CARSELAND WEST

Area Structure Plan

Submitted To:

WHEATLAND COUNTY

By:

BARTECH DEVELOPMENTS LTD.

WHEATLAND COUNTY
PROVINCE OF ALBERTA
BYLAW 2007-52
(CARSELAND WEST ASP 2007-003)

Being a bylaw of Wheatland County for the purpose of adopting an Area Structure Plan to provide a comprehensive framework for the planned and orderly expansion of the Hamlet of Carseland within a portion of the NW 12-22-26 W4M located north of Railway Avenue, Plan 3063BM containing 36.22ha. (89.5ac.)+/-.

WHEREAS notification of this Bylaw was circulated to adjacent landowners and it was advertised in the Strathmore Standard at least two (2) weeks prior to the public hearing date.

WHEREAS a Public Hearing was held on July 3, 2007at the Wheatland County office.

FARTHING MOVED first reading of Bylaw 2007-52, on May 15, 2007 this being a by-law the purpose of adopting an Area Structure Plan to provide a comprehensive framework for the planned and orderly expansion of the Hamlet of Carseland within a portion of the NW 12-22-26 W4M located north of Railway Avenue, Plan 3063BM containing 36.22ha. (89.5ac.)+/-.

Carried.

FARTHING MOVED second reading of Bylaw 2007-52, on July 3, 2007 and it was

Carried.

KOESTER MOVED third and final Reading of Bylaw 2007-52, on July 3, 2007 and it was

Carried.

Ben Armstrong
Reeve

Jennifer Deak
County Manager

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1.0 EXECUTIVE SUMMARY:

1.1 This Carseland West Area Structure Plan (ASP) has been prepared pursuant to Provincial legislation and the Wheatland County Municipal Development Plan (MDP).

1.2 The purpose of this Area Structure Plan is to provide the framework for a planned and orderly Expansion of the existing Hamlet of Carseland, located in Wheatland County, Alberta.

1.3 The Plan Area (Subject Property) is located adjacent to the Ball Diamonds/private acreage on the west limit of the Hamlet of Carseland.

1.4 This Area Structure Plan provides for the development of:

1.4.1 Single-Family detached homes.

1.4.2 Multiple-Family residences; both Semi-Detached and Townhomes.

1.4.3 Mixed-Use Commercial/Residential Lots, where the development of permanent Residential Living Quarters in conjunction with acceptable small-proprietor Commercial Businesses will be encouraged. (See Item 5.6.4)

1.4.4 A Mixed-Use Commercial/Residential District, with emphasis on shops and services supportive of a Community that is both Family-oriented and attractive to Residents of all ages, and where the appropriate development of Residential apartments above the Commercial premises will be a discretionary use. (See Item 5.6.5)

1.4.5 A Facility dedicated to Senior's accommodations and lifestyle assistance.

1.4.6 A Church Facility.

1.4.7 Architectural Design Guidelines intended to:

1.4.7.a. Promote and preserve the "Prairie-Village" character of the Carseland Community.

1.4.7.b. Retain value for the Residents and the Community.

1.4.8 Infrastructure upgrade contributions beneficial to Carseland and the Regional Community.

1.5 This Plan promotes Wheatland County's Policy of preserving productive agricultural lands by concentrating Residential Development into a planned and orderly Expansion of the existing Hamlet of Carseland.

1.6 By expanding the Hamlet of Carseland, this Plan also supports Section 10.01.07 of the MDP, which recognizes and promotes Carseland as a logical growth centre.

1.6 It also promotes Wheatland County's Policy of encouraging sustainable economic diversification by creating a larger population base that will both bolster existing businesses and foster opportunities for new Commercial ventures in the Carseland Regional Area.

2.0 INTRODUCTION:

2.1 How To Use This Document:

2.1.1 This Area Structure Plan provides information according to the following structure:

- Existing Site Characteristics, and Local Features and Infrastructure.
- Concept of the Carseland West Area Structure Plan.
- Implementation Policies of the Carseland West Area Structure Plan.

2.1.2 The Concept provides the Intent and Spirit for the Expansion of the Hamlet of Carseland.

2.1.3 The Implementation Policies direct the County to undertake specific actions required to ensure the Plan Area develops as intended by the Area Structure Plan.

2.2 Contributing Professional Consultants:

2.2.1	Surveyor:	TRONNES SURVEYS (1976) LTD.	(TS)
2.2.2	Geotechnical Engineer:	MCINTOSH•LALANI ENGINEERING LTD.	(M•L)
2.2.3	Civil Engineer:	JUBILEE ENGINEERING CONSULTANTS LTD.	(JEC)
2.2.4	Environmental Consultant:	BASE PROPERTY CONSULTANTS LTD.	(BPC)
2.2.5	Traffic Engineer:	D.A. WATT CONSULTING	(DAW)
2.2.6	Legal Counsel:	BISHOP & McKENZIE LLP	(B&M)

2.3 General Setting:

2.3.1 The legal description of the Subject Property proposed for Development is a portion of the Southwest ¼ of Section 12 Township 22 Range 26 West of the 4th Meridian.

2.3.2 The Subject Property is located adjacent to the Ball Diamonds/private acreage on the west limit of the Hamlet of Carseland.

2.3.3 It is approximately 89.5 acres (36.22 Hectares) in size.

2.3.4 It is zoned Agricultural General District (A-G), and has historically functioned as agricultural grazing and farm lands.

2.3.5 Adjoining lands to the north, to the west (beyond Range Road 261), to the south (beyond Railway Avenue and the CPR Railway), to the east (the "acreage" north of the Ball Diamonds) and to the northeast are also zoned Agricultural General District (A-G).

2.3.6 General Setting Map (Map 01):

- NOTE: The most recent Aerial Photography available from Alberta Air Photo of the Carseland area when beginning assembly of this ASP was of the Year 2004.

2.4 Existing Municipal Policy Framework:

2.4.1 The Wheatland County Municipal Development Plan (MDP):

2.4.1.a Provides a framework for managing from within the "booming Alberta economy", "The two most prominent development pressures [facing the County, which are] the preservation of agriculturally productive land and the potential for increased residential, industrial and commercial development." (Section 5.00 / Issues and Priorities) In accordance with this Policy philosophy the MDP "encourages and promotes":

a.1 The protection and preservation of productive agricultural lands (Sections 5.00 and 8.00).

a.2 The Expansion of existing Hamlets (communities) for residential development (Sections 9.00 and 10.00).

a.3 Best-use of Municipal infrastructure (Section 9.00).

a.4 Economic diversification and sustainability (Section 11.00).

a.5 Recreational Development. (Section 12.00)

a.6 Institutional Development. (Section 13.00)

a.7 Conservation and best-use of the County's resources. (Section 15:00)

2.4.1.b Section 3.00 / Philosophy of the MDP includes the statement that, "Wheatland County believes that urban centers within the rural environment are extremely important. A clear directive for new development to first consider a location in or in close proximity to existing urban communities forming part of Wheatland County and then in proximity to adjacent municipalities is in place."

