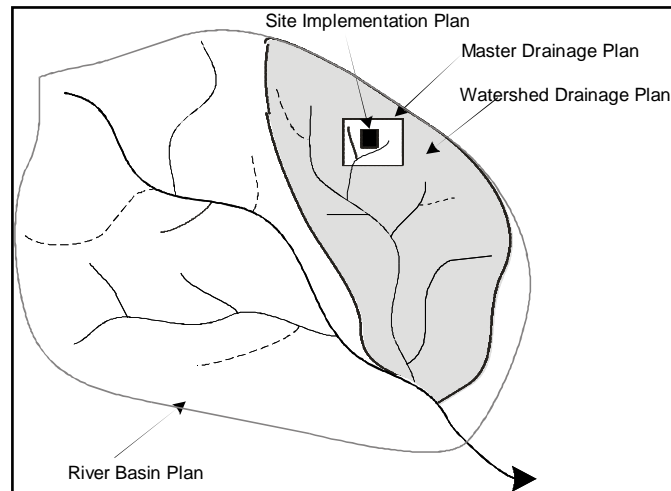
The Central Springbank area drains into two basins, the Bow and the Elbow Rivers. Each basin has been delineated into sub-basins, as outlined on Map 4 and the drainage boundaries of the study extend beyond the Plan Area. Land uses within the area consist of open pasture, grazing, natural grassland, residential and some natural resource extraction sites. Future changes in the land use will require careful consideration of the cascade approach to stormwater management, from watershed to lot, and long-term environmental impacts.

- a) All of the policies in this section must be included in the preparation of Master Drainage Plans, Site Implementation Plans, and Best Management Practices. The preparation of Master Drainage Plans, to be adopted by Council, should be the responsibility of the Municipality but there is an option for public/private partnerships to complete the studies.
- b) The Municipality reserves the right to provide or assist in providing stormwater management systems within the Central Springbank area.
- c) Agricultural uses, such as pastureland or cropland, play an important runoff and filtration role in the management of water quality and quantity in the Bow and Elbow River watersheds. All new or expanded agricultural land uses should:
 - Incorporate and implement Best Management Practices
 - Participate with Provincial and Municipal initiatives to seek and improve methods of Best Management Practices
- d) In consultation with the Province, the Municipality should ensure that water flow measurements are recorded at the confluences of water courses in each sub-basin and their respective rivers, the Bow or the Elbow Rivers, to establish and maintain data pertaining to water quality and quantity.
- e) Main culverts and ditches along road rights-of-way transport stormwater within the sub-basins and form critical links in each catchment area. Regular inspections and maintenance of culverts and ditches should be undertaken by the Municipality to ensure the proper functioning of the catchment drainage system and to reduce the chance of flooding.
- f) The Municipality should continue participating in discussions with affected stakeholders, including the Province, regarding the health and long-term viability of the Bow and Elbow River watersheds.

2.4.3 Master Drainage Plans - Policies

A Master Drainage Plan is a drainage plan for a sub-basin or watershed that identifies drainage management concepts within the existing topography, as well as the physical and biological resources of the area. It should detail short, medium and long-term strategies to establish a sub-basin wide stormwater management system. Master Drainage Plans will be adopted by Council and appended to this Plan to provide direction for development within each sub-basin.

- a) Master Drainage Plans will form the essence of stormwater management within each of the nine defined sub-basins in the Plan Area and their preparation and adoption are a priority. Master Drainage Plans shall be prepared to the satisfaction of the Province and the Municipality within each basin prior to the consideration and adoption of conceptual schemes.
- b) The preparation of Master Drainage Plans should be the responsibility of the Municipality; however public/private partnerships are an option to complete the study in the interim.
- c) The use of both regional and on-site Best Management Practices shall be introduced to manage both the quantity and quality of stormwater to avoid any deterioration of groundwater or surface water.
- d) Master Drainage Plans for each sub-basin shall:



Example of watershed to lot relationship

- Define overall management goals
- Identify constraints
- Develop appropriate management strategies
- Identify appropriate Best Management Practices for each sub-catchment area, including their operation and maintenance requirements
- Adopt unit release rates as estimated by the Sub-Basin Study
- Record the location and depth of existing wells

2.4.4 Site Implementation Plans - Policies

Site implementation plans shall contain pertinent information from both the Sub-basin Study and the Master Drainage Plan. Site Implementation Plans use the information and management strategies outlined in the Sub-basin Study, and the adopted Master Drainage Plan and apply the practices to the specific site subject to a development proposal. These criteria shall be integrated and used in the detailed design of a stormwater management system for the proposed development pre-, during and post-construction.

- a) Peak discharge limits for each of the sub-basins have been identified in the Sub-basin Study. Site Implementation Plans prepared by the developer in accordance with the Master Drainage Plan, will identify and address the methods by which post-development runoff will not exceed pre-development rates of discharge through the incorporation of Best Management Practices contained on each development site.
- b) Sensitive grading and minimal disturbance to reduce sedimentation and deterioration of the catchment area is a critical component of surface water quality. Site Implementation

Plans will include a Construction Management Plan outlining the Best Management Practices to be employed during construction phases of a site.

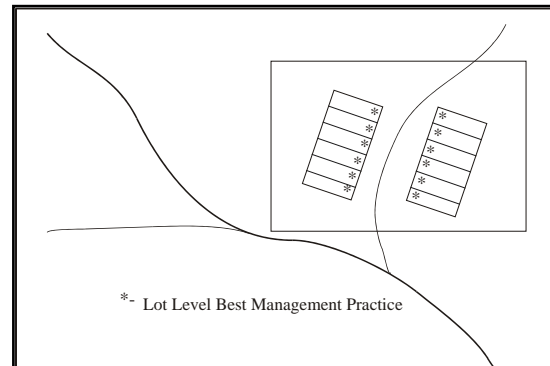
- c) Modification to any established landscaping, roadside ditches or any site grading should be done in concert with the prepared Site Implementation Plan.

2.4.5 Best Management Practices - Policies

Best Management Practices are methods to handle stormwater to protect water quality in a watershed and maintain predevelopment flow and water quantities within a drainage area. Best Management Practices are to be applied both in a regional (catchment) approach and a site-by-site approach. To capitalize on the benefits of a Best Management Practice, they must be integrated into the planning and design of a stormwater management system based on the characteristics of the site.

- a) The location and siting of a Best Management Practice will require an assessment of the watershed and should address the following:

- Topography
- Soils
- Steep slopes
- Drainage courses
- Ponds, low lying areas and wetlands
- Environmentally sensitive areas
- Stormwater accumulations



Lot level Best Management Practices

- b) The identification and location of regional Best Management Practices should be included in both Master Drainage Plans and Site Implementation Plans and establish appropriate setbacks and/or buffers to protect the integrity of the watershed, including creeks and drainage courses.
- c) Best Management Practices should be selected for their effectiveness, ease of management, and longevity.
- d) Disruption to the natural topography during the implementation of any Best Management Practices should be minimized.
- e) Erosion and sedimentation control for construction sites will reduce the negative impact of water quality for aquatic life, fish and plants, as well as domestic use. Documentation of the chosen Best Management Practices to control or prevent erosion is necessary when applying for either a building or development permit.
- f) Any alteration to on-site landscaping should satisfy the Site Implementation Plan to re-establish appropriate Best Management Practices for the lot.



Stormwater pond in a residential community

CHAPTER 2.5

2.5 Natural Environment

The contemplation of future land use changes in the Central Springbank area begins with an analysis of the land. A working knowledge of soils, climate, geology, topography, and biophysical features of the area provides an understanding of the land and its relationship within and beyond the study area. This establishes the foundation for sensitive site planning.

Site characteristics will determine future opportunities and constraints for land use changes and define Special Planning Area needs. Retaining open areas in the future for the benefit of the Plan Area, but more importantly, as a component of the larger ecosystem may require mechanisms beyond the legislative forms of municipal reserve, environmental reserve, or environmental reserve easement. Guided by a better understanding of the site, its biophysical characteristics and ecological relationships, the Plan seeks to retain, incorporate, and buffer natural features during future development.



Ravine east of Calling Horse Estates

2.5.1 Goals

- a) To minimize disturbance to the natural terrain and topography during future development.
- b) To inventory and document biophysical characteristics including wildlife habitat within the sub-basins.
- c) To employ effective methods to preserve and protect significant biophysical characteristics of the area.
- d) To develop a working knowledge of the geology, soils and topography of the area, which will allow sensitive planning for future land use changes.
- e) To identify and protect known gravel resources and mining operations.
- f) To encourage both gravel extraction operators and adjacent landowners to respect each other's needs.

2.5.2 Soils, Geology & Topography - Policies

Channel banks and areas immediately adjacent to the Bow and Elbow Rivers are geomorphic features that are important to the study area. They have been subject to the effects of water and ice, creating the varying topography from level plains to vertical cut banks through the process of

sedimentation and erosion. As outlined in the Sub-Basin Chapter, new standards exist for watershed management for the Bow and Elbow Rivers in the future. Ravines and small streams are part of the catchment areas and the levels of surface release will be a critical component in the overall assessment and analysis of landform.

To achieve the objectives of the Plan, an understanding of the geomorphology and composition of the soils will assist in the interpretation of the challenges, constraints and opportunities for future design within the Plan Area.

- a) An analysis of the landform that demonstrates an understanding of the site characteristics including the area's relief, slope, and soil conditions should be completed before development occurs or during the preparation of a conceptual scheme.
- b) Stormwater characteristics should be analyzed in conjunction with an adopted Master Drainage Plan and Site Implementation Plan, including any erosion and/or sedimentation influences within each respective conceptual scheme area to establish future site design and development potential.
- c) In areas where slopes exceed 15%, development will not be permitted unless supported by a geo-technical report demonstrating the necessary mitigation measures, such as setbacks, for slope stability relative to the proposed use.
- d) In areas greater than 7% slope, applications for non-structural developments such as pathways or landscape changes should be supported by a geotechnical assessment which will provide recommendations intended to minimize slope failure or erosion.
- e) Appropriate setbacks from the top of bank should be established by a geo-technical report to the satisfaction of the Municipality.

2.5.3 Natural Resource Extraction - Policies

Glacial and post-glacial terraces rich in aggregate deposits or gravel are located along both rivers in the Central Springbank area. The four existing gravel extraction operations in the Plan Area are located within the Bow River Watershed as shown on Map 5. In discussions with the pit operators, there is sufficient resource to sustain extraction in the Central Springbank area over the next 5 - 20 years depending on the amount of the reserve and the market demand.

Gravel and gravel products are among the main construction products required for infrastructure and buildings. The extensive gravel resources in this area have contributed to the cost effective construction of public works and infrastructure for the Municipality and the development industry; however, as land use changes in the area, the potential for conflict rises. Gravel extraction is important for future development within the Plan Area and the western Calgary region. Gravel deposits, their location and reserve potential, should receive a high priority in the future planning of the area to avoid compromising extraction opportunities and to minimize surface and sub-surface conflicts.



Klippert Gravel Pit

- a) The extraction of gravel resources from existing operations is encouraged prior to the approval of incompatible land use changes such as residential development on or near identified resources.
- b) Existing and future extraction sites should retain a 'good neighbor policy' with adjacent land uses by adopting mitigation measures to address such issues as hours of operation, noise, dust, water usage, fumes and odors.
- c) When considering haul routes for extraction operations, traffic should be directed to the major and arterial roads wherever possible to minimize any impacts on adjacent land uses and the transportation network.
- d) Conceptual scheme areas adjacent to known gravel deposits should identify the location and amount of the resource, possible impacts of the mining activity, the expected lifetime of the mine, reclamation of the site, and a phasing scenario for the conceptual scheme area to avoid possible conflicts.
- e) A reclamation plan for successive uses that are compatible with the surrounding topography, biophysical characteristics and land uses of the area should be prepared to the satisfaction of the Municipality prior to expansion or to the approval of new operations.
- f) In concert with a reclamation plan, a conceptual scheme should be prepared for the re-use of gravel extraction sites, planning for future land uses, open space connections, phasing and wildlife movement corridors.
- g) A potential conflict may exist between ecological integrity of the lands and gravel reserves. In the event of a conflict, future gravel extraction should be considered in light of the availability of the resource in other locations, the amount and the duration of the mining and the potential environmental impacts to avoid adverse environmental consequences.

2.5.4 Vegetation & Wildlife - Policies

The Central Springbank Area is located in the Foothills Aspen Parkland region. The area is a transitional zone bridging the Foothills Fescue Grassland and the Rocky Mountain Montane sub-region. The region lies within the rain shadow of the Rocky Mountains and for the most part possesses a dry continental climate. Annual precipitation varies between 40 and 50 cm, two-thirds of which falls as rain. Precipitation decreases from west to east, while the seasonal temperatures decrease from west to east.

Biophysical research for the area shows a correlation between types of vegetation and the



Mule Deer

wildlife it supports. In the Bow River Valley, the lands are quite rich with plant diversity and intricate coulee systems. There are areas of mixed aspen forest with rose and buck brush under-story which forms a valuable habitat for animal populations ranging from song birds to ungulates. Fescue grasslands support plains dwelling small mammals, such as jackrabbits, ground squirrels, pocket gophers, mice and voles, and the transition between the aspen forests and fescue

grassland is important for their predators.

The Elbow River valley forms the southern boundary of the study area. The physical characteristics of the Elbow River valley are different than the characteristics of the Bow River valley. The valley has less local relief, the vegetation is less fragmented, and the lines of differentiation between habitat types are less abrupt. The Elbow River Valley also has an undetermined number of riparian zones that form a critical component of the watershed. Research is currently underway to determine the location of the riparian areas and to establish appropriate setbacks and mitigation measures from sensitive areas. Because of these characteristics and incomplete research, the entire area of the watercourse (as depicted by the main channel area of the 100 year floodway) should be holistically managed as one area.

The braided sections of the Elbow River are considered to have high fisheries potential and sustain a diverse habitat sensitive to any disturbance. Within three of its sub-basins, distinct reaches have been identified, as shown on Map 6 Environmental Constraints. It will be important to maintain this habitat for shelter, food, breeding, movement corridors, and security in these areas for ungulates, small forest dwelling animals, songbirds, raptors and aquatic animal species, recognizing their high fisheries potential. Due to sensitivity to sedimentation and bank erosion, appropriate setbacks and buffers will be necessary to retain these areas during and after development. Beyond the significant reaches, the fisheries potential diminishes yet the area remains important as a drainage path, a movement corridor and habitat for animals.

Tracts of undisturbed vegetation will be necessary to sustain the dependant wildlife populations, and ensure the health and productivity of the land over time. Conceptual scheme preparation and implementation will provide a mechanism to retain and protect the reaches of creeks and streams along with large amounts of priority vegetation to successfully sustain wildlife communities.

The Sub-Basin Study, along with other pieces of biophysical research, have shown important insight into the health of the natural systems in Central Springbank. It is important for this information to continue to be maintained and updated for an accurate picture of environmental health in the Plan Area.

The biophysical database created as part of the Sub-Basin Study should be accessed for further assessment of any site and any current information should be recorded with the Municipality to build the current biophysical information for each sub-basin.