2.4.1.c Section 4.00 / Overall Goal of the MDP begins by stating, "Wheatland County recognizes it's history as an area that has been and is largely dominated by agricultural practices. It also recognizes the increased pressure for residential, industrial and commercial use." And concludes, "Therefore it is the overall goal of Wheatland County to open up to planned diverse developments, while always recognizing the importance of the agricultural industry that is the core of the Municipality."

2.4.1.d Item 9.02.06 of Residential Development/Objectives states, "To encourage developments that will provide or increase servicing to existing hamlets."

2.4.1.e Item 9.02.07 of Residential Development/Objectives states, "To encourage multi-lot residential development to locate in or next to existing Hamlets."

2.4.1.f Item 9.02.09 of Residential Development/Objectives states, "To encourage development to either conform to or complement existing area development."

2.4.1.g Item 9.03.01.c of Section Residential Development/Policies states, "Residential development shall have greater preference when it can be located such that it may be serviced by existing facilities."

2.4.1.h Item 9.03.01.d of Section Residential Development/Policies states, "Residential development shall have greater preference when it will create new or upgrade existing Hamlet servicing."

2.4.1.i Item 9.03.04 of Section Residential Development/Policies states, "It is policy to take into account the nature of the area and generally keep new residential development to a similar or compatible density and type."

2.4.1.j Item 10.01.07 of Section Hamlet Development / Introduction states, "Of the Hamlets recognized by the Municipality, the following are recognized as growth centers within the County: Carseland, Cheadle, Cluney, Gleichen, Namaka and Rosebud." It concludes, "These are Hamlets that have shown a historical potential for growth and are logical places for growth to continue provide adequate servicing can be achieved."

2.4.1.k Item 11.01.07 of Section Commercial / Industrial Development states, "The County recognizes that the Municipality cannot operate as a residential center alone, and that the commercial and industrial development provides several benefits to the community. These include but are not limited to: the provision of a local job market, the availability of goods and services with the community, incentive for growth when an industry is integrated well with the community and the potential for diversification in economic base."

2.4.1.l Item 17.02.01 of Provision of Services / Objectives states, "To encourage developments to locate in relation to servicing needs. The County prefers that developments hook up to existing services when available rather than create new separate servicing nodes."

2.4.1.m Item 17.02.02 of Provision of Services / Objectives states, "To maintain and improve the level of services currently offered throughout the County."

2.4.1.n Item 10.03.02 of Section Hamlet Development/Policies states, "It is policy that any application for development within a Hamlet must provide an adequate plan for servicing, to the satisfaction of Wheatland County. In addition the plan will include the method of implementation and it will consider it's self servicing in relation to the Hamlet as a whole."

2.4.1.o Item 10.03.03 of Section Hamlet Development/Policies states, "It is policy that any application for development within a Hamlet must provide an adequate transportation network, including as needed: vehicle, pedestrian, land, water, air."

2.4.2 The proposed Carseland West Expansion of the existing Hamlet of Carseland is consistent with the above Wheatland County MDP Policies. It:

2.4.2.a Helps to protect and preserve agricultural lands by concentrating Residential Development into the existing recognized growth center of the Hamlet of Carseland.

2.4.2.b Provides for a planned and orderly Expansion of the existing Hamlet of Carseland that is compatible with and will enhance the Hamlet.

2.4.2.c Employs Architectural Design Guidelines to:

c.1 Generally promote and preserve a "Prairie-Village" architectural character (keep new residential development to a similar or compatible density and type).

c.2 Retain value for the Residents and the Community.

2.4.2.d Supports existing local Recreational Development by increasing the support base.

2.4.2.e Enhances existing and new local Institutional Development by:

e.1 Providing an increased population base to help repopulate the School.

e.2 Providing a Facility dedicated to Senior's accommodations and assistance.

2.4.2.f Promotes and encourages economic diversification and sustainability by creating a larger and consequently more stable population base that will:

f.1 Bolster existing businesses.

f.2 Foster opportunities for new businesses.

2.4.2.g Proposes, by means of connection to existing Systems, to contribute to and participate in the upgrading and expansion of the existing Municipal Water and Wastewater Systems infrastructure.

2.4.3 The Wheatland County Land Use Bylaw (LUB):

2.4.3.a The Land Use Bylaw provides policies "to prohibit or regulate and control the use and development of land and buildings in Wheatland County." (Section 1.00 / Introduction)

2.4.3.b The existing Land Use District as designated by the Land Use Bylaw for the Plan Area (Subject Property) is Agriculture-General District (A-G).

2.4.3.c This Area Structure Plan proposes as part of the Subdivision and Development process of the Plan Area to Amend or Redesignate the existing Land Use District to those appropriate for the planned and orderly Expansion of the Hamlet of Carseland, as follows:

c.1 H-RRSF-m for Single-Family Detached Homes:
(Not an actual Wheatland County Land Use Designation, but employed by this Area Structure Plan as an interim variant of the H-RRSF Designation, with the foreknowledge of Wheatland County and Palliser Regional Municipal Services Planning Staff, until a Designation can be provided that permits conditions as set forth in Item 5.7.3 of this Area Structure Plan)

c.2 H-Ins for Multiple-Family Residences:
(Both Semi-Detached and Townhomes)

c.3 H-C for Mixed-Use Commercial/Residential Lots:
(Where the development of permanent residential living quarters in conjunction with acceptable small-proprietor Commercial businesses will be encouraged; see Item 5.6.4)

c.4 H-C for Mixed-Use Commercial/Residential District:
(With emphasis on shops and services supportive of a Community that is both Family-oriented and attractive to Residents of all ages, and where the appropriate development of Residential apartments above the Commercial premises will be a discretionary use; see Item 5.6.5)

c.5 H-Ins for a Senior's Facility.

c.6 H-Ins for a Church Facility.

2.4.3.d The Land Use Amendments or Redesignations and then Subdivision of the Plan Area will occur as separate processes from the adoption of this Area Structure Plan.

3.0 EXISTING SITE CHARACTERISTICS:

3.1 Vegetation:

3.1.1 The land is currently utilized for agricultural farm land purposes.

3.2 Topography:

3.2.1 Topographical relief is approximately 1 meter, sloping generally from north to south. The terrain could be characterized as slightly rolling with a few small sloughs.

3.3 Surficial Features and Hydrology:

3.3.1 Soils:

3.3.1.a "The general subsurface soil stratigraphy consists of varying amounts of surficial organic topsoils overlying silty clay glacial tills atop silt and sands." (M•L Geotechnical Evaluation, Section 5.1, page 2)

3.3.2 Groundwater:

3.3.2.a "Groundwater levels were monitored approximately one week after drilling [the geotechnical boreholes] and, at that point ranged from 1.0 m to 3.2 m below existing grade." (M•L Geotechnical Evaluation, Section 5.2, page 3)

3.4 Drainage and Stormwater Flows:

3.4.1 "The area is divided into two catchments, 1 and 2. Catchment 2 encompasses the Site and Catchment 1 in the north is outside the Site boundaries and runoff from this Catchment passes through the Site." (JEC Stormwater Management Concept Plan)

3.4.2 Site runoff flows underneath Railway Avenue to the south via existing culverts and then continues underneath the CPR Railway via more existing culverts. It then follows naturally established drainage channels towards the Bow River.

4.0 EXISTING LOCAL FEATURES and INFRASTRUCTURE:

4.1 Land Description and Use:

4.1.1 The legal description of the Subject Property proposed for Development is a portion of the Southwest ¼ of Section 12 Township 22 Range 26 West of the 4th Meridian.

4.1.2 The Subject Property is located adjacent to the Ball Diamonds/private acreage on the west limit of the Hamlet of Carseland.

4.1.3 It is zoned Agricultural General District (A-G), and has historically functioned as agricultural grazing and farm lands.

4.1.3.a Aerial photos from 1962 to present indicate there has been no development on the Property during that time; including that of oil and gas wells, or pipelines, or transmission utilities, or buildings.

4.1.3.b "A search of the Alberta Energy and Utility Board's oil and gas database for this portion of Alberta indicates no oil and gas wells or pipelines on the Site." (BPC Phase One Environmental Site Assessment, Section 3.3, page 5)

4.1.3.c "Alberta Environment's Groundwater Information Website indicates no water wells are on the Site." (BPC Phase One Environmental Site Assessment, Section 3.3, page 5)

4.1.3.d "Correspondence with Alberta Environment, Freedom of Information and Protection of Privacy Division has not identified any records for the Site." (BPC Phase One Environmental Site Assessment, Section 3.5, page 6)

4.1.3.e "Correspondence with the Calgary Health Region has not identified any outstanding executive orders or any environmental concerns for the Site." (BPC Phase One Environmental Site Assessment, Section 3.5, page 6)

4.1.4 Adjacent land uses are:

4.1.4.a Agricultural to the north; zoned Agricultural General District (A-G).

4.1.4.b Range Road 261 and then agricultural to the west; zoned Agricultural General District (A-G).

4.1.4.c Railway Avenue roadway and then the CPR railway and then agricultural to the south; zoned Agricultural General District (A-G).

4.1.4.d A private "acreage" zoned Agricultural General District (A-G), the Ball Diamonds and then the Hamlet of Carseland to the east.

4.1.4.e Agricultural to the northeast; zoned Agricultural General District (A-G).

4.2 Existing Local Roadway Network:

4.2.1 Local Roadway and Railway Networks Map (Map 02):

4.2.2 D.A. WATT CONSULTING (DAW) has prepared a Traffic Impact Assessment (TIA), dated March 12, 2007, conforming to the Guidelines set out by Alberta Infrastructure & Transportation (AIT), and according to an agreed upon Scope of Work with Palliser Regional Municipal Services acting on behalf of Wheatland County.

4.2.3 Operating Conditions of Existing Roadway Network:

(The following point items are taken either directly or in a condensed general sense from the Traffic Impact Assessment, Section 2.0, beginning on page 7):

4.2.3.a Highway 24 is classified as a Provincial Highway. Between Range Road 261 and Range Road 260 it is an undivided two-way, two-lane highway with a posted speed of 100 km/h. Driving lanes are 3.6 metres wide and the paved shoulders vary between 1.2 and 2.0 metres in width.

4.2.3.b Range Road 261 is a gravel road running in a north-south direction, providing access to farm lands to and from Highway 24. It's current width ranges between 7 and 8 metres and it comfortably accommodates one lane in each direction. It does not have a posted speed in the vicinity of the Site:

b.1 RR 261 intersects the CPR tracks approximately 50 metres south of it's intersection with Railway Avenue. This crossing is controlled by lights and gates.

b.2 The roadway elevates at approximately 4% from it's intersection with Railway Avenue to it's intersection with the CPR tracks.

4.2.3.c RR 261 intersects Highway 24 approximately 400 metres from the Site's southwest corner. Based on Alberta Infrastructure & Transportation (AIT) Geometric Design Guidelines, this intersection is classified as a Type I, with no storage to accommodate turning movements to and from the Highway. The northbound and southbound approaches are flared from 7.2 metres to 24 metres and are controlled by stop signs at their intersection with Highway 24.

4.2.3.d Railway Avenue is an east-west roadway that extends between Range Road 261 on the west and Range Road 260 on the east. It runs parallel to the CPR tracks and is paved from approximately the Ball Diamonds on the west extent to Range Road 260 at the east extent. The width ranges between 7.2 and 11 metres. It has a posted speed of 50 km/h.

4.2.3.e Range Road 260 constitutes Carseland's main access to and from Highway 24 to the south and Highway 901 / 22X located approximately 5.5 kilometres to the north. It is paved between Highway 24 and Highway 901 / 22X. Through the Hamlet it's width is approximately 9 metres, with wide lanes of 4.5 metres. Railway Avenue effects a two-block east-west offset of the north-south alignment of RR 260 within the Hamlet, such that the intersection at the west extent of this offset leads north along Main Street to Highway 901 / 22X, and the intersection at the east extent of this offset leads south to Highway 24:

e.1 RR 260 intersects the CPR tracks approximately 70 metres south of it's intersection with Railway Avenue. This crossing is controlled by lights and gates.

e.2 RR 260 intersects Highway 24 approximately 170 metres south of it's intersection with Railway Avenue. Based on Alberta Infrastructure & Transportation Geometric Design Guidelines, this intersection is classified as a Type IV, with the following characteristics:

e.2.1 The southbound and northbound approaches are flared from 9 metres to 24 metres and are controlled by stop signs at their intersection with Highway 24.

e.2.2 The eastbound approach of Highway 24 to RR 260 is comprised of a separate 65 meter long left-turn lane leading north onto RR 260 and into Carseland, and a shared right/through lane.

4.2.3 The westbound approach of Highway 24 to RR 260 is comprised of an exclusive 125 meter long right-turn lane leading north onto RR 260 and into Carseland, and a shared left/through lane.

4.2.4 Highway 24 provides an approximately 20 metre long acceleration lane for vehicles entering onto the Highway and traveling in the westbound direction, and an approximately 60 metre long acceleration lane for vehicles entering onto the Highway and traveling in the eastbound direction.