- a) As guided by the Sub-Basin Study, the applicants shall conduct a biophysical inventory and assessment of the sub-basin as part of the preparation for each conceptual scheme in the Bow and Elbow River Special Planning Areas. Data collection should be submitted to the Municipality to maintain a current biophysical inventory for each sub-basin.
- b) In the preparation of conceptual schemes, a variety of methods to retain and protect environmentally sensitive areas shall be incorporated for the benefit of the environment and to ensure the survival of all living communities. Methods may include, but are not limited to environmental reserve, environmental reserve easement, open areas, conservation easements and homeowner/condominium association caveats.
- c) Connective corridors with further enhancements, such as the planting of hedgerows to provide a network of natural corridors of sufficient size for a protective linear environment should be incorporated in conceptual schemes wherever possible.

- d) Conceptual schemes in areas adjacent to or affected by environmentally significant areas must provide for appropriate buffers to ensure the integrity and utility of wildlife movement corridors and significant habitat. Appropriate buffers include edge treatment, building envelopes and open-space such as hedgerows, tree stands and other vegetated buffers.
- e) Areas with topographic constraints should be preserved to protect the sensitive slopes in addition to the vegetation and habitat they support.
- f) Aspen forest and balsam poplar are significant habitats and any removal or disruption of tree stands in the future is discouraged to avoid habitat fragmentation.
- g) At the intersections of the roads and wildlife corridors appropriate measures, such as signage, sightlines, speed limits, underpasses, and other improvements should be considered to minimize conflicts.
- h) The maintenance of healthy riparian environments and viable ecosystems and habitats include the sensitive placement of road crossings. As part of the planning for road construction or upgrading, Best Management Practices for the construction phase are necessary to reduce the potential for sedimentation into watercourses that could negatively impact the viability of a spawning habitat. Drainage features should be included in open areas as guided by a biophysical assessment and an adopted Master Drainage Plan. Wildlife corridors include the drainage courses that lead into the river valleys and should be considered as candidates for environmental open areas.
- i) Springbank Creek, Un-Named Creek E-1 and Cullen Creek sub-basins are considered, along with the actual channels and braids of the Elbow River, to be the most productive sections of the watershed from an ecological perspective. The entire area of the Elbow River floodway has been shown to have broad animal and plant species diversity. Any conceptual scheme or development proposal within these areas must address the potential negative effects on the sensitive areas, including an assessment of the cumulative impacts of development within the respective sub-basin.
- j) As part of a Site Implementation Plan for Springbank Creek, Un-Named Creek E-1 and Cullen Creek sub-basins, consideration should be given to the location of future stormwater management facilities to minimize any disturbances on known reaches within each of these basins.
- k) Conceptual schemes should outline methods of solid waste (garbage) containment and disposal for subsequent subdivision and development, to reduce the attraction to local wildlife.
- l) Domestic pets in habitat areas are considered incompatible with wildlife. Conceptual scheme areas adjacent to known habitat areas should consider restricting the number and/or range of domestic pets reducing any potential conflicts that may arise.



Springbank Creek

Source:

- *Central Springbank Area Structure Plan SubBasin Study. Prepared for the MD OF ROCKY VIEW NO. 44. Westhoff Engineering Management Consultants (March 2000)*
- *Preliminary Environmental Assessment of Artist's View Pointe. Prepared for ARTIST'S VIEW NATURAL AND CULTURAL HERITAGE SOCIETY. Cliff Wallis, Cottonwood Consultants Ltd. (October, 1993)*
- *A Biophysical Inventory and Analysis of Three Environmentally Significant Areas within the Calgary Restricted Development Area. Prepared for Environmental Planning Section Restricted Land use Branch Alberta Environment. W.L Strong and J.L Kansas Ecological Land Surveys LTD. (1984)*
- *Environmentally Significant Areas of the Calgary Region. Prepared for the Calgary Regional Planning Commission by R.J. Lamoureux, G.G. Chow and B.O.K. Reeves. (1983)*
- *Environmental Reference Manual for the Review of Subdivisions in Alberta. Alberta Environmental Protection. (November, 1996)*
- *Wildlife Corridor and Habitat Patch Guidelines for the Bow Valley.*
- *Bow Corridor Ecosystem Advisory Group. July 1999.*

CHAPTER 2.6

2.6 Open Space

Open space in Central Springbank is a common resource that binds the community. The landscape, the land, magnificent views and access to natural areas are components of 'open space' and their maintenance are a high priority in the Plan Area.

Open space can be enjoyed and appreciated through physical and visual access. Parks, walkways, environmentally sensitive sites, natural areas, playgrounds, and play fields are some of the opportunities that provide physical open space. Presently, pedestrians, cyclists and equestrians intrepidly use road rights-of-way since few walkways exist to connect destination points within Central Springbank. There is a strong desire to establish a comprehensive and connective open space system within the Plan Area.

Future development in the community will create and /or retain open areas by incorporating a variety of agricultural, recreational, environmental or stormwater management features in conceptual schemes. Public open space issues, such as maintenance and liability, will become a joint responsibility between the Municipality and associations within the community. Open space will also help achieve the environmental and watershed objectives of the Plan.



View overlooking the Trans Canada Highway to the North

2.6.1 Goals

- a) To encourage a linked open space system by combining parks, reserve lots, walkways and biophysical characteristics of the area.
- b) To establish a safe walkway system throughout the community.
- c) To comprehensively design subdivisions and developments to capitalize on open space opportunities.
- d) To encourage the use of open areas as buffers between differing land uses.
- e) To encourage public and private partnerships to manage and maintain an open space system.
- f) To require the dedication of land for municipal and/or school reserve in New Residential Areas at the time of subdivision.
- g) To acquire necessary open space in the Infill Residential Areas through the funds generated from cash-in-lieu payments of municipal and/or school reserves and any outstanding reserve lands when considering subdivision applications.

- h) To consider the long term needs for land adjacent to existing recreation facilities, such as Springbank Park for All Seasons or the Springbank Equestrian Centre, in conjunction with the Rocky View West Recreation Board during the preparation of conceptual schemes.
- i) To encourage development of joint use sites to enhance and broaden recreational opportunities within the community.
- j) To site river access in a manner that minimize any impacts on watercourses or river valleys.

2.6.2 Open Space - Policies

To date, open space in the Central Springbank area consists primarily of unsubdivided agricultural land and those spaces contained within private, individually owned lots. Presently there is a minimal amount of dedicated open space for the benefit of the general public. As an agricultural region, dedicating open space in the past was not a priority with vast amounts of land in agriculture dominating the visual landscape. Land use changes over the last two decades have introduced a higher ratio of two and four acre residential developments generating a strong interest to plan and identify future areas of open space for the greater community as it grows.

Undeveloped open areas provide great benefit for the land, the watersheds, and the community by enhancing the environmental health of the area and the quality of life of its residents. Open areas buffer development, protect important natural areas, and offer protection to the watersheds thereby providing general benefits to the land base. An assessment of the Plan Area indicates additional land use changes will place greater stress on the landmass and the watersheds necessitating a unique approach for additional undeveloped land in the future (Map 7). A primary objective of the Central Springbank Area Structure Plan is to create future open areas consisting of a mix of municipal and/or school reserve lands, environmental reserve where appropriate, plus additional complementary lands for the long-term sustainability of the environment and the watersheds.



*Bears paw Park – Owned by the
City of Calgary*

2.6.3 General - Policies

- a) Future land use changes for residential development will retain large areas of open land to enhance the visual environment and to plan sensitively for the biophysical environment.
- b) Lands identified as open space should be dedicated for the long term benefit of the community. A variety of instruments, such as homeowner or condominium owner associations, conservation easements, private parks, environmental reserve, and others can be implemented to achieve this aim.

- c) Through the preparation and adoption of conceptual schemes, an open space system for the Plan Area will be established to meet the intent of the Rocky View West Recreation Board's Master Plan and Operating Guidelines.
- d) Wherever possible, open areas will be designed to facilitate the creation of extended community parks and/or joint use sites between open areas and school facilities.

2.6.4 Reserve - Policies

- a) In new residential areas, municipal and/or school reserve lands should be provided by a full dedication of land to facilitate the establishment of a connective open space system.
- b) In Infill Residential Areas, municipal and/or school reserves may be provided by either land or cash-in-lieu of the land. Cash-in-lieu funds should be utilized to purchase land for municipal and/or school reserve sites in alternative, more suitable locations or for pathways.
- c) Land dedicated as municipal and/or school reserve should be developable, unencumbered and safely accessible.
- d) The maintenance and operation of municipal reserve land will be through a variety of initiatives including agreements between the Municipality and/or its agents and private organizations providing a 'hands on' management of the land.
- e) The protection and enhancement of the environment through the use of effective tools including environmental reserve, environmental reserve easement and/or conservation easements as methods of preserving environmentally significant or sensitive areas should be encouraged.

2.6.5 Walkways - Policies

Walkways offer a form of passive recreation and community connection. Pedestrian access and safety is a relatively recent phenomenon for the Central Springbank community with the increasing number of residential land uses and traffic volumes. The number of walkways in the community is limited and is primarily associated with recent residential approvals plus the construction of the Springbank School pathway along Range Road 33.

The Rocky View Trails Association initiated discussions with the Municipality about a connecting walkway system in the early 1990s. These aspirations are now incorporated in the Rocky View West Recreation Board's Master Plan and Operating Guidelines to guide the creation and location of a convenient, safe recreational pedestrian passage throughout the community.



Boardwalk along Range Road 33

- a) During the preparation of conceptual schemes, and to meet the intent of the Rocky View West Recreation Board Master Plan and Operating Guidelines, a walkway system will be established that facilitates future connections that are convenient and safe within each conceptual scheme area and the greater community.

- b) As suggested by the Transportation Network Study, district walkways shall be located outside of the road rights-of-way for major and arterial roads. If a risk management assessment confirms the safety of the proposed route within the rights-of-way, the Municipality may consider this as an alternative.
- c) Standards for the various classifications of walkways will be to the satisfaction of the Municipality, and have regard for on-going and long-term maintenance, upgrading and liability.
- d) Maintenance and upkeep responsibility for walkways will be established in agreement between the Municipality and a registered association and should be defined at the time of subdivision.
- e) Walkways should accommodate a variety of users such as pedestrians, bicycles and possibly some shared equestrian routes. Certain routes may be restricted to specified users in accordance with the Rocky View West Recreation Board Master Plan and Operating Guidelines.
- f) In New Residential Areas, walkway systems should be accommodated through Municipal and/or school reserve allocation or through a development agreement, as outlined in the Municipal Government Act.
- g) In Infill Residential Areas, cash-in-lieu funds, in combination with outstanding reserve lands should be utilized to purchase land for pathways for the continuation of a community walkway system, as outlined in the Rocky View West Recreation Board Master Plan.
- h) Access to either the Bow or Elbow Rivers should be limited until such time as riparian areas have been identified and appropriate mitigating measures been established to minimize any impacts, as recommended by the riparian area study underway by the Bow River Project. Appropriate amendments to the Plan will be considered once the study is complete.
- i) Access to a watercourse, a river, creek or drainage course, should ensure biophysical impacts are 'minimized.

Opportunities for the development of future local roads in New Residential Areas that place a higher priority on their aesthetic appeal, quality of service and multi-use may be available provided safety is not compromised.

2.7.1 Goals

- a) To adopt a current and a future road classification for the transportation network in Central Springbank, in accordance with the Transportation Network Study prepared for the Plan Area.
- b) To ensure the road network will provide a safe and efficient means of travel within and through the Plan Area by monitoring traffic volumes and safety issues on an ongoing basis.
- c) To recognize and protect the integrity and safety of the TransCanada Highway, provincial highways and the regional and local road network.
- d) To implement an access control guideline to manage the number of access points onto the regional road network as guided by the Transportation Network Study.
- e) To prioritize regional intersectional upgrades, as guided by the Transportation Network Study.
- f) To consider alternative country residential road width standards that service residential development without compromising safety and service, while encouraging innovative road configurations in subdivision design.
- g) To ensure the functionality of major and arterial roads, and develop a safe and connective pathway system outside their rights-of-way.
- h) To ensure the functionality and future upgrading of local/country residential roads is not affected when other uses, such as trails and utilities, locate within road rights-of-way.
- i) To encourage on-going dialogue between the Municipality, City of Calgary, Alberta Transportation and the community to identify future transportation requirements in the regional transportation network.
- j) To require developers to provide road network upgrades necessary to accommodate new subdivision and development so the Municipality is not obliged to do so.

2.7.2 Regional Road Network - Policies

- a) Non-local traffic traveling through Central Springbank will be directed to the Provincial Highway System as well as Intermunicipal and/or boundary roads to reduce the impact on local roads.
- b) Through public consultation the Municipality should prepare a future transportation road network study for the greater Springbank area while the recommendations in the Transportation Network Study are still current.
- c) To facilitate the efficient development and coordination of the future regional transportation network, regular dialogue between the Municipality, the City of Calgary and Alberta Transportation should be pursued during the preparation of any future transportation studies.

- d) In anticipation of the pending construction of Stoney Trail (the Transportation and Utility Corridor located east of 101st Street SW.), the Municipality should determine and protect the alignments of the east/west collectors through Central Springbank.
- e) Future river crossings and additional highway access may be necessary to improve regional traffic flow and emergency service. The Municipality should commence discussions with the Alberta Transportation to determine suitable locations, as well as the need and timing for such modifications.
- f) In the preparation of future conceptual schemes, Traffic Impact Assessments should be prepared to identify any impacts on the functionality of the regional transportation network, including anticipated traffic volumes, future access points, and location of through roads, plus the necessary upgrades to safely accommodate future traffic growth.
- g) When considering expansion or improvements to the regional road network, appropriate measures such as signage, sightlines, speed limits, underpasses, and other factors should be considered to minimize conflicts with wildlife corridors.