4.2.4 CONCLUSIONS re Operating Conditions of Existing Roadway Network:

4.2.4.a Short-Term [existing]: "The intersections are operating at an Overall Good Level of Service (LOS A) with minimal delays and have spare capacity to accommodate additional traffic during the morning and afternoon peak hours." (DAW Traffic Impact Assessment, Section 1.3, page 4)

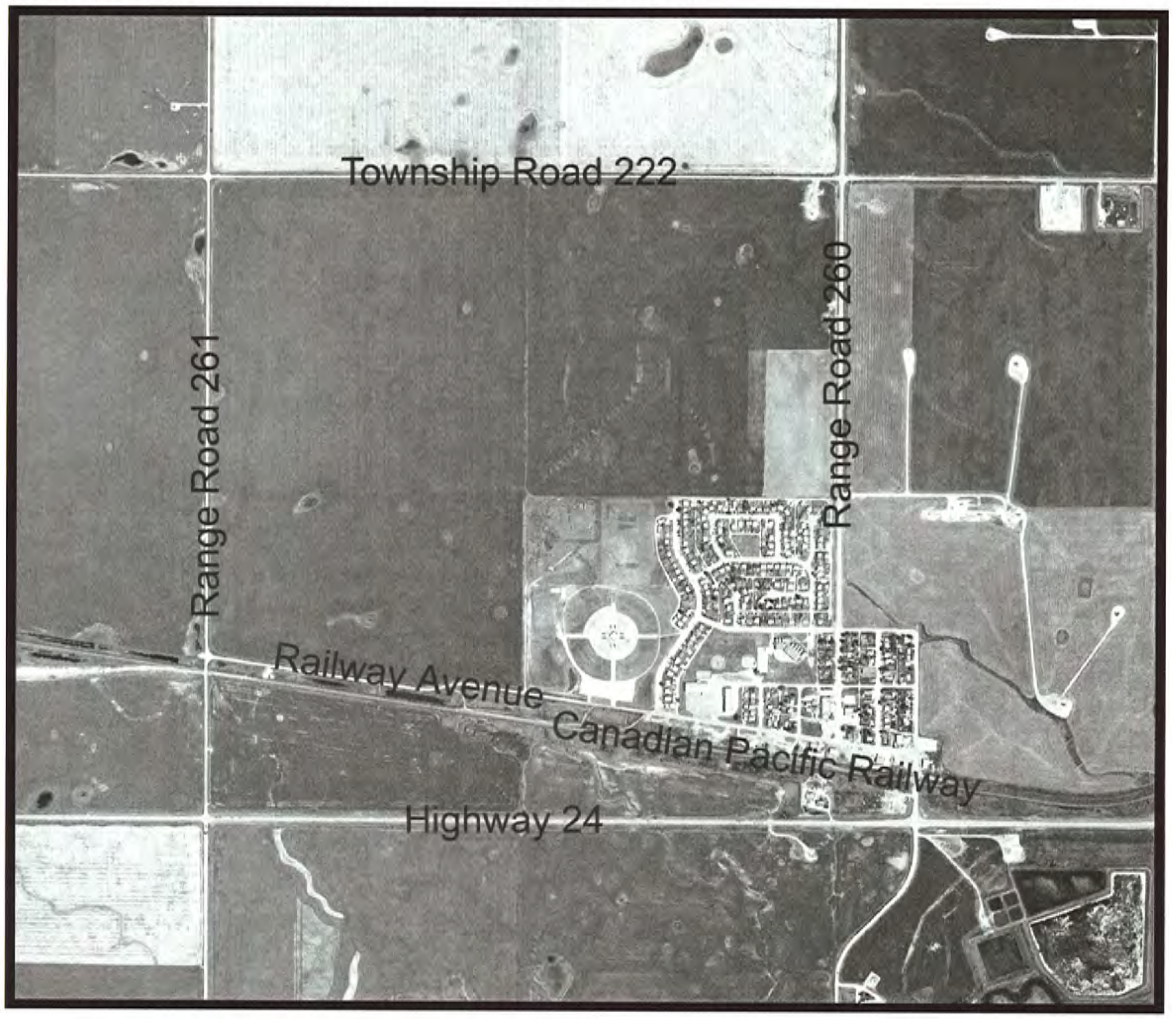
4.2.4.b "Overall, we conclude that the road network in the area has spare capacity to accommodate the expected traffic generated by the proposed development, and that [ultimately] the following upgrades are required" [or recommended]: (DAW Traffic Impact Assessment, Section 1:3, page 5)

b.1 NOTE: See Item 5:10.1.a.2 of this Area Structure Plan for required or recommended upgrades.

4.2.4.c "We recommend that past the ASP stage and prior to other applications for the site, the operation of the studied intersections be addressed again based on the phasing program of this project. The new assessment will assist the site's owners and the approving authorities in estimating the timeframe and the resources needed for any upgrades or improvements required for the existing road network." (DAW Traffic Impact Assessment, Section 1:3, page 6)

4.3 Existing Local Canadian Pacific Railway Network:

4.3.1 Local Roadway and Railway Networks Map (Map 02):



4.3.2 Locational Characteristics:

4.3.2.a The Canadian Pacific Railway twin-line runs essentially parallel with Railway Avenue, which borders both the Hamlet of Carseland's and the Subject Property's southern limits.

4.3.2.b The line is situated approximately 50 metres south of the Subject Property's southwest corner and approximately 80 metres south of it's southeast corner:

b.1 NOTE: residential dwellings would be set back a minimum of approximately 95 – 105 metres from the railway line, or approximately 85 – 95 meters from the CPR property line.

4.3.2.c Range Road 261, which borders the Subject Property's west boundary, intersects the CPR line approximately 50 metres south of the Subject Property's southwest corner. This crossing is controlled by lights and gates.

4.3.2.d Range Road 260, near the eastern limit of the Hamlet of Carseland, intersects the CPR tracks approximately 850 metres east and south of the Subject Property's southeast corner. This crossing is controlled by lights and gates.

4.3.2.e The section of line adjacent to Carseland and the Subject Property was twinned in 2006:

e.1 According to CPR responses quoted from the Municipal District of Rocky View No. 44 CPR Public Meeting Notes of May 5, 2005:

e.1.1 "Double tracking or the extension of sidings is not only used to switch cars, but predominantly for meeting and passing trains." (page 3)

e.1.2 "The twin/double tracks is used for meeting and passing trains. There will be occasions, if there is congestion or in emergency situation that they may sit for a while." (page 4)

e.1.3 "The purpose of sidings is to meet passing trains. CPR would not intentionally park trains for an extended period of time, unless there is something else preventing the car from moving." (page 6)

4.3.2.f Regulations governing railway traffic as according to the Canadian Rail Operating Rules, which are publicly available at Transport Canada:

f.1 Section 14 Engine Whistle Signals, regulates when and how the engine whistle is to be sounded:

f.1.1 Currently trains traveling in both directions and approaching the crossing at Range Road 260 near the Hamlet's southeastern limit and the crossing at Range Road 261 near Carseland West's proposed southwest limit sound the engine whistle as according to the Rail Operating Rules.

f.1.2 Transport Canada has developed conditions and procedures to eliminate the engine whistle safety precaution as long as specific safety measures are implemented and met. The community must contact the pertinent railway company to start this process.

f.2 Section 103 Public Crossings at Grades, regulates public crossings at grade, including the so-called "five minute rule":

f.2.1 Item (c) states in part, "No part of a train or engine may be allowed to stand on any part of a public crossing at grade, for a longer period than five minutes, when vehicular or pedestrian traffic requires passage."

f.2.2 This applies to trains that are standing/stopped on the crossing, not to moving trains.