2.7.3 Municipal Road Network - Policies

- a) The Municipality should endeavour to maintain the municipal road network at a high level of service, and Traffic Impact Assessments prepared in support of conceptual schemes or development shall demonstrate the effects of new development on the level of service of the municipal road network and outline any necessary improvements.
- b) A road classification system for the existing road network should be adopted to guide a safe and operational transportation system, as recommended in the Transportation Network Study and illustrated on Map 8.
- c) Through public consultation a future transportation road network for the greater Springbank area should be prepared while the recommendations in the Transportation Network Study are still current.
- d) The implementation of the long-term road network improvement program for the greater Springbank area should be undertaken, including a review of the construction upgrading and functional assessment of the road network over both the short and medium term, and this should also include an on-going monitoring program.
- e) The existing road network accommodates predominantly east-west traffic with north-south access to existing and proposed collector roads and highways. The Municipality's priorities for a staged improvement program should be reviewed on an ongoing basis.
- f) The efficiency of any transportation network is dependant on the capacity and operation of its intersections. At the time of intersectional reviews, the following parameters to select the optimal intersection configuration should be considered:
 - Current and future function of intersecting roads
 - Adequacy of the intersection sight lines and stopping distance
 - Grades of the approach roads
 - Turning movements, current and anticipated

- Percentage of truck and bus movements at the intersection
- g) The specification for construction of paved roads is based on expected traffic volumes throughout its anticipated 20-year pavement life cycle. Ongoing assessments of the need for operational improvements to the road network by the Municipality will include safety audits, traffic volumes, annual maintenance costs and other criteria considered necessary to identify the rehabilitation requirements for each stage of the operational improvement program.
- h) Road rights-of-way should meet the requirements of the future road classification, and should be dedicated at the time of subdivision or purchased when needed.
- i) Each classification of road possesses unique access criteria, which reflects its function and purpose within the road network. Throughout the Central Springbank Area, access management will be based on criteria which addresses either desirable or minimum distance between access points by the following access guidelines:

| ROAD CLASSIFICATION | RESTRICTED ACCESS GUIDELINES * | ACCESS LOCATIONS (metres) | |
|---------------------|--|---------------------------|-------------|
| | | Desirable | Minimum |
| Freeway | At interchanges, only strict access control | n/a | n/a |
| Expressway | At interchanges, some at grade intersections, access control | n/a | n/a |
| Arterial | At interchanges and intersections, access controlled | 800 | 400 |
| Collector | At intersections, maximum two accesses per quarter section | Major – 800 | Major – 200 |
| | | Minor – 400 | Minor – 150 |
| Local road | Unlimited | n/a | n/a |

- j) The sensitive placement of road crossings is important for the maintenance of healthy riparian environments, viable ecosystems and habitats. As part of the planning for road construction or upgrading, Best Management Practices for the construction phase are necessary to reduce the potential for sedimentation into watercourses that could negatively impact the viability of a spawning habitat.
- k) In accordance with the policies of the Municipality, all costs associated with any new road construction or the upgrading of the existing road network necessary to service a proposed development will be borne by the developer.
- l) A Traffic Impact Assessment is necessary when considering future subdivision or development around the Springbank Regional Business Park and/or Calaway Park to address cumulative traffic impacts, the access location onto Township Road 245 and the TransCanada Highway along Range Road 33.

- m) A Traffic Impact Assessment should be prepared in support of applications for land use changes to improve safety and reduce traffic conflicts.
- n) Modified road standards that service residential development may be considered when stormwater management, emergency services, school bus services and public safety are shown to not be at risk.
- o) The use of the road right-of-way for other uses, such as trails or utilities, should not compromise the integrity of the road network. The location of walkways along major and arterial roads should be situated outside the rights-of-way, and other uses and users within the rights-of-way will be considered on a case-by-case basis, to the satisfaction of the Municipality.
- p) The number of lots permitted to access from a cul-de-sac will be considered on the basis of functional safety, and in accordance with Municipal policy.
- q) If an undeveloped road allowance is considered hazardous and/or not necessary for the future road or trail network, it may be closed and consolidated with adjacent properties.
- r) The closure of an undeveloped road allowance for consolidation purposes shall not negatively impact adjacent and/or surrounding land or future development possibilities.
- s) An undeveloped road allowance may be closed for the purposes of leasing only if Council determines that it is for the purposes of augmenting an adjacent agricultural use or open space.
- t) An undeveloped road allowance shall not be closed to provide for private access for vehicular traffic.
- u) An undeveloped road allowance may be closed to restrict vehicular traffic, however, it should remain un-leased to provide for pedestrian access.
- v) The use of panhandles to provide access to newly created residential lots or the balance is discouraged.



*Air-photo – Range Road 33 from the
TransCanada Highway to
Springbank Road*

CHAPTER 2.8

2.8 Utilities

One of the key considerations for future development in Central Springbank will be the provision of water and wastewater services. Historically, water and sewer service has been provided on an independent, site-specific basis without consideration for expansion opportunities or long-term environmental impacts. Water has been supplied by either well or surface water lines operated by a communal system or water cooperatives. Currently, either private sewage disposal systems treat wastewater for each lot independently or a restricted number of lots are served by stand-alone wastewater collection, treatment and disposal systems.

In response to concerns expressed by Alberta Environment, and in light of the development pressures and anticipated population for the Springbank Area, the long-term sustainability and health of the Area and its residents necessitates a new approach to water and wastewater servicing. Specifically, a shift from private sewage disposal systems to collection or regional disposal systems is envisioned within the Plan Area to ensure the proliferation of private disposal systems does not exceed the carrying capacity of the lands and compromise the health of the watersheds or Springbank residents. The Municipality will be responsible for developing and implementing a long-term sewage strategy in conjunction with the Province and the City of Calgary.

Future servicing for the Central Springbank area will be done in a more collective, collaborative fashion regardless of the type of service. Surface water suppliers will distribute water, and wastewater will be disposed either independently through private sewage disposal systems or by collection systems, as determined by a future utility strategy. Stormwater will be managed on a catchment basis for the purpose of both water quality and quantity. The availability of these services on a regional basis will determine the future phasing and timing of subdivision and development.

Coordinating the location of utilities to minimize land use conflicts and to facilitate the efficient provision of services for the community will be promoted. Solid waste (garbage) management strategies for any new subdivision and development will identify how solid waste will be integrated into the existing waste transfer sites or private collection and disposal arrangements.

2.8.1 Goals

- a) To prepare and adopt a utility strategy in the Central Springbank area.
- b) To attain cost effective and efficient utility servicing for all development.
- c) To ensure servicing options minimize any environmental impacts.
- d) To establish infrastructure guidelines for the provision of responsible and sustainable water and wastewater services.
- e) To encourage the wise use and management of water and appropriate wastewater disposal methods.
- f) To encourage collaboration and cooperation amongst utility providers and the Municipality.

- g) To encourage the incorporation of existing development in the servicing of new development.
- h) To concentrate shallow utilities in a common location wherever possible, and to encourage distribution lines and services to be located underground.
- i) To ensure the functionality and future upgrading of roads are not affected when locating utilities within road rights-of-way.

2.8.2 Water Supply

Water is presently supplied to water users by either a groundwater source or a surface water distribution system. Provincial legislation guides the drilling of new wells in Alberta, which ensures future aquifer withdrawals do not affect existing groundwater users.

Surface water systems can be either cooperatively, privately, or Municipally owned. These providers offer memberships to landowners for the right and privilege to draw water from a Provincially approved water diversion supply, such as a communal well or river intake. Water distribution suppliers service the majority of the Central Springbank Plan Area, with the exception of those lands straddling Range Road 33. Refer to Map 9 for the location of existing lines.

Individual Water Wells - Policies

- a) To maintain an acceptable quantity and quality of groundwater in the aquifers, any future applications for water wells must be in accordance with the Water Act.
- b) The Municipality encourages groundwater users to maintain and monitor their water wells to ensure consistency in water quantity and quality.
- c) Information regarding the proposed water supply to serve any new lot or development shall be supplied to the Municipality at the time of application for subdivision or development. It is not recommended that transported water be considered an acceptable means of water supply.
- d) Business or institutional land use will require Provincial approval for any water use.
- e) A Deferred Servicing Agreement or other such mechanism will be registered on the title of each new lot and the balance lot, that is serviced by groundwater. The agreement will notify landowners of a commitment to decommission their existing groundwater system and connect to a water treatment and distribution system when deemed appropriate by the Municipality.
- f) The use of water saving devices is encouraged in future residential development.
- g) The reuse of stormwater for the purposes of residential irrigation is encouraged instead of using water suitable for domestic purposes.

Water Treatment and Distribution Systems - Policies

- a) Connection to an existing water distribution system is required for residential purposes where access is feasible and/or cost effective.
- b) Future water distribution systems will comply with the Water Act and Provincial licensing requirements pertaining to public utilities.

- c) The Municipality reserves the right to own and operate or assist with the provision of a water distribution and treatment system within the Central Springbank area.

2.8.3 Wastewater Management

The majority of development within the Plan Area is currently serviced by private sewage disposal systems, usually septic tank and tile systems. These systems are regulated through Provincial legislation, installed by certified installers, and inspected by accredited agencies. The Municipal District of Rocky View has been an accredited agency since February 2000. Site conditions such as lot size, soil type, and depth to water table will determine if a private sewage disposal system is feasible to service a development. Private sewage disposal systems have been the choice for many, not only because they are inexpensive, but also because the soil composition and the depth to near surface water table in the Central Springbank area has been able to accommodate this method of disposal.

Wastewater collection and treatment systems presently exist within Central Springbank Area Structure Plan Area in Pinebrook Estates (Section 8-24-03-W5M) with a sewer line to the City of Calgary; the Emerald Bay development (Portions of 11 & 12-25-03-W5M) with an on-site collection and treatment facility; and the three schools located along Range Road 33 south of the Trans Canada Highway serviced via wastewater lagoons. In addition, the Municipality has granted permission to a joint venture between the Town of Cochrane and The City of Calgary to run a sewer line through the northern portion of Plan Area to service the Town of Cochrane.

Future technological advances will likely provide economical alternatives for responsible methods of wastewater treatment for both landowners and the Municipality. All forms of private sewage disposal systems and collection treatment methods will require ongoing review and assessment to ensure their sustainability and environmental integrity.

Alberta Environment, the Calgary Health Authority, and the Municipality share a concern that the projected population for the Springbank area may exceed the ability of the land to dispose of sewage with private sewage disposal systems. Further, any future stand-alone systems will not be allowed to discharge into either the Bow or Elbow Rivers and must be responsive to the overall health of the watershed. Consequently, a large scale, comprehensive solution to wastewater disposal is necessary and in the best interest of all downstream users of the Bow and Elbow River watersheds. The preparation of a utility strategy by the Municipality, or in collaboration with the Municipality, on a drainage basin scale or larger is of the highest priority. A comprehensive strategy for future wastewater collection, treatment and disposal will determine the extent and magnitude of development in the future, as well as its phasing, before conceptual schemes can be considered by Council.

Individual Private Sewage Disposal System (PSDS) – Policies

- a) Provided the site conditions are suitable, a lot of two (2) acres in size or greater can employ a Private Sewage Disposal System (PSDS) if each lot has at least one (1) contiguous developable acre available, to the satisfaction of the Municipality.
- b) To determine if site conditions are satisfactory to utilize a PSDS, a qualified practicing engineer in the Province of Alberta must prepare a report, to the satisfaction of the Municipality, verifying that the site is suitable and will not negatively impact the

environmental integrity of a catchment basin over time. Long-term cumulative impacts should be addressed.

- c) The Municipality must prepare and adopt a utility strategy for the Plan area within one (1) year after the adoption of this Plan.
- d) Pump out tanks are not considered to be an acceptable means of wastewater disposal.
- e) Individual landowner operation of a PSDS will affect its sustainability, so the Municipality encourages adequate and ongoing maintenance and monitoring of PSDS's, and programs to educate landowners about their systems.
- f) A Deferred Servicing Agreement or other such mechanism is required on every new lot plus the balance that will be serviced by a private sewage disposal system. The agreement will notify future owners of the commitment to connect to a wastewater collection and treatment system when deemed appropriate by the Municipality. The agreement will also outline the location of the existing system, operational and maintenance information, and the requirements for its decommissioning.
- g) In the preparation of a conceptual scheme, the location of future sewer easements to accommodate a gravity wastewater collection system will be identified in accordance with the utility strategy.
- h) When designing the location of a PSDS in a new subdivision and/or development, consideration should be given to the future decommissioning of the PSDS and the connection to a collection system.
- i) On-site systems using proven methods of advanced treatment to produce high quality effluent instead of traditional septic tanks are encouraged. These systems should be suitable for the climate of the area and be proven to reduce the possibility of negative impacts.
- j) The operation of a PSDS should ensure that the disposal and treatment of wastewater does not unduly saturate the soil or have environmental impacts within the sub-basin.
- k) Wastewater systems must maintain the environmental integrity of the catchment basin, to the satisfaction of the Municipality and the Province.

Wastewater Collection and Treatment Systems – Policies

- a) The Municipality must prepare and adopt a utility strategy for the Plan area within one (1) year after the adoption of this Plan.
- b) Lots less than 2 acres in size must be serviced through a wastewater collection system.
- c) Future subdivision in the Infill Residential Areas may require both a PSDS and the identification of future sewer easements.
- d) Future wastewater collection systems will be designed and operated to meet immediate needs and anticipate future cumulative requirements of a respective drainage or sub-basin in accordance with utility strategy. This would include the location of future treatment or collection sites and the necessary sewer easements, where required.
- e) Future collection systems will be the responsibility of the developer to construct and their ownership and operation will be determined by the Municipality.

- f) The operation of a collection system should ensure that the disposal and treatment of wastewater does not create any negative environmental impacts within the sub-basin.
- g) Methods of wastewater effluent discharge must meet a quality that is acceptable to the Province and the Municipality.
- h) Until a regional system is in place, interim methods of sewage disposal may be allowed provided there is no discharge into either the Bow or Elbow Rivers, regardless of the amount of treatment.
- i) The school board should endeavor to improve the existing wastewater disposal system for the elementary schools (Elbow Valley Elementary, Springbank Middle School) and Springbank Community High School in accordance with the utility strategy.
- j) Due to visual and odour impacts to the community at large, neither open lagoons for collection and storage of wastewater effluent or the use of spray irrigation are appropriate methods of sewage disposal.
- k) Ongoing discussions with the Province, the City of Calgary and the Health Authority should be pursued to develop a utility strategy for a regional wastewater collection, treatment and disposal system.
- l) The Municipality reserves the right to provide or assist with the provision of a wastewater collection, treatment, and disposal system within the Central Springbank area.

2.8.4 Shallow Utilities

Shallow utilities provide functional service to a geographic area and individual lots. These utilities include services such as telephone, natural gas, electricity, and cable. The location of main rights-of-way are shown on Map 10. The landowner is responsible for the coordination and installation of these utilities and the Municipality endeavours to facilitate uninterrupted delivery by defining common utility rights-of-way relative to each subdivision.

An attractive feature of living in the Central Springbank area is the 'dark sky'. The 'dark sky' is unencumbered by light pollution such as site-lighting or streetlights. Preservation of this dark sky environment is desired within the community, and requires consideration in future development.

- a) Shallow utilities should be located in common locations in order to maximize the developability or functionality of lands and reduce any off-site impacts.
- b) Wherever possible, utility easements should be utilized in subdivisions and development to ensure the location and identification and maintenance of multiple utilities can be made with ease and without service disruptions.
- c) Utilities in the road-rights-of way should be avoided unless sufficient right-of-way expansion is available for transportation needs.
- d) Utility rights-of-way can be incorporated into an open space system to facilitate connection throughout the community, and should be addressed during the preparation and adoption of conceptual schemes.
- e) Wherever possible the location of cellular or telecommunication facilities should be incorporated into a common facility or concentrated on limited sites.

- f) For the purposes of illumination, exterior lighting will be direct and focus on relevant on-site features to minimize any off-site light pollution. Upgrades and modifications to existing development should include retrofitting of the existing on-site lighting.

2.8.5 Solid Waste

- a) Solid waste (garbage) containment and disposal is the responsibility of the local landowners. Consideration for solid waste disposal should be addressed in conceptual schemes in accordance with this policy.
- b) Recycling opportunities throughout the community are encouraged minimizing any impacts of development on the environment.

CHAPTER 2.9

2.9 Residential Development

As early as the 1950s, the Springbank area was attracting rural residential living. Rural land was cheaper to buy, taxes were low, and improved roads made the Calgary commute manageable. The current settlement pattern evolved throughout the years under the governance of regional plans and policies, which attempted to preserve agricultural land by deterring residential development.

In 1963, regional policies discouraged non-agricultural development from locating in rural areas by introducing a 20-acre minimum parcel rule, under the assumption that twenty acres would deter small rural residential development thereby preserving agricultural land. By 1971, the 20-acre parcel rule was revoked, as it was apparent residential development pressures were not going to subside. In its place, residential development was directed to a maximum of seven four-acre lots per quarter section. By 1984, regional policy permitted residential development on lower capability agricultural land, and encouraged residential infilling on previously created 20-acre lots.

Throughout the 1990s, two and four acre lots were common parcel sizes for residential subdivisions in the Central Springbank area. Single-family housing is prevalent throughout the community, and there is a strong desire for this form of housing to continue. The emergence of concentrated smaller lots has appeared at Springbank Links, and in the greater Springbank area.

Future residential land use in Central Springbank will require wholistic and detailed planning with the requirement of conceptual schemes. Regard for current land use patterns will be required as compatible development occurs in, or adjacent to, previously subdivided areas. A primary factor in establishing residential phasing in Central Springbank will be the provision of efficient and environmentally responsible utilities. Other important features will include open space opportunities and aesthetically considerate subdivision design that integrates the unique country residential landscapes of Central Springbank.

2.9.1 Goals

- a) To preserve a rural lifestyle and maintain open space by encouraging innovative subdivision design, community amenities, and servicing regulations.
- b) To require conceptual schemes for a wholistic approach to community development to avoid ad-hoc, incremental subdivision.
- c) To integrate residential land use planning with the sub-basins through approved Master Drainage Plans.
- d) To ensure residential development is sensitive to the natural environment, topography, vegetation and watersheds.
- e) To encourage residential development that maximizes open space and views, and minimizes adverse visual impacts.
- f) To maintain single-detached dwellings as the predominant form of housing.

- g) To incorporate transition buffering and setbacks between existing land uses and new residential subdivision and development.
- h) To accommodate the sensitive integration of residential land uses and development in agricultural areas.
- i) To preserve an appreciation for the community's settlement history in residential development.
- j) To integrate a system of walkways and other similar community amenities in the design of residential subdivisions to promote community interaction and common open spaces.
- k) To define an integrated and compatible residential land use pattern that complies with the servicing objectives of the Plan.
- l) To facilitate a diverse community with housing forms and developments that can accommodate persons of all ages and abilities.

2.9.2 General Residential Development - Policies

The Vision Statement imagines Central Springbank as a place to live that is respectful of the landscape, the agricultural nature of the area, the Bow and Elbow River watersheds and the development that has preceded it. A rural lifestyle in the future will endeavour to capture the beauty and tranquility of the area and sensitively plan for changes while striving to build a healthy community.

The composition and diversity of the community can be enriched by providing housing options for older persons and persons with disabilities to live an independent healthy lifestyle in Central Springbank.

Land within the Central Springbank Plan Area has been grouped into two categories – Infill and New Residential Areas - for the purposes of residential development. Each grouping has been established by its characteristics such as servicing, existing land use, parcel size, transportation network, age of development, or information requirements for future land use changes. The General Residential Policies pertain to future residential development both of the residential categories.

- a) All residential development must abide by the General Residential Development policies outlined in this section.
- b) Lands suitable for residential development are classified into two categories – Infill Residential and New Residential with defined boundaries as shown on Maps 11 and 12. Any application to reclassify lands from one of the above residential categories to another will require an amendment to this Plan.
- c) In order to provide a wholistic, efficient and thorough approach to community development in Central Springbank, conceptual schemes will be required to guide future residential development.
- d) Conceptual schemes for areas within the conceptual scheme boundaries identified in Maps 11 and 12 must be prepared in accordance with the policies of this Plan, be adopted by bylaw, and be appended to the Plan.

- e) Notwithstanding the defined conceptual scheme boundaries as defined on Maps 11 and 12, future conceptual scheme boundaries may be altered without amendment to this Plan, at the discretion of Council, provided:
- iii) the alternate conceptual scheme area is comprehensive in nature;
 - iv) the implications of development proceeding within an alternate conceptual scheme boundary have been examined; and
 - v) the Municipality determines that any on-site or off-site planning issues have been resolved pursuant to the provisions of this Plan.
- f) A conceptual scheme is not required when for agricultural development or when all of the following conditions are met:
- Direct road access is available
 - One (1) lot is being created
 - The proposed lot is 0.8 ha (2 acres) or greater in size.
 - The creation of the new lot will not adversely affect or impede future subdivision of the balance lands.
- g) The form of residential development should be single detached housing.
- h) Conceptual schemes that are affected by a Special Planning Area as identified in Section 2.3.2.3 and on Map 3 should incorporate and appropriately address the identified needs of the Special Planning Area it affects.
- i) In the preparation of a conceptual scheme, sight line conflicts should be minimized and an assessment of both on- and off-site visual impacts should be conducted in order to determine the siting of new lots, their building envelopes, and the architectural style of any structures.
- j) Consultation with agricultural operators during the preparation of a conceptual scheme is necessary to minimize residential impacts with existing agricultural operations through dialogue, appropriate separation distances, use of transitional buffering treatments, respect for the “Right to Farm”, and a sensitive development plan.
- k) The keeping of animals on lots subdivided for residential purposes should be prohibited on lots less than 4 acres because of their size, their proximity to residential development, and the offsite impacts from manure management and stormwater runoff on the sub-basin.
- l) Prior to the adoption of a conceptual scheme, a utility strategy for the sub-basin or region, must be adopted by Council that includes:
- A confirmed wastewater strategy
 - A Master Drainage Plan
 - A confirmed water supply

- m) Notwithstanding the existing Linkage Policy of the Municipality, consideration may be given to creating local roads that exceed the number of lots accessing onto a cul-de-sac as stated in the Linkage Policy provided the future road network is not compromised.
- n) Panhandles are not considered an appropriate means to provide access to residential parcels and their use is discouraged.
- o) Since 1969, the Springbank Airport has operated in the greater Springbank area and is presently a training facility for small aircraft. In the preparation of conceptual schemes, and during development, acknowledgement of the airport and any potential off-site impacts should be addressed and mitigated where necessary.

Seniors Housing

- a) Notwithstanding Section 2.9.3 (b) and 2.9.4(e), through the preparation and adoption of a conceptual scheme and Direct Control Bylaw, Senior Citizen and Disabled Housing can be developed at higher density, not exceeding 64 units per quarter and in alternative development forms than outlined in Sections 2.9.3 and 2.9.4.
- b) Housing developments designed for older persons and people with disabilities should:
 - Be regulated by an approved conceptual scheme
 - Be of a form conducive to independent living for senior citizens and the disabled
 - Provide open space opportunities including pathways, garden plots, park system, visual open space and other visual and physical connections to open spaces
 - Be located within walking distance to community meeting places or joint use facilities
 - Be compatible with adjacent uses
- c) To fulfill an independent healthy lifestyle for older people and persons with disabilities, seniors housing should meet the following criteria:
 - Stair-less single storey bungalow or duplex unit (two units)
 - Condominium ownership/Life Lease
 - Development compatible for an older person such as barrier free environment, sensitive site lighting, accessible parking, easy to read address numbers and building signage

2.9.3 Infill Residential Areas – Policies

Lots in Infill Residential Areas as shown on Map 11 are found in quarter sections that have been previously subdivided or have been developed to their current potential as 2-4 acre communities. Through the conceptual scheme process, the re-subdivision of larger parcels into 2-4 acre lots is envisioned provided the interface considerations between existing and new residential lots have been comprehensively addressed.

- a) Lands identified on Map 11 will not be eligible for further subdivision unless a conceptual scheme is prepared in accordance with the provisions of this plan, is approved by the Municipality, and is appended to the Central Springbank Area Structure Plan.

- b) Future residential lots in the Infill Residential Area as defined on Map 11 will range between +0.8 to +1.6 ha (+2 to +4 acres) in size or whatever is most prevalent on adjacent lands or in the immediate area.
- c) Open space connections should be facilitated through the use of cash-in-lieu, developer dedication of land or easements to extend pedestrian connections throughout the Plan Area.
- d) Modified road standards should only be considered in Infill Residential Areas when stormwater management, emergency services, school bus services and public safety are shown to not be at risk and an opportunity for future local roads with a higher priority for aesthetic appeal, quality of service and multiple use is provided.



Existing Residential Development

2.9.4 New Residential Areas - Policies

New Residential Areas consist primarily of large blocks of unsubdivided agricultural lands shown on Map 12. If and when these lands are subdivided for residential purposes, careful attention will be paid to the transition from agricultural to residential land uses. This transition will include responsible servicing in accordance with an approved Utility Strategy and Master Drainage Plan, will preserve environmental integrity, and will strive to create open spaces and other community amenities. Conceptual schemes within the boundaries established on Map 12 will address transitioning and buffering between existing acreage developments and new development.

- a) Land use changes and subsequent subdivision and development within New Residential Areas shown on Map 12 will be guided by an adopted conceptual scheme prepared in accordance with the provisions of this Plan.
- b) Future phasing of New Residential development will be determined by the utility strategy and the landowner will determine timing.
- c) Subdivision applications proceeding outside of an approved conceptual scheme may be considered for one (1) residential lot per developable quarter section (64.7 ha or 160.0 acres) for the purposes of agriculture or farmstead.
- d) High priority will be given to undeveloped open areas for such purposes as stormwater management, areas of significant habitat, agricultural uses, recreation or educational purposes. These lands will be voluntarily provided at the time of subdivision as additional open area, and held in perpetuity for the benefit and enjoyment of the residents in the future through such tools as conservation easements, environmental reserve or environmental reserve easements, condominium or lot owner associations, in addition to municipal and environmental reserve dedications.



Stormwater Retention

- e) The Minimum allowable parcel size is 0.8 ha (2 acres).
- f) The number of lots allowed is 64 units on a quarter section.
- g) Notwithstanding Sections 2.9.4 (e) and (f), the minimum parcel size may be reduced to a minimum of 0.4 ha (1 acre) if justified on the basis of additional open space, subdivision design, or environmental features related to the site through the preparation of a conceptual scheme ~~and Direct Control District Bylaw~~.
- h) Minor deviations from municipal country residential road width standards should only be considered in New Residential Areas when stormwater management, emergency services, school bus services and public safety are shown to not be at risk and an opportunity for future local roads with a higher priority for aesthetic appeal, quality of service and multiple use is provided.
- i) Municipal reserve lands in New Residential Areas should be provided by a full dedication of land to facilitate the establishment of a connective open space system.
- j) A walkway system in New Residential Areas should be accommodated through the Municipal Reserve allocation or as guided by the Municipal Government Act and in accordance with the Rocky View West Recreation Board Master Plan and Operating Guidelines.

CHAPTER 2.10

2.10 Business Development

The first sign of business development uses in the Springbank area appeared outside the Plan Area along the TransCanada Highway in the 1980s with the conception of a regional amusement park. Significant changes did not appear at the corner of TransCanada Highway and Range Road 33 until the 1990s when additional business opportunities, attracted by highway visibility and accessibility, established the site as a regional business destination.

Regional business development will only locate within areas identified on Map 13 or directed to the Springbank Business Park (outside of the Plan Area) to limit visual impacts on the landscape.

~~Regional business development will only locate outside the Plan Area at Springbank Regional Business Park to limit visual impacts on the landscape.~~ Economic opportunities will be promoted at this location, but with consideration for the TransCanada Highway as a major provincial transportation link and to the greater community. The Municipal District of Rocky View and the City of Calgary Intermunicipal Development Plan identifies lands along the TransCanada Highway as a 'Notification Zone', where applications should address development guidelines and design themes while being respectful of the significance of the intermunicipal gateway of both municipalities. ~~Strip business development is not envisioned along the TransCanada Highway.~~ Local consumer needs have previously been met primarily in neighbouring urban centers. Local stand-alone business opportunities will be limited within the community in the future, and will benefit the local community.

Recreational business opportunities that may be developed in the Plan Area will retain the desired open landscape and will be mindful of any offsite impacts and adjacent land uses. Home-based business will continue to be permitted in accordance with the Land Use Bylaw.

2.10.1 Goals

- a) To direct business development to **areas identified on Map 13 or to** the existing regional business park located along the south side of TransCanada Highway and Range Road 33. ~~or other locations outside the Plan Area.~~
- b) To restrict the number of business developments serving local consumers.
- c) To establish guidelines for local business development that addresses the compatibility of land uses, site function, off-site impacts and consistency of treatment north and south of the TransCanada Highway.

2.10.2 ~~Local~~ Business Development - Policies

Municipally, it is responsible to pursue appropriate business development throughout the Municipality for a balanced tax assessment and a manageable mill rate for all taxpayers. Existing **and proposed** business development is shown on Map 13. Applications for ~~local~~ business development in Central Springbank should be accompanied by a rationale demonstrating its economic viability within the community, the market of the proposed product or service, and the site selection.

- a) Local business development should meet the needs of the local community.

- b) Applications for business development should be accompanied by a comprehensive rationale supporting a land use and development application that demonstrates the compatibility of the proposed development with adjacent land uses, as well as an indication of the trade and economic benefits to the community.
- c) Appearance criteria to guide future business development locating in Central Springbank should be developed and incorporated into the conceptual scheme. The Municipality and the business development community should establish and adopt appearance criteria for development in the future. The criteria should address items such as:

- Off-site and on-site visual and functional impacts
- Streetscape
- Building mass and form
- Lighting
- Signage
- Landscaping
- Parking
- Pedestrian access



Local Business Development – Bow Point Nursery

- d) Any business development requiring a component of storage, distribution or assembly must do so indoors. Outdoor display of finished goods will be guided by the appearance criteria.
- e) At the time of application, business development applications must prove their water source and outline their long-term consumption needs in accordance with Water Act.
- f) The Plan does not anticipate further business development along the TransCanada Highway other than that located in the regional business area at the intersection of Range Road 33 **or as identified on Map 13.**~~, outside the Plan Area.~~
- g) Future business development in the Plan Area will be compatible and sensitive with the adjacent land uses.
- h) Residential uses proposed adjacent to regional business development areas should provide an acceptable transition and interface.**

CHAPTER 2.11

2.11 Intermunicipal Cooperation

In 1998, the Municipal District of Rocky View and The City of Calgary adopted the M.D. of Rocky View/City of Calgary Intermunicipal Development Plan (IDP). The IDP identifies:

- A joint planning area for both municipalities
- Areas of mutual interest
- Common policies for lands within the Intermunicipal Planning Area, and
- A method to deal with any intermunicipal issues

The Intermunicipal Planning Area partially affects the Central Springbank area along its eastern edge and identifies areas of mutual interest classified as Notification Zones along the Bow and Elbow Rivers, and the Trans Canada Highway and Highway #8. In these locations, applications should address development guidelines and design themes, and be respectful of the significance of the intermunicipal gateway of both municipalities in accordance with the Intermunicipal Special Development Area in Section 2.3.2.3. The Policy Area of the IDP will defer to the policies in the adopted Central Springbank Plan, while the intent of the notification zone is to provide each municipality with an opportunity to comment on applications of mutual interest. The intermunicipal planning area is shown on Map 14.