4.3.2.g According to CPR's comment letter re the Carseland West Area Structure Plan (Appendix Item J):

g.1 The current permissible track speed on both tracks in the vicinity of Carseland is 50 mph.

g.2 Current traffic in the vicinity of Carseland averages of 28 – 30 trains a day.

4.3.3 Nature of Freight Transported:

4.3.3.a "Based in Calgary, Alberta, Canadian Pacific Railway (CPR) is a Class 1 North American railway providing freight transportation services over a 14,000-mile network in Canada and the U.S. [CPR's] high density network serves virtually every major sector and ships commodities like grain, coal, lumber and potash as well as cars, agricultural equipment, home electronics, food and furniture." (quoted from Canadian Pacific Railway's web page 03/10/07)

4.3.3.b According to Canadian Pacific Railway published and publicly available data, the nature of the freight transported, as an approximate percentage of revenue, is comprised of:

b.1 Extrapolated from Canadian Pacific Railway Management's Discussion and Analysis First Quarter Report 2006 (Summary of Rail Data, page 15):

b.1.1	Grain	= 19.8%
b.1.2	Coal	= 15.0%
b.1.3	Sulfur and fertilizers	= 8.7%
b.1.4	Forest products	= 7.8%
b.1.5	Industrial and consumer products	= 14.0%
b.1.6	Automotive	= 7.3%
b.1.7	Intermodal	= 27.4%

b.2 Quoted from Canadian Pacific Railway Company Renewal Annual Information Form, March 13, 2000 (Item 3 Description of the Business, pages 10-12):

b.2.1 Grain: "Consists of both whole grains, including wheat, corn, soybeans and canola, and processed products such as canola meal, vegetable oil and flour."

b.2.2 Coal: (Canadian) "is mostly metallurgical for use in the steel-making process."

b.2.3 Sulfur: (Most sulfur) "produced in Alberta is a by-product of processing sour natural gas, refining crude oil and upgrading bitumen produced in the Alberta oil sands. Sulfur is a raw material used primarily in the manufacture of sulfuric acid, the most common industrial chemical in the world. Sulfuric acid is used most extensively in the production of phosphate fertilizers. Sulfuric acid is also a key ingredient in industrial processes ranging from smelting and nickel leaching to paper production."

b.2.4 Fertilizers: "Traffic consists primarily of potash and chemical fertilizers."

b25 Forest products: "Traffic includes wood pulp, paper, paperboard, newsprint, lumber, panel and Oriented Strand Board."

b26 Industrial and consumer products: "Traffic includes an array of commodities grouped as plastics, aggregates, minerals, metals, steel, chemicals and energy-related products."

b27 Automotive: "Traffic includes domestic, import and pre-owned vehicles and automotive parts."

b28 Intermodal: (Domestic) "freight is comprised primarily of manufactured consumer products moving in containers."

4.3.4 Emergency Preparedness and Response Planning:

4.3.4.a "CPR will sit down with Rocky View and Wheatland [County] to develop Emergency Preparedness plans":

a.1 According to CPR responses quoted from the Municipal District of Rocky View No. 44 CPR Public Meeting Notes of May 5, 2005. (page 5)

4.3.4.b According to Canadian Pacific Railway published and publicly available data:

b.1 Quoted from Canadian Pacific Railway Ingenuity, Corporate Profile and Fact Book, 2004:

b11 "Since 1998, CPR has led North American Class 1 railways with the lowest Federal Railroad Administration reportable train accidents." (Safety, page 24)

b12 "CPR has procedures in place to ensure that we minimize the impact of our operations on ecologically-sensitive areas such as fish habitats and national parks. We continue to focus on preventing spills and other incidents that have a negative impact on the environment. As a precaution, we have established a Strategic Emergency Response Contractor network and located spill equipment kits across Canada and the U.S. to ensure a rapid and efficient response in the event of an environmental incident. We pioneered the contractor network in the U.S. Midwest, where we have been able to respond within three hours anywhere on the 3,200 miles of track in the region. This standard is our target for CPR's entire network. In addition, we regularly update and test our emergency preparedness and response plans to ensure rapid and effective action." (Environment, page 25)

b.2 Quoted from CPR 2005 Corporate Social Responsibility Report:

b21 Emergency Preparedness (pages 14-15):

b211 "Railway experience has shown that the best emergency plan is one that is integrated with those of municipal, provincial, state and federal jurisdictions. In 2004, CPR completed five full-scale emergency

response exercises at Cochrane, Alberta, Portage La Prairie, Manitoba, Thunder Bay, Ontario, Plummer, Minnesota and Saratoga County, New York with the participation of municipalities, fire departments, police, emergency management services, hospitals, schools, media organizations and others."

b212 "They involved simulated releases of dangerous commodities and were designed to test the responses of the railway and community alike. In addition to full-scale drills, CPR participated in:"

i "17 "hands-on" familiarization sessions for local emergency responders, using real hazardous-material rail cars."

ii "Six "table top" sessions to review and test."

iii "12 information meetings with local communities regarding emergency management capabilities."

iv "Two unannounced drills testing the yard evacuation plans in St. Paul and Humbolt, Minnesota yards."

b22 Resource Network (page 15):

b221 "CPR has established a strategic emergency response contractor network and placed spill equipment kits at key locations in Canada and the U.S. to ensure rapid and efficient response in the event of an environmental incident. The ultimate target is a three-hour maximum response time anywhere on the CPR system. Through membership in the Canadian Emergency Response Contractors' Alliance, CPR participates in formal verification visits to ensure that contractors have all the equipment and capability they need."

b23 Incident Reporting and Management (page 15):

b231 "An environmental incident is a release into the air, water or soil of any pollutant, dangerous or not. CPR's operations personnel undergo extensive training in the reporting and management of incidents whose environmental impacts may trigger a higher level of response. All incidents are managed in accordance with CPR's emergency response plan. Incidents are categorized by three levels. As the severity of the incident rises, so does the level of response. CPR's Network Management Centre (NMC) notifies the appropriate authorities in all incidents. If a Level 3 incident occurs, it triggers the Corporate Crisis Management Plan."

b232 "The NMC is the hub of operations; when incidents occur, the NMC ensures CPR personnel, appropriate public emergency responders and government agencies are informed quickly."

4.4 Existing Other Local Transportation Networks:

4.4.1 Local Pedestrian Pathway Network:

4.4.1.a Excepting conventional sidewalks, this Area Structure Plan is not familiar with any materially developed Pedestrian Pathways in the Hamlet of Carseland.