As land use changes and development proceed towards each other, greater consideration and regard is necessary for the interface between the two municipalities. Density targets by The City of Calgary greatly exceed levels of development anticipated in Central Springbank. Interface treatment consideration is important to create a harmonious transition from one form of development to another. The Central Springbank area is not anticipating significant annexation requests by The City of Calgary, since Springbank has not been identified as a primary growth corridor. However, if annexation is considered, dialogue should occur early between the two municipalities and in consultation with community.

2.11.1 Goals

- a) To facilitate ongoing consultation to address areas of mutual interest that affect the interface of the Central Springbank Area and the City of Calgary.
- b) To protect the Bow and Elbow River watersheds for current and future needs.
- c) To retain and protect existing and future linkages in the regional transportation network that respects of the intermunicipal gateways of both municipalities.
- d) To commence a dialogue between the two municipalities, the Province, and other affected agencies to develop a regional utility strategy.
- e) To identify, protect and/or rehabilitate key natural features and habitat areas.
- f) To recognize and protect the significance of the TransCanada Highway for both municipalities.
- g) To encourage dialogue between the two municipalities and the affected community when, and if, annexation is being considered.

2.11.2 Intermunicipal - Policies

- a) Access through the Central Springbank area into the City of Calgary will be directed to the Provincial Highway System, Intermunicipal and boundary roads to accommodate intermunicipal and regional traffic.
- b) For the purposes of access, land bordering on 101 Street SW, must meet the requirements of The City of Calgary.
- c) For the development and coordination of an efficient future regional transportation network, the Municipality should pursue a regular dialogue with the City of Calgary and the Province of Alberta.
- d) In anticipation of the pending construction of Stoney Trail (the Transportation and Utility Corridor located east of 101st Street SW.), consideration of the east/west collectors through Central Springbank and their rights-of-way should be identified and protected.
- e) Applications for land use changes, subdivision and development within the Notification Zones will be referred to the City of Calgary for their information, as guided by the M.D. of Rocky View and City of Calgary Intermunicipal Development Plan.
- f) At the time of subdivision, municipal and/or school reserves should be acquired as land dedications wherever possible in the joint planning area. Otherwise, reserves should be/remain deferred.
- g) For a compatible and gradual transition between the Plan Area and urban development in the City of Calgary, edge considerations should be incorporated into all forms of future development and demonstrated in conceptual schemes in the Intermunicipal Special Planning Areas (shown on Map 14). Edge considerations should include, but not be limited to, parcel sizes; site design; site function; visual separation; sound attenuation; open space alternatives; view corridors and vistas; vegetation and building materials.
- h) If annexation is considered necessary by the City of Calgary, efforts should be made to achieve an amicable annexation agreement between the Municipality, the City of Calgary and the affected community.
- i) If annexation is considered necessary by the City of Calgary, and is agreed to by the Municipality, existing uses and the rural residential character of the area should be considered and retained over the long term wherever possible through the terms of the annexation agreement.
- j) Ongoing discussions should be pursued with the Province, the City of Calgary and the Health Authorities to develop a strategy for regional utilities.
- k) The Municipality should continue on-going discussions with affected stakeholders regarding the health and long-term viability of the Bow and Elbow River watersheds.
- l) The Municipality should endeavour to work with the City of Calgary to adopt Master Drainage Plans for the Bow and Elbow River sub-basins that cross municipal boundaries



Central Springbank/City of Calgary Interface

with the City of Calgary. The implementation of the Master Drainage Plan should be to the satisfaction and suitability of both municipalities.

- m) A variety of methods to retain and protect environmentally sensitive areas should be incorporated in conceptual schemes within the Intermunicipal Special Planning Areas for the benefit and sustainability of the environment to ensure the survival of all living communities. Mechanisms available include municipal/environmental reserve, environmental reserve easement and open areas retained through such tools as conservation easements, and/or condominium/lot owners associations.
- n) In areas adjacent to or affected by environmentally significant areas, appropriate buffers are necessary to ensure the integrity and utility of the wildlife movement corridors and significant habitat.
- o) Updated conceptual schemes or recreation master plans should be prepared for land identified as future regional parks by the City of Calgary prior to any consideration of a land use change or a development application, in concert with the visual and physical open space system of the adjacent area. These updates should address issues such as parking, traffic, points of access, natural habitat, and Site Implementation Plans.
- p) An open space system for the Plan Area should meet the intent of the Rocky View West Recreation Board's Master Plan and Operating Guidelines and provide connections between the municipalities that are convenient and safe.

PART III

3.0 GLOSSARY AND APPENDICES

3.1 Glossary of Terms

Agricultural Land Use:

The use of land, buildings or structures for the raising of non-domestic animals and/or growing plants for food or other production.

Archaeological/Historical Impact Assessment:

An analysis of the potential impacts of development on archaeological and/or historical resources.

Architectural Controls:

Guidelines that are registered on the title of land(s) by virtue of a caveat or restrictive covenant which guide the design and appearance of buildings and other improvements on the land.

Area Structure Plan:

A statutory plan, adopted by Bylaw pursuant to the Municipal Government Act, that provides a policy framework for the evaluation of proposals for redesignation, subdivision and development of a specified area of land in the Municipality.

Berm:

A constructed embankment used for separating potentially incompatible areas, sites and districts or for protecting an area, site or district from any intrusions generated by other activities, operations, facilities or traffic.

Best Management Practices:

Practices or methods of managing stormwater that strive to retain the predevelopment runoff and absorption characteristics of a catchment area to minimize impacts on the watershed. The methods will address both water quantity and quality issues that are economically acceptable to all parties. These parties include the Province, the Municipality and local interests such as individual landowners.

Biophysical:

Refers to the inter-relationship between landforms, climate, vegetation and animal life. The functioning of ecosystems is tied directly to these interactions. Inter-relationships of landform and element, climate, vegetation and fauna are not only assessed on the basis of their general characteristics, but also on the basis of their relative health: they can be strong and weak. The Plan requires an inventory of biophysical characteristics before development occurs.

Bow River Basin Watershed Council (BRBWC):

A non-profit, non-partisan organization of public and private sector actors that have interests in monitoring and preserving the quality of the water and the natural environment of the Bow River watershed area.

Business Land Uses:

The use of land, buildings or structures in which the provision of goods and services for sale is the primary function and may include auxiliary pursuits dependent upon parcel size and proximity to other land uses.

Conceptual Scheme:

A plan for the subdivision and development of lands including, but not limited to, generalised land uses at the ¼ section scale, rationale for the developability of the lands and internal road hierarchy. Conceptual Schemes contemplated by this Plan should be prepared in accordance with Section 2.3.2.2.

Construction Management Plan:

A temporary plan that details how drainage and stormwater will be managed during the development of a site and until the final Site Implementation Plan has been implemented. It will address any negative outfalls created by construction on the site, including construction refuse.

Contemporary Agriculture:

The production of specialty crops such as herbs, flowers, and tree farms that may or may not have a commercial/retail component such as market garden or greenhouse.

Council:

The Council of the Municipal District of Rocky View No. 44.

Cultural Landscapes:

Are tied to the agricultural heritage of the area. These are areas that are characterized by landscape elements such as hedgerows, windbreaks, bridges, fence lines, trails and remnants thereof. These elements contribute to a collective understanding of agriculture, its history and its continued role in the community.

Deferred Services Agreement:

An agreement entered into by a developer or landowner, which is registered against the title and obligates the developer or landowner to tie-in to utility services when they become available and/or economically feasible.

Development:

- Any excavation or stockpile and the creation of either of them, a building or an addition to, or replacement, or repair of a building and construction of placing in, on, over or under land or any of them;
- A change of use of land or a building or an act done in relations to land or a building that results in or is likely to result in change in the use of the land or building; or,
- A change in the intensity of use of land or a building or an act done in relation to land or a building that results in or is likely to result in change in the intensity of use of the land or building.

Direct Control District:

A district of the Land Use Bylaw that is subject to regulations established by Council for control over the use and development of a defined area and pursuant to the provisions of the Municipal Government Act.

Environmental Reserve:

Environmental reserve is a swamp, gully, ravine, coulee or natural drainage course; land that is subject to flooding or unstable; a strip of land not less than 6 metres in width abutting bed and shore of any lake, river, stream or other body of water. It may be taken at the time of subdivision at the discretion of the Municipality for the purposes of preventing pollution, or providing public access; and must be left in its natural state. Environmental reserve remains the responsibility of the Municipality as guided by the Municipal Government Act.

Environmental Reserve Easement:

Land that qualifies as environmental reserve yet is maintained by the owner of the land as guided by the Municipal Government Act.

Geotechnical Report:

A report prepared by a qualified professional that addresses such issues as soil conditions for sewage disposal, slope stability, groundwater issues for development, and other issues that may impact development.

General Agriculture:

The raising of crops or the rearing of livestock, either separately or in conjunction with one another and includes buildings and other structures incidental to the operation.

Habitat Fragmentation:

Habitat is considered part of the landscape that meets the requirements of animal species for feeding, breeding, thermal regulation, security and resting. Different species have different requirements; some require larger areas than others. Fragmentation is said to occur when the habitat area required for a particular species is bisected by the development of either a road, utility corridor, housing or industry. When the habitat is fragmented its ability to support animal species is reduced.

Horticultural Development:

The intensive growing of specialised crops, either enclosed or not, and without restricting the generality of the above may include:

- Greenhouses
- Nurseries
- Tree farms
- Market gardens
- Mushroom growing
- Other similar uses

Infill Residential Areas:

Infill Residential Areas are found in quarter sections that have been previously subdivided or have been developed to their current potential as 2-4 acre communities. Lands that have not been fully developed as 2-4 acre parcels may be eligible for further subdivision as 2-4 acre lots.

Infrastructure:

Public and private utility systems in the Municipality that may include, but are not limited to, the transportation network, water supply, sewage disposal systems, stormwater management and other utilities.

Institutional Land Use:

Refers to the use of land, buildings, or structures for a public or non-public purpose and may include places of worship, community centres, and government uses.

Intensive Livestock Operation:

A feedlot or covered facility capable of confining a minimum number of livestock at a housing density specified in the Land Use Bylaw.

Intermunicipal Development Plan (IDP):

Bylaw C-4929-98, the M.D. of Rocky View/City of Calgary Intermunicipal Development Plan, as amended, approved by the Municipality on October 6, 1998.

Joint Use Sites:

Lands that provide a wide range of recreation and community services activities from a single location. They operate by sharing pieces of municipal infrastructure, thus making more cost effective use of limited resources that, in turn, allows the provision of more services to the community. An example would be the Springbank High School and Park for All Seasons site.

Landscaping Plan:

A plan that identifies the location, type and extent of all landscaping proposed for the subject land(s).

Land Use Bylaw:

A bylaw of the Municipality passed by Council as a Land Use Bylaw pursuant to the provisions of the Municipal Government Act and intended to control, and/or regulate the use and development of land and buildings within the Municipality.

Land Use District:

One or more divisions of the Land Use Bylaw establishing permitted and discretionary uses of land or buildings with attendant regulations.

Local Business Development:

A variety of commercial land uses of a scale and character compatible with the existing land use pattern that serve the local community.

Master Drainage Plan

A Master Drainage Plan is a drainage plan for a sub-basin or watershed that identifies drainage management concepts within the existing topography, physical and biological resources of the area. It details short, medium and long-term strategies to establish a sub-basin wide stormwater management system.

Minimum Distance Separation:

A setback or buffer established between an intensive livestock operation and adjacent land uses intended to minimise potential land use conflict.

Municipal Development Plan:

The Municipal District of Rocky View No. 44 Municipal Development Plan is the principal statutory land use plan for the entire Municipality, adopted by Council, in accordance with the provisions of the Municipal Government Act.

Municipal Government Act:

Refers to the Municipal Government Act, Statutes of Alberta 1994, Chapter M-26.1 as amended from time to time.

Municipal or School Reserve:

Land which the Subdivision Authority may require the owner of a parcel of land that is the subject of a proposed subdivision to provide for municipal or school purposes, up to 10% of the area proposed for subdivision or an equivalent cash-in-lieu disposition.

Municipality:

The Municipal District of Rocky View No. 44 and, when the context requires, means the area contained within the boundaries of the Municipality.

New Residential Areas:

Large tracts of land within the Plan Area that have experienced relatively no subdivision and development and are eligible for residential subdivision in accordance with the provisions of this Plan.

Plan, Plan Area:

Refers to the Central Springbank Area Structure Plan as adopted by Council and amended from time to time.

Public/ Private Partnership:

Is a collaborative relationship between private industry, government agencies, and occasionally not-for-profit organizations. These arrangements are typically for the purposes of providing a service to the public and they are used in many different policy and service areas. Public/ private partnership can include regional municipalities, community association, naturalist organizations, private developers and utility providers. All parties are included in the development, management and provision of programs and services.

Qualified Professional:

An individual with specialized knowledge recognised by the Municipality and/or licensed to practice in the Province of Alberta. Examples of qualified professionals include, but are not limited to, agrologists, engineers, geologists, hydrologists and surveyors.

Reach:

A reach is a stretch of creek that has similar bank and vegetative characteristics.

Recreation Master Plan

A non-statutory plan prepared by a Regional Recreation Board intended to represent the recreation needs within a portion of the Municipality.

Redesignation:

Refers to the reclassification by the Municipality of a land use designation in the Land Use Bylaw applicable to a specific area of the Municipality.

Residential Land Use:

A primarily residential land use in which auxiliary pursuits may be allowed dependent on the parcel size and/or proximity to other residences.

Riparian Environments:

These are the areas that are located in immediate proximity to the stream edge, or bank of an active river channel. They are characterized by a particular collection of plant and animal life.

Site Implementation Plans:

Plans that detail how drainage and stormwater will be managed on a developed site in accordance with a Master Drainage Plan. They include the site-specific implementation of Best Management Practices within a sub-basin.

Special Planning Areas:

Special Planning Areas geographically grouped locations with similar characteristics. These areas include the Bow and Elbow River valleys, the TransCanada Highway, and the interface with The City of Calgary. Each planning area has specific needs and should be incorporated into the conceptual scheme, over and above the requirements of the conceptual scheme, at the time of its preparation.

Storm Water Management Plan:

A plan prepared to address on-site storm water retention, demonstrate that post-development flows equal pre-development flows, and the method of on-site containment during a 1:100 year storm event. Recommended Best Management Practices to improve water quality as well as water quantity should be included in a stormwater management plan.

Traditional Agriculture:

The raising of crops or livestock generally on large blocks of land.

Traffic Impact Analysis:

An area-specific study that may include, but is not limited to, an analysis and evaluation of the potential impact of a proposed subdivision and/or development on the existing transportation network, and a program of future expansion and/or improvement of the transportation network to accommodate the proposed growth and to preserve the function and integrity of the network.

Utility Strategy:

The utility strategy is a plan of action outlining how the Municipality will provide water and wastewater services to the landowners in a cost-effective manner. The strategy will forecast the short, medium, and long term water and wastewater objectives of the Municipality, including future regional collection systems. It will also contain mechanisms for implementing and financing the necessary infrastructure.

3.2 Appendices

3.2.1 Appendix 1: Executive Summary of the Landowner Survey

1999 CENTRAL SPRINGBANK HOUSEHOLD/LANDOWNER SURVEY

EXECUTIVE SUMMARY

A self-administered questionnaire was mailed to 1,777 landowners in Central Springbank in October 1999. A total of 785 questionnaires were returned by November 24, for a 44% response rate. Major findings are as follows:

Profile of Central Springbank Landowners

- The majority of respondents (62%) have owned land in Central Springbank for less than 10 years.
- The majority of respondents (61%) own land parcels of less than 4 acres.
- 72% of respondents use their land for residential purposes only; another 19% use their land for livestock/pasture.
- 68% of respondents are 35 to 54 years old.
- 72% of respondents are employed full-time or part-time and 13% are retired (these findings include spouse/partner where applicable).
- Four in ten respondents (43%) have household incomes over \$140,000.
- 54% of respondent households have one or more school-age children. 17% have one or more pre-school children.

Quality of Life

- 99% of respondents who live on their land are very or somewhat satisfied with the quality of life in Central Springbank.
- What respondents like most about Central Springbank is the privacy and lack of crowding (37%), the country living feel (26%), the peace and quiet (20%) and close proximity to the city (22%).
- What respondents like least about Central Springbank is the increasing development pressure (15%), the poor planning and past development decisions (13%), and increasing traffic (11%).
- What respondents think is most important in maintaining the quality of life in Central Springbank is limiting residential/commercial development (28%), and maintaining the rural setting (25%).

Sense of Community

- 36% of respondents think it is very important (the top rating) to belong to a community. 18% of respondents rate “community” in Central Springbank as excellent and 57% rate it as good. When “importance of community” is cross-tabulated by “rating of community”, respondents who said community is very important also gave their community the highest excellence rating (35%).
- Approximately one-half of respondents rated local facilities, local associations and clubs, and local special events as effective in enhancing the sense of community.

Recreation, Leisure and Environment

- 79% of respondents rated recreational and leisure opportunities as very or somewhat important; 65% of respondents rated the recreational and leisure opportunities located in Central Springbank as excellent (15%) or good (50%).
- A slightly larger proportion of respondents felt that residents should use amenities elsewhere (46%) rather than amenities being developed in Central Springbank (37%). 17% were uncertain of their choice.
- The greatest support from a list of potential new amenities was for natural pathway systems (75%) and additional park or green space (70%). New golf courses, at 23%, had the least support.
- There was no strong majority for any one method of financing these new amenities, although a small percentage did support a general tax increase for natural pathway systems and additional green space.

Transportation

- In addition to driving, roads in Central Springbank are used by one-half or more respondents for running/walking (66%) and cycling (49%).
- The comfort level with roads for alternate uses is low; 59% who use the roads for running or walking are somewhat or very uncomfortable, 62% who use them for cycling are somewhat or very uncomfortable, and 67% who use roads for horseback riding are somewhat or very uncomfortable.

Water & Sewer Management Issues

- 62% of Central Springbank respondents have water piped from a co-op, 37% have private wells and 1% have cisterns.
- Only 10% of respondents overall are “not very” or “not at all satisfied” with their water source; the percentage unsatisfied is similar whether the water source is piped water or wells.
- At least two-thirds or more respondents agreed that: 1) “new developments should have drainage easements and if there is a problem with water flow or direction, it should be corrected” (85% agreed), 2) “fertilizers, pesticides and herbicides pollute our streams and rivers and landowners who use them should be responsible for their storm water runoff” (73% agreed), and 3) “I am concerned about the impact of

current and future development on the long-term sustainability of the Bow River and Elbow River watershed areas” (67% agreed).

- There was less agreement with the statements: 1) “to better manage storm water runoff, open spaces in parks and municipal reserves should be used for temporary ponds” (51% agreed), and 2) “I agree with the concept of paying more to be hooked up to sewer service” (44% agreed).

Development Issues

Subdividing Intentions

- 19% of all respondents say they would definitely or probably subdivide if they could; however, 56% of respondents with more than 20 acres said they definitely or probably would subdivide if they could.
- Respondents who are more likely to say they would subdivide are also more likely to have lived in Central Springbank for more than 15 years, and more likely to be over the age of 65 and more likely to be in Zone 1.
- Among the group with more than 20 acres who definitely or probably would subdivide, 71% would do so in less than 5 years.

Level of Agreement with Various Development Issues

- A large majority of respondents (86%) agreed that they would support architectural controls that preserve the “country setting” of Central Springbank.
- 75% agreed that new development should not compromise their view and that there should be some preservation of agricultural land.
- The majority of respondents do not support the idea of smaller lot sizes; 65% agreed they would not support smaller lot sizes even if there were a significant benefit to the community and only 24% were willing to support the trade off of smaller lots for open space.
- There was some support for alternate housing options in Central Springbank; 54% agreed with the idea of a seniors retirement home/lodge in the community, and 43% support the idea of a variety of housing forms so individuals could live their entire life in Central Springbank.
- Just over half (55%) of respondents were in agreement with commercial development provided it is for services that residents require.

Suggested Average Allocation of Land and Mix of Dwelling Types

- The average percentage respondents would allocate for lots ranging from 2 to 4 acres was 79%; the average percentage assigned to lots ranging from 1/3 to 1 acre was 17% and the average percentage assigned to lots equivalent to City of Calgary density was 4%.
- On average, 90% of respondents desired the dwellings in Central Springbank to be single family.
- Willingness to Support Smaller Lots (Trade Off for Benefits)

- A minority of respondents were willing to support smaller lots for other benefits. The highest support, at 37%, was for lower property taxes.

Development Criteria

- In terms of development proposals and potential criteria that could be used by the M.D. to evaluate them, respondents would assign the greatest importance (61 out of 80 points) to five criteria: minimizes traffic increases (14.1 points), protects wildlife habitat (12.8 points), minimizes impact on views (12.2 points), protects the watershed (11.4 points), lowers property taxes (11.2 points).

Attitudes Toward Commercial Development

- 30% of respondents strongly disapprove of commercial development versus 17% who strongly approve.
- Approximately three-quarters of respondents would support the use of land for emergency medical services, fire services, schools and libraries.
- 38% would support the development of retail services; only 13% would support light manufacturing uses.

CONCLUSIONS AND IMPLICATIONS

1. The high survey response rate suggests there is strong interest in development issues and there will be continued interest in the Area Structure Plan process.
2. Landowners are concerned about loss of open spaces/country atmosphere and increasing population/traffic/congestion/poor roads.
3. There is a sense of wanting to protect the reasons for moving to Central Springbank in the first place.
4. The high income of most current landowners suggests they can afford the present country residential infrastructure.
5. The recreational amenities most desired by landowners reflect their interest in a country residential atmosphere. A large majority wants a natural pathway system and additional park/green space. No one method of financing these amenities stands out.
6. Landowners are essentially split in their attitudes about commercial development. However, there is strong interest in schools/library, EMS/Fire and recreational facilities. Retail interest was moderate. If developed, consider gas station/auto repair/car wash and convenience/general store.
7. Landowners who use the roads for purposes other than driving are uncomfortable. Thought should be given to how improvements could be made to the current road infrastructure to accommodate other uses and/or development of new pathways and trails.
8. Landowners are generally resigned to future development but have definitive views on how this should occur. These include:
 - preservation of agricultural land
 - architectural controls that reflect country residential nature of environment

- preservation of views
- 2 – 4 acre lots
- single family housing only

Potential benefits to landowners accruing from smaller lot development are not important to the majority of landowners.

9. In respect to development tolerance, there are two identifiable groups (based on the cluster analysis technique. Those landowners most opposed to development (Development Intolerant segment) live on their land use it for only residential purposes, and are on lots 2-4 acres in size. Those landowners not opposed to development (Development Tolerant segment) are more likely to use the land for purposes other than living only and are more apt to have 10 acres or more.
10. There is strong interest over the short-term among some landowners in subdividing their land for development purposes (assuming subdivision was possible now, 60% of those landowners interested in subdividing would do it within five years). As such, the Municipal District of Rocky View No.44 should make it a priority to complete the Area Structure Plan as soon as possible and develop a strategy to handle numerous subdivision inquiries over the next five-year period.

3.2.2 Appendix 2: Sub-Basin Study - Recommendations

(Note: This is a summary only. Please contact the Municipal Office to review the document in its entirety.)

RECOMMENDATIONS

The study has compiled valuable information that should be disseminated among stakeholders in the study area. Education and awareness will continue to play a most important role in safeguarding the “watershed approach” to development within the Central Spingbank area. Sharing the information can be facilitated through open houses, seminars, fact sheets, or other means.

To ensure that the short- and long-term strategies for stormwater management are implemented in the Central Springbank area, it is recommended that the Municipal District of Rocky View No. 44 (MD) initiates Master Drainage Plans (MDP) for all nine subcatchment areas identified in this document. Time lines for these MDP studies are of the essence as development has occurred and continues in almost every single subcatchment area. It is suggested that funding for the studies be borne by the MD, but that these costs be recovered by an increase in fees for development permit applications and on the basis of area to be developed.

Other related issues concluded from this study shall be refined and are to be incorporated in the MDP document, including at minimum:

- definition of overall management goals.
- identification of constraints.
- formulation of alternative solutions and their evaluation for selection of appropriate management strategies.

- identification of appropriate Best Management Practices (BMP) for each sub-catchment area, including their operation and maintenance requirements.
- adopt unit release rates as estimated by this study.

Together with the MDP studies, a detailed biophysical assessment should be carried out. In particular, these types of studies should integrate with aspects of low lying areas that could be incorporated as regional stormwater storage facilities.

Also, it is recommended that Alberta Environment conduct an inventory for fish and a fish habitat study near the mouth of Springbank Creek, Cullen Creek and Un-named Creek E-1 and that these studies be completed prior to approving any or further developments in these areas.

Very little information is available within the Central Springbank area on surface water quantity and quality. Therefore, it is important that the development of a monitoring program be initiated and that, in the near future, water quantity and quality monitoring sites for all nine subcatchment areas are implemented.

Developments are on-going in the Central Springbank area and it is recommended that Site Implementation Plans (SIP) be submitted at the time of development permit application. The SIP shall have sufficient detail on the proposed stormwater management for the development area and shall be reviewed in context of this Watershed Plan, until MDP documents are available.

A most helpful database has been created as part of this study and it is strongly recommended that this database be kept current by updating it as part of the development permit application approval process, completion of inspection (SIP compliance) reports, maintenance or upgrading efforts by the MD, etc. Database information can be sold to stakeholders and public, and therefore be a funding source for database management.

Although this report deals with surface water management, it is recognized that any development requires other water management systems. Particularly, in view of the “watershed approach” and the objective of safeguarding the receiving streams, it is recommended that a study be undertaken that addresses the management opportunities for wastewater and sewage disposal.

3.2.3 Appendix 4: Native Species for the Springbank Area**TREES:**

| | |
|---|---------------------------------------|
| <i>Alnus tenuifolia</i> | <i>River alder</i> |
| <i>Betula occidentalis (fontinalis)</i> | <i>Fountain birch – River bottoms</i> |
| <i>Crataegus chrysocarpa (rotundifolia)</i> | <i>Round leaf hawthorne</i> |
| <i>Picea glauca</i> | <i>White spruce</i> |
| <i>Pinus contorta</i> | <i>Lodgepole pine</i> |
| <i>Pinus flexilis</i> | <i>Limber pine</i> |
| <i>Pinus ponderosa</i> | <i>Ponderosa pine (Montana)</i> |
| <i>Populus balsamifera</i> | <i>Balsam poplar</i> |
| <i>Populus deltoids</i> | <i>Western cottonwood</i> |
| <i>Populus tremuloides</i> | <i>Trembling aspen</i> |
| <i>Prunus pensylvanica</i> | <i>Pincherry</i> |
| <i>Pseudotsuga menziesii</i> | <i>Douglas fir</i> |
| <i>Sorbus scopulina</i> | <i>Western mt ash</i> |

TALL SHRUB:

| | |
|--------------------------------|-----------------------------------|
| <i>Alnus crispa</i> | <i>Green alder</i> |
| <i>Amelanchier alnifolia</i> | <i>Saskatoon</i> |
| <i>Eleagnus commutata</i> | <i>Silverberry (Wolf willow)</i> |
| <i>Prunus virginiana</i> | <i>Chokecherry</i> |
| <i>Salix bebbiana</i> | <i>Bebb willow</i> |
| <i>Salix glauca</i> | <i>Smooth willow</i> |
| <i>Salix discolor</i> | <i>Pussy willow</i> |
| <i>Salix interior (exigua)</i> | <i>Sandbar willow</i> |
| <i>Salix lucida</i> | <i>Shining willow</i> |
| <i>Sambucus racemosa</i> | <i>Red elder</i> |
| <i>Shepherdia argentea</i> | <i>Silver thorny buffaloberry</i> |

MEDIUM SHRUB:*Betula glandulosa**Cornus sericea**Ribes aureum**Salix lutea**Dwarf birch - River**Red osier dogwood**Gold currant**Yellow twig willow***LOW SHRUB:***Artemisia cana**Artemisia tridentata**Artemisia ludoviciana**Juniperus communis**Ledum groenlandicum**Lonicera involucrata**Mahonia repens**Potentilla fruticosa**Rhus trilobata**Ribes oxycanthoides**Rosa acicularis**Rosa arkansana**Rosa woodsii**Rubus ideaus (strigosus)**Rubus parviflorus**Salix commutata**Shepherdia Canadensis**Spiraea betulifolia**Symphoricarpos albus**Symphoricarpos occidentalis**Viburnum edule**Yucca glauca**Sagebrush**Big sage (Montana)**Prairie sage**Common juniper**Labrador tea**Bracted honeysuckle**Creeping mahonia, Oregon grape**Shrubby cinquefoil, Potentilla**Three lobed sumac**Gooseberry**Prickly rose**Prairie rose**Common wild rose**Wild raspberry**Thimbleberry**Silver willow**Canadian buffaloberry**Birch leaf meadowsweet**Snowberry**Buckbrush**Cranberry**Yucca (Montana)*

VINE:*Clematis linguisticifolia**Western white clematis**Clematis occidentalis**Purple clematis**Lonicera dioica**Twining honeysuckle***GROUND COVER:***Arctostaphylos uva-ursi**Kinnikinnick**Cornus Canadensis**Bunchberry**Juniperus horizontalis**Creeping juniper**Vaccinium vitis-idaea**Bog cranberry*

3.2.4 Appendix 4: Transportation Network Study - Recommendations

(Note: This is a summary only. Please contact the Municipal Office to review the document in its entirety.)

Summary

In summary, the goal of this Transportation Network Study is to “establish a transportation infrastructure system that is appropriate for the range of uses proposed in the Springbank Area Structure Plan”.

Consistent with the study objective, we have assessed the existing road network, with due regard for the City of Calgary, Alberta Transportation and the M.D. of Rocky View’s policies, standards and future planning. In doing so, we have established a proposed transportation plan and rehabilitation program which will address the short, medium and long term requirement of the Central Springbank area.

Recommendations

In establishing the transportation plan, a number of issues were developed and addressed within the report. A summary of the proposed recommendations is presented as follows:

Road Classification

The proposed road network establishes arterial roadways previously not designated within the study area. These roads generally accommodate the predominant east-west traffic movement within the study area. Also designated are major and minor collector roads which generally permit north-south access to the existing and proposed arterial and freeway roads.