4.4.2 Water:

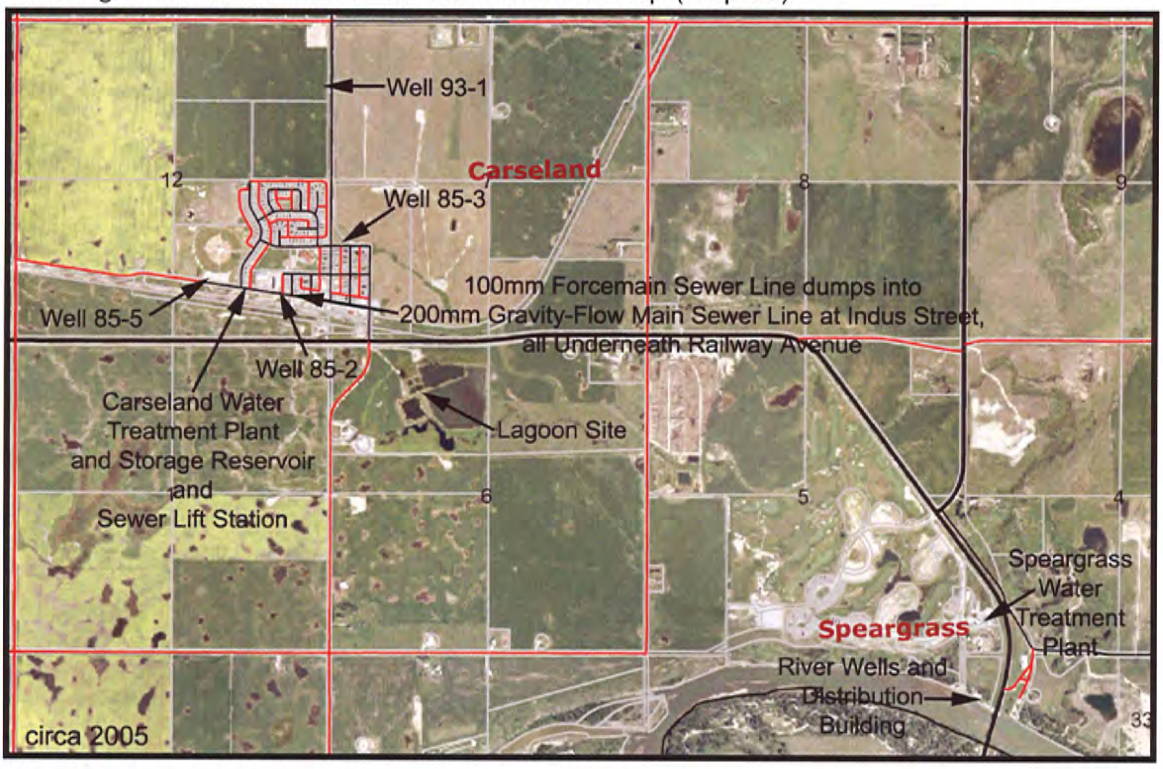
4.4.2.a Nothing substantive locally.

4.4.3 Air:

4.4.3.a Nothing substantive locally.

4.5 Existing Municipal Water Supply System:

4.5.1 Existing Water and Wastewater Infrastructure Map (Map 03)



4.5.2 In general terms, the Carseland/Speargrass I Municipal Water System draws water from the nearby Bow River. The water is then treated at and distributed from the Speargrass Water Treatment Plant to both the Carseland and Speargrass I communities.

4.5.3 Specifically, the existing Carseland/Speargrass I Municipal Water System includes the following Infrastructure Components:

4.5.3.a Surface Water Diversion Certificate (License not yet released):

a.1 For 307,950 M^3 per year.

a.2 Approved and regulated by Alberta Environment (AE):

a2.1 Monitoring, according to Alberta Environment License requirements and regulatory standards.

a2.2 Inspections, as set forth and/or performed by Alberta Environment.

a2.3 Record keeping, by Wheatland County (WC) personnel.

a2.4 Reports, compiled monthly and submitted annually, by WC to AE.

4.5.3.b Two-Part Waterworks License:

b.1 First part is for the Speargrass Water Treatment Plant.

b.2 Second part is for the Carseland Water Treatment Plant.

b.3 Both are approved and regulated by Alberta Environment (AE):

b.3.1 Monitoring, according to Alberta Environment License requirements and regulatory standards.

b.3.2 Inspections, as set forth and/or performed by Alberta Environment.

b.3.3 Record keeping, by Wheatland County (WC) personnel.

b.3.4 Reports, compiled monthly and submitted annually, by WC to AE.

b.4 Wheatland County currently employs 2 – Alberta Environment Certified Operators.

4.5.3.c Bow River.

4.5.3.d 3 – 250mm diameter x 6 meter deep Wells in the Bow River gravel-shore-bed:

d.1 All Wells are equipped with 300 US/gpm Pumps.

4.5.3.e Raw Water Distribution Building:

e.1 River (raw) water is pumped to the Distribution Building via the 3 Well Pumps.

e.2 Raw Water Distribution Building c/w a metal collection header only, and does <u>not</u> contain any additional pumping capability.

4.5.3.f 300mm underground PVC Supply Line from Raw Water Distribution Building to Speargrass Irrigation Storage Pond.

4.5.3.g Speargrass Irrigation Storage Pond:

g.1 Storage capacity uncertain.

g.2 Clay liner, only.

4.5.3.h 300mm underground PVC Supply Line from Raw Water Distribution Building to Speargrass Water Treatment Plant.

4.5.3.i Speargrass Water Treatment Plant:

i.1 Located at the east end of the Speargrass I development.

i.2 Constructed in 2002/2003.

i.3 Generally, consists of 2 – premanufactured conventional-filtration Modules housed within a heated building that also includes storage, pumping and computerized monitoring provisions:

i.3.1 STE-400-2 Package Water Treatment Plant Modules manufactured by BCA – Clearwater Group:

i.3.1.1 Under optimum operating conditions each Module is capable of producing 200 US/gpm of treated water.

i.3.2 2 – 600 M^3 clearwater (treated water) storage reservoirs.

i.3.3 1 – 150 M^3 clearwater (treated water) reservoir containing the Distribution Pumps.

i.3.4 3 – Distribution Pumps:

i.3.4.1 Operating in lead/lag mode, all are variable speed:

i 1 rated @ 130 US/gpm.

ii 1 rated @ 400 US/gpm.

iii 1 rated @ 900 US/gpm.

i.3.5 Controllers.

i.3.6 Integral office component includes:

i.3.6.1 2 – Computers c/w monitoring software.

i.3.6.2 Records and System data.

4.5.3.j Reduced-diameter PVC underground Main Supply Line @ 70 PSI (Pounds per Square Inch), from Water Treatment Plant:

j.1 250mm diameter runs to a point just past the Kenwyn feedlot, at which point the Line reduces to 200mm diameter.

j.2 Line runs through and serves the Speargrass I Community.

j.3 Line runs to and supplies the Carseland Storage Reservoir.

4.5.3.k The Carseland Four Water Wells:

k.1 These Four Wells supplied Carseland with water until the Speargrass Water Treatment Plant was commissioned in 2003:

k.1.1 They are licensed by Alberta Environment by means of a Groundwater Diversion License which is distinct and separate from the Surface Water Diversion Certificate/License discussed in Item 4.5.3.a above.

k.1.2 They have not been formally decommissioned, but instead they are retained for back-up Water Supply purposes. Water is periodically pumped from them to ensure that all systems are functioning properly and so remain in a state of readiness for back-up service.

k.2 93-1 (new):

k.2.1 75mm PVC line to Carseland Water Treatment Plant.

k.2.2 10 hp pump.

k.2.3 21.8 M^3 p/h pump rate.

k.3 85-2:

k.3.1 Line size and type, to Carseland Water Treatment Plant, uncertain at the time of assembly of this ASP.

k.3.2 3 hp pump.

k.3.3 3.9 M^3 p/h pump rate.

k.4 85-3 (new):

k.4.1 75mm PVC line to Carseland Water Treatment Plant.

k.4.2 5 hp pump.

k.4.3 9.5 M^3 p/h pump rate.

k.5 85-5:

k.5.1 Line size and type, to Carseland Water Treatment Plant, uncertain at the time of assembly of this ASP.

k.5.2 1.5 hp pump.

k.5.3 4.8 M^3 p/h pump rate.

4.5.3.l Carseland Water Storage Reservoir:

l.1 Located in the southwest quadrant of Carseland, at the northeast corner of the intersection of Railway Avenue and McKinnon Drive.

l.2 Constructed in 1979.

l.3 Above-grade, reinforced-concrete construction.

l.4 1,200 M^3 storage capacity.

4.5.3.m 250mm underground Connecting Line between the Storage Reservoir and the Water Treatment Plant.

4.5.3.n Carseland Water Treatment Plant and Pumphouse:

n.1 Located adjacent to and on the west side of the Water Storage Reservoir.

n.2 Constructed in 1993.

n.3 Generally, consists of disinfection, filtration and pumping components housed within a heated concrete-block building that also includes Fire Pump and manual monitoring provisions:

n3.1 The Carseland Water Treatment Plant and Pumphouse only treats water that is produced by the Carseland Four Wells.

n3.2 Otherwise, it serves primarily as a booster station for water produced at the Speargrass Water Treatment Plant and distributed to the Hamlet of Carseland.

n3.3 Disinfection, chlorine injection.

n3.4 Green-sand filtration.

n3.5 3 – Domestic Distribution Pumps:

n3.5.1 Operating in lead/lag mode, all are variable speed:

i All rated @ 165 US/gpm.

n3.6 Backup diesel Fire Pump:

n3.6.1 1,000 US/gpm flow-rate.

n3.7 Controllers:

n3.7.1 All are Allan Bradley PLC.

n3.8 Integral office component includes:

n3.8.1 Records and System data.

4.5.3.o 250mm PVC underground Distribution Line leads to the Hamlet of Carseland.

4.5.3.p 150 mm PVC underground Distribution Line, leads towards Future West Subdivision and takes-off from the northern end of the McKinnon Drive 250mm line.

4.5.3.q Valves.

4.5.3.r Fire Hydrants.

4.5.4 CONCLUSIONS re Existing Municipal Water Supply System:

4.5.4.a The design capacity for the Carseland/Speargrass I Municipal Water System is able to provide:

a.1 The current domestic and exterior water needs of the Hamlet of Carseland, approximate population 660 people.

a.2 The projected domestic water needs of the Speargrass I development at Completion.

a.3 The Raw-Water requirements for the 18 hole Speargrass golf course.

a.4 Approximately a 10% reserve capacity.

4.5.4.b Currently, the Speargrass Water Treatment Plant component of the System is operating at approximately:

b.1 25% of design capacity in the winter months.

b.2 40% of design capacity in the summer months.

4.6 Existing Municipal Wastewater Disposal and Treatment System:

4.6.1 In general terms, the Carseland/Speargrass I Municipal Wastewater Disposal and Treatment System treats and stores wastewater in the conventional settlement Lagoon facility located approximately 500 metres south and east of the Hamlet southeast limits.

4.6.2 Specifically, the existing Carseland/Speargrass I Municipal Wastewater Disposal and Treatment System includes the following Infrastructure Components:

4.6.2.a Wastewater Treatment and Storage License:

a.1 Approved and regulated by Alberta Environment (AE):

a.1.1 Monitoring, according to Alberta Environment License requirements and regulatory standards.

a.1.2 Inspections, as set forth and/or performed by Alberta Environment.

a.1.3 Record keeping, by Wheatland County (WC) personnel.

a.1.4 Reports, compiled monthly and submitted annually, by WC to AE.

4.6.2.b Carseland Sanitary Sewer Lift Station:

b.1 Located immediately adjacent to and southwest of the Carseland Water Treatment Plant and Pumphouse.

4.6.2.c 100mm Forcemain servicing portions of the existing Hamlet of Carseland:

c.1 Runs east, underneath Railway Avenue and for approximately 1 block, to the intersection of Indus Street, at which point it dumps into the 200mm Gravity-Flow Main Sanitary Sewer Line.

4.6.2.d 200mm Gravity-Flow Main Sanitary Sewer Line servicing portions of the existing Hamlet of Carseland:

d.1 Also runs east underneath Railway Avenue.

d.2 Manholes.

4.6.2.e Sanitary Sewer Lift Station located adjacent to the Lagoon.

4.6.2.f Lagoon:

f.1 Located approximately 400 metres southeast of Carseland, on approximately 107 acres of land.

f.1.1 Located approximately 1,500 metres east and south of the proposed location for the Carseland West Sanitary Sewer Lift Station.

1.2 4 – Primary Facultative Cells:

1.2.1 4 stages of settling:

1.2.1.1 First two cells have been cleaned in past, second two have not.

1.2.2 Anaerobic.

1.2.3 Clay liner.

1.2.4 Designed to provide a total of 4 days retention for 1,390 people @ 70 Imp/gpd per person.

1.3 1 – Secondary Treatment Cell:

1.3.1 Aerobic.

1.3.2 Clay liner.

1.3.3 20.8 acre-feet storage volume.

1.4 1 – Secondary Storage Cell:

1.4.1 Clay liner.

1.4.2 123 acre-feet storage volume.

1.5 1 – Deactivated Secondary Storage Cell:

1.5.1 The original lagoon.

1.5.2 Now only retained for occasional bypass purposes.

1.5.3 Constructed at a lower elevation than the other lagoon cells.

1.5.4 Clay liner.

1.5.5 21.2 acre-feet storage volume.

1.6 No Wetland.

1.7 Groundwater Monitoring Wells.

1.8 Discharge Procedures:

1.8.1 Once a year, between March and October, the Carseland/Speargrass I Municipal Wastewater Disposal and Treatment System has Alberta Environment authorization to release treated effluent for up to 3 weeks continuously into the adjacent creek.