The system of classification proposed is consistent with the M.D. of Rocky View and is detailed in Sections 5 and 6 of the report. We recommend the classification system be adopted for the Central Springbank area.

Right-of-Way, Access Management

In establishing the proposed network road classifications, we are recommending associated characteristics of the roadways be adopted. In order for the newly designated roads to operate properly, sufficient right-of-way must be dedicated. Table 6.2 of Section 6 (of the study) provides minimum right-of-way widths for various classifications of roadways.

Access management is another requirement which will allow roads to operate as designed. Access must be controlled consistent with the function of the road. For example, arterial roads have the primary function of moving traffic, thus, access to an arterial is restricted to permit more efficient flow of traffic. Access management recommendations can be found in Section 5.4 of the report. As land use is changing within the study area as a result of development, Table 5.3 provides both “desirable” and “minimum” access criteria. In the instance of infill development, it may only be practical to comply with the minimum requirements for new subdivisions, however, the desirable access spacing should be achieved whenever possible.

Specific consideration should be given to the following:

- Future planning considerations should include extending Township Road 245 west of Range Road 33. This could then be used to provide a new access to Calaway Park.

- The extension of Township Road 245 west would provide a minor collector/service road function for the TransCanada Highway. This could ultimately continue west to Range Road 40 where a long term conceptual interchange location is proposed.
- Consideration should be given to an ultimate roadway design for the portion of Range Road 33 from the TransCanada Highway to the Springbank Road as a four-lane undivided collector roadway with an urban cross-section. This would provide an additional outside lane for the turning movements at access points and intersections.

Road Intersections

The capacity and operation of the existing intersections dictate the efficiency of the transportation network. It is, therefore, critical to review the operation of the intersections in the Central Springbank area for potential improvement. We recommend that Alberta Transportation procedures and warrant studies be implemented in consistent with Section 5.

Road Rights-of-Way – Other Uses and Users

In regard to the road rights-of-way, and other uses and users of the right-of-way, we recommend that the Municipal District of Rocky View develop policies for other users of their transportation rights-of-way. Technical details of the placement location of private utilities should reflect the existing standards in place with Alberta Transportation, as referenced in Section 4 (of the study). The policies should promote consistent placement of the utilities within the rights-of-way and not compromise the integrity of the transportation road network. In regard to trails within the right-of-way, we recommend that the location of the trails be reviewed on a "case by case" basis to determine if the trail can be safely located within the right-of-way.

Agreements established with owners of the utilities should be made conditional on alterations to the utilities, as a result of work within the right-of-way being the responsibility of the utility company.

Commercial Impact

The traffic generated from the commercially zoned land in area of the TransCanada Highway and Range Road 33 Intersection have been handled at an acceptable level of service to date. Future commercial businesses may significantly impact traffic movement. The recommendations in Section 5 would result in commercial traffic being routed to south of Range Road 245, which would then function as a service route for future commercial development along the TransCanada Highway.

Environmental

Environmental assessments should be considered as part of the development applications.

Proposed Transportation Monitoring Program

A priority approach to identifying rehabilitation should be implemented as soon as possible. Indicators such as result of the safety audit, existing geometrics and accident statistics, as well as traffic volumes and annual maintenance costs, should be considered when identifying rehabilitation requirements on the M.D.'s regional transportation network in the Central Springbank area. The operational improvements must be co-ordinated with the M.D.'s annual local road program schedules and budgets. Section 7 of this report describes the short, medium

and long term and future planning priorities for rehabilitation, and provides an estimate of financial obligations by the M.D.

Future Study Required

As the City expands its western boundary, it will undoubtedly impact the Central Springbank area from a transportation perspective. It is critical that the Municipal District continue coordination with the City of Calgary through the inter-municipal development group and other sources to monitor the City's growth and projected impacts on the Central Springbank area. Coordination should also continue with Alberta Transportation on the projected growth of the provincial highway system and the impact on the Central Springbank area, with particular emphasis on the proposed Stoney Trail extension.

The need also exists to determine the requirement of an Elbow River Bridge crossing to provide improved access between the Central Springbank area and Highway 8. This would be a significant improvement to the north-south through traffic and would provide an alternate route for emergency vehicles should the existing Elbow River Bridge on Highway 8 be out of service.

3.2.5 Appendix 5: Settlement and Homesteader Names

List of Homesteaders and Early Landowners

| Name | Description | Date | | Name | Description | Date |
|-----------------------|------------------------------|------|--|---------------------|------------------------------|--------------|
| Anderson, Wm. | S 11-25-3-5 | 1910 | | Callaway, Geo. F. | NW 22-25-4-5 | 1905 |
| Andrews, John M. | SE 11-24-2-5 | 1905 | | Chapman | NE 26-24-3-5 | 1887 |
| | NE 11-24-2-5 | | | Claridge, Thomas | NW 16-25-4-5 | 1907 |
| Aris, Archie D. | NW 12-24-2-5 | 1920 | | Clemens, Joseph | NE 12-25-5-5 | 1903 |
| Austin, Charles N. | NE 14-25-5-5 | 1909 | | Clemens, Samuel G. | NW 12-25-5-5 | 1904 |
| Austin-Loder | N 6-24-2-5 | 1887 | | Coelen, Arthur E. | NW 22-24-5-5 | 1919 |
| Bacon, Ernest M. | SE 20-25-5-5 | 1911 | | Coleman, Lucius Q. | SW 20-26-6-5 | 1901 |
| Bacon, Harry J. | SW 12-25-5-5 | 1909 | | Cook John | SW 36-25-4-5 | 1904 |
| Bailie, Wm. M. | NE 4-24-4-5 | 1892 | | Cook, Edward | SW 14-25-5-5 | 1911 |
| Barkley, Henry | SW 36-24-4-5 | 1910 | | Cook, William | NW 36-25-4-5 | 1904 |
| Barnes, Elliott C. | NW 30-24-5-5 | 1916 | | Pts. | | |
| Bateman, John Wm. | NE 24-24-5-5 | 1902 | | Cope, James E. | NE 22-25-5-5 | 1908 |
| Bateman, Thomas | SW 10-24-5-5 | 1921 | | Cope, Arthur J | SE 34-25-5-5 | 1915 |
| Belcourt, Adeuna | L.S.D. 3 & 4 | | | Cope, Thomas | SE 29-25-5-5 | 1918 |
| | S 20-24-2-5 | 1887 | | Cope, Thomas S. | SW 22-25-5-5 | 1909 |
| Belway, John M. | SW 2-25-3-5 | 1894 | | Copithorne, John | SE 6-25-4-5 | 1900 |
| Bennett, George | NW 3-24-1-5 | 1885 | | | SW 6-25-4-5 | 1901 |
| Bennett, William | NE 2-25-5-5 | 1909 | | | SE 12-25-5-5 | 1916 |
| Bevan, Catherine | SW 32-25-4-5 | 1905 | | | W 11-25-5-5 | 1917 |
| Bevan, Lancelot J. | NW 28-25-4-5 | 1906 | | | SW 32-24-4-5 | 1903 |
| Bevan, George A. | NW 32-25-4-5 | 1905 | | Copithorne, James | N 6-24-5-5 | 1915 |
| Beveridge, A.D. | NW 24-24-3-5 | 1898 | | | NW 2-25-5-5 | 1911 |
| Bingham, Wm. | NE 34-3-5 | 1887 | | Copithorne, John W. | SE 18-24-5-5 | 1919 |
| Blache, John A. | NE 18-24-3-5 | 1887 | | Copithorne, Richard | SE 29-24-4-5 | 1921 |
| Blache, Louis N. | NW 18-24-3-5 NW 24-24-4-5 | 1887 | | | NE 29-24-4-5 | 1917 |
| Boucher, John | SW 11-24-3-5 | 1905 | | | SW 29-24-4-5 | |
| Bow River Horse Ranch | NW 13-25-3-5 | | | | NE 32-24-4-5 NW 29-24-4-5 | 1907 1893 |
| | 16-25-3-5 | | | | NW 32-24-4-5 | 1893 |
| | 18-25-3-5 | | | Copithorne, R.C. | NE 18-24-5-5 | 1918 |

| | | | | | | |
|--------------------|--------------|------|--|---------------------|--------------|------|
| | | | | Copithorne, R.E.E. | NE 16-24-5-5 | 1921 |
| Bradley, Jonathan | NE 10-24-2-5 | 1894 | | Copithorne, S. | W 18-24-5-5 | 1913 |
| Bradley, Levi | NW 10-24-2-5 | 1896 | | | NE 36-24-5-5 | 1910 |
| Bradley, Rich | SW 22-24-2-5 | 1899 | | Corkrum, W.J. | 29-24-3-5 | |
| Bradley, Wm. P. | SE 34-24-4-5 | 1902 | | Cowan, Beecher | NE 32-24-3-5 | 1894 |
| Brown, John | NW 14-25-5-5 | 1908 | | Cowan, John | SW 32-24-3-5 | 1887 |
| Brown, Robert | NE 36-25-5-5 | 1905 | | | NW 32-24-3-5 | 1899 |
| Bruce, Wm. | SE 32-24-1-5 | 1885 | | Cowan, Wm. W. | SE 32-24-3-5 | 1890 |
| Bryant, Alfred H. | SW 16-24-5-5 | 1915 | | Craig, Robt. P. | SE 24-25-5-5 | 1912 |
| Bryden, Clara | NW 10-25-6-5 | 1923 | | Cruse, John | NE 30-24-2-5 | 1902 |
| Buie, Archibald | NE 20-24-2-5 | 1901 | | Cullen, Keyes | NE 24-24-3-5 | 1900 |
| Burke, Wm. R. | NE 24-25-5-5 | 1907 | | Cullen, T.H. | N 4-24-3-5 | 1887 |
| Burnet, Norman | SE 11-24-3-5 | 1917 | | Cullen, Wm. | SE 24-24-3-5 | 1888 |
| Burns, John | SW 24-24-3-5 | 1887 | | Dennison, J. | SE 24-24-3-5 | 1901 |
| Butler, Robt. H.W. | NE 32-25-4-5 | 1905 | | Dick, Allen A. | NW 34-24-3-5 | 1899 |
| Buyers, Wm. | SW 36-24-2-5 | 1887 | | Drummond, Patrick | NE 22-24-4-5 | 1894 |
| Byron, Cecil E. | NW 24-24-5-5 | 1911 | | Drummond, Rose | NE 4-25-4-5 | 1910 |
| Callaway, E.J. | NE 22-25-4-5 | 1905 | | Duke, Christopher S | SW 2-24-4-5 | 1906 |
| Duke, Sara J.P. | SE 2-24-4-5 | 1900 | | | | |
| Durban, William | NW 12-24-4-5 | 1891 | | Gavin, Wm. R. | NW 14-24-3-5 | 1887 |
| Durrant, Frank | SW 12-24-5-5 | 1921 | | Gibson, John | SE 28-24-3-5 | 1895 |
| Dyer, C. | SE 4-24-3-5 | 1897 | | Gibson, Wm. | E 20-24-3-5 | 1890 |
| Dyer, James | NE 10-24-3-5 | 1887 | | Gibbs, Alfred | SE 2-25-5-5 | 1905 |
| Dyer, Wm. E. | SW 4-24-3-5 | 1898 | | Godlongton, John | NE 30-24-4-5 | 1893 |
| Edge, William H. | NE 11-25-4-5 | 1915 | | Goodwin, Wycliffe | NW 34-24-4-5 | 1891 |
| | SW 11-25-4-5 | | | | SW 34-24-4-5 | 1891 |
| | NE 14-25-4-5 | 1902 | | Goss, James | SE 24-24-4-5 | 1890 |
| | SE 14-25-4-5 | 1897 | | Goss, Thom. H.B. | NE 24-24-4-5 | 1893 |
| Edworthy, Thomas | SW 24-24-4-5 | 1902 | | Graham, T.H. | NW 32-25-5-5 | 1911 |
| Edworthy, T. | W 24-24-2-5 | 1887 | | | | |
| Ellis, John | W 18-24-4-5 | 1897 | | Gray, Henry Allan | SW 6-24-2-5 | 1887 |
| Ellis, John H. | SW 14-24-4-5 | 1888 | | Grayson, James | W 6-24-4-5 | 1900 |
| Ellis, Oliver | E 18-24-4-5 | 1897 | | Harris F.D. | SE 6-24-4-5 | 1903 |
| Ellis, Robert | E 20-24-4-5 | 1894 | | Harrison, Edward | NW 24-25-5-5 | 1904 |
| Ellis, Thomas | W 20-24-4-5 | 1892 | | Healy, Clarence G. | NW 30-24-4-5 | 1902 |

| | | | | | | |
|------------------------|----------------|------|--|--------------------|--------------|------|
| Ellis, William | NW 4-24-5-5 | 1927 | | Healy, Ebenezer | N 12-25-4-5 | 1900 |
| | SW 4-24-5-5 | 1927 | | Hemmings, Herbert | NE 32-24-1-5 | 1885 |
| Ellis, Edward | SE 14-24-5-5 | 1901 | | Henning, George M. | SW 2-25-4-5 | 1907 |
| Farley, Frederick Pts. | SE 30-25-5-5 | 1911 | | Hewitt, James | E 2-24-2-5 | 1886 |
| | | | | Hodgkinson, Wm. | NW 32-24-1-5 | 1899 |
| Ferren, Frederick A. | NE 16-25-4-5 | 1906 | | Howse | SE 4-24-2-5 | 1886 |
| Fisher, Chas. W. | NE 34-24-4-5 | 1912 | | E30 | | |
| | SE 34-25-4-5 | 1910 | | Hughes, Issac | SW 16-25-4-5 | 1910 |
| | SE 22-25-4-5 | 1906 | | Hutchinson, Steve | SW 20-24-3-5 | 1888 |
| Frarey, Wm. J. | SE 12-25-4-5 | 1900 | | Hutchinson, W.C. | SW 22-24-3-5 | 1887 |
| Fraser, Alex C. | SW 12-24-4-5 | 1899 | | Hutt, Nancy | SE 22-25-5-5 | 1912 |
| Fraser, H.G.W. | NW 2-24-3-5 | 1889 | | Jackson, F.E. | NE 7-24-1-5 | 1900 |
| Fraser, Julia L. | SE 14-24-2-5 | 1889 | | Johnson, A.N. | NW 14-24-4-5 | 1891 |
| Fraser, J.A.W. | Sec. 10-25-5-5 | 1902 | | Johnson, Edward | S 13-25-4-5 | 1898 |
| | N 34-24-5-5 | 1902 | | Johnston, James | NW 36-24-2-5 | 1887 |
| | SW 34-24-5-5 | 1902 | | Kairain, Fred B. | E 22-24-2-5 | 1891 |
| | SE 34-25-5-5 | 1904 | | Lambert, Samuel | SW 22-24-4-5 | 1901 |
| | SW 26-24-5-5 | 1901 | | Lancaster, Wm. | SE 10-25-4-5 | 1909 |
| | SE 16-25-5-5 | 1916 | | Lawry, John | N 18-24-1-5 | 1887 |
| Frayn, Ed. | SW 4-25-3-5 | 1894 | | Lee, Thomas | NE 30-24-1-5 | 1885 |
| Frayn, Ed J. | NW 4-25-3-5 | 1899 | | Leppard, Abraham | NW 4-25-4-5 | 1905 |
| Frayn, Wm. | SE 36-24-3-5 | 1890 | | Lindsay, Alex | NW 10-24-3-5 | 1898 |
| Fullman, John | SE 6-24-3-5 | 1888 | | Livingstone, A.A. | NW 36-24-6-5 | 1928 |
| | SW 6-24-3-5 | | | | SW 6-25-5-5 | 1921 |
| Fullerton, John | NW 16-24-2-5 | 1899 | | Livingstone, C. | SE 6-25-5-5 | 1915 |
| Fullerton, Thomas | NE & 10A | | | Livingstone, G.H. | SE 32-24-2-5 | 1890 |
| | SE 24-2-2-5 | 1887 | | | NE 32-24-2-5 | 1893 |
| Galleon, Chas. F. | SW 28-24-3-5 | 1885 | | | SW 34-24-2-5 | 1892 |
| Gardner, Clem | E 11-24-4-5 | | | | NW 32-24-2-5 | 1891 |
| Gardner, Meopham | S 18-24-3-5 | 1886 | | | SW 32-24-2-5 | |
| | E 12-24-4-5 | 1888 | | N80 | | |
| Pts. | | | | Livingstone, J. | NW 6-25-5-5 | 1915 |
| | SE 12-24-4-5 | 1888 | | Livingstone, J. | NE 6-25-5-5 | 1916 |
| | | | | Logan, Robert A. | NW 4-25-5-5 | 1908 |
| Gardner, N. | SE 12-24-4-5 | | | Logan, Henry | NW 36-24-5-5 | 1909 |

| | | | | | | |
|---------------------|---------------|------|--|--------------------|----------------|------|
| | E 4-24-5-5 | 1921 | | Park, Robert | SW 16-25-5-5 | 1909 |
| Lott, Hebert | SE 6-24-2-5 | 1888 | | Parlow, Chas. H. | SW 30-24-1-5 | 1887 |
| Lusk, Thomas C. | NE 28-25-5-5 | 1908 | | Parrott, Wm. H. | NW 22-24-4-5 | 1891 |
| Lynch, John J. | NE 12-24-5-5 | 1921 | | Parsons, Daniel | NE 10-25-6-5 | 1915 |
| Mackay, John H. | NE 10-24-5-5 | 1917 | | Parsons, Horace | Pts. 10-25-6-5 | 1913 |
| Mickle, George A. | SE 4-24-4-5 | 1917 | | Patrick, Allan P. | S 12-24-2-5 | 1885 |
| Mickle, Charles W. | SE 4-24-4-5 | 1922 | | Patterson, James | SE 34-24-2-5 | 1890 |
| Mickle, Oliver F. | SW 14-25-4-5 | 1898 | | Patterson, Robert | NW 22-24-2-5 | 1899 |
| Mickle, Edwin, A. | SW 4-24-4-5 | 1913 | | Peacock, Anthony P | NE 14-24-4-5 | 1890 |
| Mickle, Wheeler A. | NW 4-24-4-5 | 1901 | | Peacock, Arthur F. | N 10-24-4-5 | 1890 |
| | NW 22-24-3-5 | 1887 | | Penman, J. | S&SW 32-24-2-5 | 1904 |
| Milne, A.S. | SE 12-24-3-5 | 1888 | | | | |
| Mitchell, J. | NW 12-24-3-5 | 1890 | | Pepper, Wm. E. | NE 2-25-4-5 | 1906 |
| Moffat, James D. | SE 10-24-2-5 | 1887 | | Pepper, Robert J. | SE 2-25-4-5 | 1907 |
| Morris, John B. | Sec 29-24-2-5 | 1905 | | Pepper, Harriet | N 36-24-4-5 | 1904 |
| Mountstevens, W. | SW 10-25-4-5 | 1913 | | Pepper, Issac | SE 36-24-4-5 | 1898 |
| Munns, Samuel G. | SE 28-24-4-5 | 1910 | | Perry, William H. | NW 10-25-4-5 | 1911 |
| Munro, Chas. R. | SW 6-25-3-5 | 1893 | | Pierce, Henry | NW 20-24-2-5 | 1901 |
| Munro, John A. | NE 6-25-3-5 | 1893 | | Pierce, John A. | SW 28-24-4-5 | 1913 |
| Munro, Margaret | NW 6-25-3-5 | 1893 | | Pottinger | NE 11-24-3-5 | 1905 |
| Munro, Wm. J. | SE 6-25-3-5 | 1893 | | Potts, Walter | NE 34-24-5-5 | 1912 |
| Murray, John | NE 28-24-4-5 | 1900 | | Potts, Walter R. | NW 34-25-5-5 | 1908 |
| | NW 28-24-4-5 | 1894 | | | S 32-25-5-5 | 1915 |
| McCallum, John | N 6-24-1-5 | 1885 | | Pts. | | |
| McCreight, James D. | NE 2-24-4-5 | 1903 | | Potts, John G. | SW 34-25-5-5 | 1907 |
| McEwing, Alex | SE 30-24-1-5 | 1885 | | Prichard, J.W. | NE 2-24-3-5 | 1885 |
| McGillis, Don | SW 2-24-3-5 | 1897 | | Quale, Wm. | NE 36-24-3-5 | 1891 |
| McKay, Alfred | NE 24-24-2-5 | 1887 | | Quigley, Samuel | SE 36-25-4-5 | 1907 |
| McKenzie, Donald | SE 6-24-1-5 | 1885 | | Pts. | | |
| McKnight, J.T. | SW 12-25-3-5 | 1894 | | Rambouville, E. | NW 16-24-3-5 | 1889 |
| McLaurin, John D. | SW 24-24-5-5 | 1911 | | Ramsay, Silas A. | SW 6-24-1-5 | 1885 |
| McDougall, G.M. | NW 25-24-6-5 | 1912 | | Rhodes, Hervert | W 18-25-4-5 | 1915 |
| | NE 26-24-6-5 | 1921 | | Ricks, Walter F. | W 12-25-6-5 | 1915 |
| McNab, Peter | SE 4-25-5-5 | 1914 | | | SW 20-25-5-5 | 1912 |
| Pts. | | | | Ricks, Isabella J. | E 12-25-6-5 | 1915 |
| | SW 18-25-5-5 | 1916 | | Ricks, Frank | SE 16-24-5-5 | 1905 |

| | | | | | | |
|---------------------|--------------|------|--|----------------------------|-------------------------------|------|
| McPherson, H. | NW 9-24-2-5 | 1901 | | | N 18-25-5-5 | 1903 |
| McPherson, Joseph | SW 2-24-2-5 | 1887 | | | N 20-25-5-5 | 1903 |
| McPherson, R. | SW 11-24-2-5 | 1905 | | Riley, Harold | SE 36-24-2-5 | 1896 |
| McPherson, R. C. | SW 10-24-2-5 | 1894 | | Riley, Thomas | NW 20-24-1-5 | 1888 |
| Nelson, Menil | NW 30-19-3-4 | 1913 | | Riley, W.E. | NE 36-24-2-5 | 1887 |
| Neuman, Walter | SE 32-25-4-5 | 1904 | | Ritchie, Thos. G.G. | NW 36-25-5-5 | 1908 |
| Newham, Alfred | NE 16-24-2-5 | 1891 | | Ritchie, James M. | SE 36-25-5-5 | 1908 |
| Nicoll, Eugene E. | SW 36-24-5-5 | 1911 | | Ritchie, Thos. G.G. Jr. | SW 36-25-5-5 | 1908 |
| Nicoll, Louis D. | SE 36-24-5-5 | 1909 | | Robb, John A. | NE 10-25-3-5 | 1902 |
| Nilsson, Nils | NE 32-25-5-5 | 1904 | | Robb, William | SW 2-25-5-5 | 1910 |
| Norman, Arthur | SE 14-24-4-5 | 1898 | | Robinson, Art | NE 14-24-3-5 | 1887 |
| | SE 16-24-4-5 | 1909 | | | SE 14-24-3-5 | |
| Nolan | NW 11-24-2-5 | 1905 | | Robinson, H.L. | SW 4-25-4-5 | 1908 |
| Odlin, John H. | SE 2-25-3-5 | 1905 | | Robinson, Joe | NW 18-24-2-5 | 1887 |
| Park, John | NW 16-25-5-5 | 1907 | | | NE 6-24-3-5 | 1895 |
| Park, Andrew | SE 28-25-5-5 | 1921 | | | NW 6-24-3-5 | |
| | | | | | | |
| | SW 18-24-2-5 | 1897 | | Pts. | | |
| Robinson, R.W. | SW 14-24-3-5 | 1899 | | Towers, Leslie H. | SE 28-25-4-5 | 1911 |
| Robinson, R.W. | NW 11-24-3-5 | 1905 | | | SW 28-25-4-5 | 1923 |
| | NE 18-24-2-5 | 1910 | | Towers, Walter F. | SE 18-25-4-5 | 1902 |
| Robinson, Wm. R. | NW 2-24-5-5 | 1907 | | | E1/2 of W1/2 of 18- 25-4-5 | |
| Roper, Charles | SW 24-25-1-5 | 1905 | | | | |
| Rowe, Catherine | NE 20-24-1-5 | 1889 | | | SW 30-25-4-5 | 1904 |
| Ryan, Joe P.E. | SE 4-25-4-5 | 1906 | | Turnbull, George | SW 12-24-3-5 | 1890 |
| Saunders D.V. | SE 15-24-5-5 | 1919 | | Tweed, J.G.W. | Pts. SE&SW of 34-25- 4-5 | 1906 |
| Scott, Frederick M. | SE 18-25-5-5 | 1915 | | | | |
| Scott, John | SW 32-24-1-5 | 1885 | | | SW 22-25-4-5 | 1908 |
| Scott, Latham | SE 4-24-3-5 | 1895 | | Vaudin, Ed. H.O. | S 10-24-4-5 | 1893 |
| Scott, Press | NE 4-24-3-5 | 1897 | | Von Melicke, Alex | SE 16-24-2-5 | 1887 |
| Shaw, Arthur J. | NW 22-25-5-5 | 1901 | | | SW 16-24-2-5 | |
| Sempler, Charles | SE 10-25-3-5 | 1899 | | Waddeconube, H.T. | SE 18-24-2-5 | 1887 |
| Sibbald, Andrew F. | N 32-24-5-5 | 1918 | | Wade, Wm. J. | SE 32-24-4-5 | 1898 |
| | SW 4-25-5-5 | 1909 | | Wallace, A.J. | SW 16-24-4-5 | 1913 |

| | | | | | | |
|--------------------|--------------|------|--|------------------|------------------|------|
| Sibbald, Andrew | SE 28-24-5-5 | 1912 | | Wallace, R.H. | NW 10-25-3-5 | 1892 |
| Sibbald, Franklin | NE 28-24-5-5 | 1902 | | Wallace, Wm. | NW 16-24-4-5 | 1912 |
| Sibbald, Howard E. | NW 28-24-5-5 | 1902 | | Ward, Leo J.F. | NW 10-24-5-5 | 1916 |
| Simmons, H.L. | NE 36-24-4-5 | 1909 | | | SE 10-24-5-5 | 1918 |
| Pts. | | | | Warner, Wm. P. | Sec. 24-25-4-5 | 1903 |
| | NW 36-25-4-5 | 1909 | | | Pts NW 34-25-4-5 | |
| Pts. | | | | | | |
| Smith, Charles C. | NW 30-24-2-5 | 1901 | | Warner, W.P. | Sec. 20-25-3-5 | |
| Smith, F.P. | N 11-25-3-5 | | | | Sec. 22-25-3-5 | |
| Smith, George | N 2-25-3-5 | 1900 | | | SW 14-25-3-5 | |
| Smith, Herbert A. | NE 16-25-5-5 | 1910 | | Watson, John G. | SE 30-24-2-5 | 1901 |
| Smith, Robert | SE 14-25-5-5 | 1906 | | | SW 30-24-2-5 | 1903 |
| Steel, Wm. B. | NW 2-24-2-5 | 1887 | | Watts, Ernest O. | NE 22-24-5-5 | 1915 |
| Stone, Thomas | NW 34-24-2-5 | | | Watts, John H. | SE 22-24-5-5 | 1915 |
| Stuart, Wm. W. | SE 30-24-4-5 | 1902 | | Watts, Joseph J. | SW 22-24-5-5 | 1915 |
| | SW 30-24-4-5 | 1891 | | Webb, Francis | NE 34-24-4-5 | 1893 |
| Swanson, Herbert | S 27-24-2-5 | 1900 | | Welsh, Robert | NE 12-24-2-5 | 1885 |
| Taylor, Sykes | NW 14-25-4-5 | 1904 | | | NW 12-24-2-5 | 1903 |
| | NW 11-25-4-5 | 1914 | | Westaway, F. | NE 28-24-3-5 | 1888 |
| Teskey, Robert A. | NE 16-24-4-5 | 1900 | | Westover, Edward | NW 2-25-4-5 | 1910 |
| Thompson, A. Wm. | SE 16-25-4-5 | 1905 | | | S 2-25-6-5 | 1913 |
| Thompson, John | NW 28-24-3-5 | 1896 | | Westover, M.G. | N 2-25-6-5 | 1913 |
| Thurber, James | SE 6-25-2-5 | 1891 | | Wheeler, Mickle | NW 22-24-3-5 | 1887 |
| | SW 6-25-2-5 | 1897 | | Whitley, S.P. | NW 2-24-4-5 | 1890 |
| Towers, Francis H. | N 30-25-4-5 | 1915 | | Widdecombe, J. | S 10-24-3-5 | 1886 |
| | SW 29-24-4-5 | 1919 | | Wills, George | SW 10-25-3-5 | 1894 |
| | SE 29-25-4-5 | 1921 | | Wilson, G. & J. | SE 11-25-4-5 | 1919 |
| Towers, Francis H. | NE 18-25-4-5 | 1901 | | Wilson, Steve | NW 20-24-3-5 | 1887 |
| | NE 20-25-4-5 | | | Wilson, Frank E. | NW 16-24-5-5 | 1923 |
| | S 20-25-4-5 | | | Wood, James H. | SE 24-24-5-5 | 1911 |
| | NW 20-25-4-5 | 1904 | | Wright, Wm. C. | NE 10-25-4-5 | 1907 |
| | SE 30-25-4-5 | 1903 | | Wylie, Bruce | SW 4-24-2-5 | 1887 |
| Pts. | | | | Young, Frank E. | SE 16-24-3-5 | 1906 |
| Towers, George | NE 28-25-4-5 | 1908 | | | SW 16-24-3-5 | |
| Towers, Harold | SE 30-25-4-5 | 1913 | | Young, Fred | NE 22-24-3-5 | 1903 |
| | | | | Young, James | SE 22-24-3-5 | 1889 |

3.3 *Adopted Conceptual Schemes*

- 1. Lariat Loop Conceptual Scheme (C-6197-2005), January 9, 2018*
- 2. Atkins Conceptual Scheme (C-7755-2018), May 22, 2018*
- 3. Lazy H Conceptual Scheme(C-7799-2018), May 14, 2019*
- 4. Devonian Ridge Estates Conceptual Scheme (C-7889-2019) June 11, 2019*