1.8.1.1 The effluent then runs towards and supposedly into the Bow River.

f.8.1.2 To date the released effluent has not flowed as far as the Bow River.

f.9 Providing a total of 7 months storage at design capacity.

4.6.2.g Gravity-Flow Main Sanitary Sewer Line servicing the Speargrass I community, diameter uncertain at the time of assembly of this ASP:

g.1 Manholes.

4.6.2.h Speargrass I Sanitary Sewer Lift Station:

h.1 Located approximately 300 metres west and south of the Speargrass Water Treatment Plant.

h.2 Forcemain to Lagoon, diameter and placement uncertain at the time of assembly of this ASP.

4.6.3 CONCLUSIONS re Existing Municipal Wastewater Disposal and Treatment System:

4.6.3.a The design capacity for the Carseland/Speargrass I Municipal Wastewater Disposal and Treatment System is able to provide Sanitary Sewer Disposal and Treatment needs for:

a.1 The current Hamlet of Carseland, approximate population 660 people.

a.2 The Speargrass I development as projected at Completion.

a.3 An undetermined Reserve capacity.

4.6.3.b Currently, the Lagoon is operating at substantially less than design capacity.

4.6.3.c Currently, there are some challenges within the Carseland component of the System:

c.1 The Carseland Sanitary Sewer System is prone to backing-up into houses, particularly during rainy periods. This is contributed to in part by the fact that several residential sump pumps are connected to the Sanitary Sewer System.

c.2 The design whereby the approximately 1 block length of Forcemain underneath Railway Avenue in Carseland directly deposits effluent into the Gravity-Flow Main Sanitary Sewer Line has proven to be troublesome. This is particularly so during rainy periods when the additional volumes introduced under pressure of the Forcemain overload the southern collection portion of the Gravity-Flow Main Sanitary Sewer Line. This contributes tangibly to the sewer back-ups in the Hamlet.

4.7 Land Development Capability:

4.7.1 The Geotechnical Evaluation of the Subject Property performed by MCINTOSH•LALANI ENGINEERING LTD. (M•L) determined that the land is suitable for the Planned Development:

4.7.1.a A supplementary document specifically addressing "Geotechnical Suitability for Development" and dated December 20, 2006 states, "Based on our field investigation of the Site, it is M•L's opinion that no geotechnical impediment to development exists on the Subject Lands, and that they are suitable for development as proposed, with the recommendations given in our report of May 15, 2006. Conventional building and construction practices are suitable for this site."

4.7.2 The Traffic Impact Assessment conducted by D.A. WATT CONSULTING (DAW) has determined that the Existing Local Roadway Network is favorably established to support the Planned Development:

4.7.2.a "Overall, we conclude that the road network in the area has spare capacity to accommodate the expected traffic generated by the proposed development, and that [ultimately] the following upgrades are required" [or recommended]: (DAW Traffic Impact Assessment, Section 1:3, page 5)

a.1 NOTE: See Item 5.10.1.a.2 of this Area Structure Plan for required or recommended upgrades.

4.7.3 Additional Water License volumes must be secured from Alberta Environment before the proposed development of Carseland West can be Completed:

4.7.3.a At the Wheatland County Council Meeting of February 20, 2007, the Approved Minutes of which are now publicly available and therefore considered official, "RESOLUTION 07-85 Bartech Developments" was Moved and Carried, committing "the production volumes from the existing four water wells licensed to the hamlet of Carseland to the proposed Carseland West Subdivision with the understanding that this commitment meets Alberta Environment approval and also with the understanding that this commitment authorizes connection of this proposed subdivision to the existing Carseland/Speargrass I municipal water system."

4.7.3.b It has been calculated that the Carseland Four Water Wells are expected to be able to contribute approximately 40% of the Carseland West Subdivision's Projected Water Supply Requirements, at Completion.

4.7.4 Connection of Carseland West to the existing Carseland/Speargrass I Municipal Water and Wastewater Systems is the most logical means for servicing the proposed Expansion of the Hamlet of Carseland:

4.7.4.a Formal engineering analysis of the existing Carseland/Speargrass I Municipal Water System is required to identify Water System components that will need to be upgraded and/or otherwise addressed before the System is capable of supplying the Carseland West Water Supply volumes that will be required at

Completion. This ASP presumes that the engineering analysis would be under the purview of Wheatland County.

4.7.4.b Formal engineering analysis of the existing Carseland/Speargrass I Municipal Wastewater Disposal and Treatment System is required to identify Wastewater System components that will need to be upgraded and/or otherwise addressed before the System is capable of receiving the Carseland West Wastewater volumes that will be generated at Completion. This ASP presumes that the engineering analysis would be under the purview of Wheatland County.

4.7.5 The Stormwater Management Concept Plan for the Subject Property as outlined by JUBILEE ENGINEERING CONSULTANTS LTD determined that conventional Stormwater Management techniques are adequate for the Site:

4.7.5.a "For the Stormwater Management Plan, the 1:100 year event post-development runoff shall be contained on Site, to ensure that the post-development release is less than or equal to the pre-development release. As shown on the Drawing, a Storage Pond shall be provided and sized to contain the post-development flows for a 1:100 year event. Outflow from the Storm Pond shall be controlled to the pre-development flows and shall" [be led southwards underneath Railway Avenue via drainage culverts, as per the existing culverts facilitating southwards flow underneath Railway Avenue, and then continue underneath the CPR Railway via the existing culverts and then follow naturally established drainage channels towards the Bow River]. (JEC Stormwater Management Concept Plan)

4.7.6 The Phase 1 Environment Site Assessment performed by BASE PROPERTY CONSULTANTS LTD. determined that there are no known environmental issues regarding the Subject Property:

4.7.6.a The Executive Summary concludes, "Therefore, based upon the results of the historical records review, site reconnaissance and information available to the author at the time of preparing this report [October 2006], it is our opinion that no significant environmental impairment exists on the Subject Site. Further environmental investigation is not required at this time." (page 1)

4.7.7 Shallow Utility Services (Franchise Utilities) such as gas, power, telephone, and cable are available to service the Development.

4.7.8 Additional research has not identified any potential impediments to Site Development, such as restrictive covenants, court orders, oil and gas wells, pipelines, or transmission utilities, buildings, or other natural or human features.

5.0 CARSELAND WEST AREA STRUCTURE PLAN – CONCEPT:

Municipal Development Plan (Bylaw 2006-01), Section 21.00:

Area Structure Plans are general preliminary plans for a full site showing the basic development scheme and the intentions for addressing the development requirements and/or issues.

Land Use Bylaw (Bylaw 2006-02), Section 3.02:

The Area Structure Plan is a tool to be used to give a general overall view of a proposed development. It will generally list all the major development issues that will affect the proposal and state the initial plan to address these issues.

5.1 Introduction:

5.1.1 Section 5 of this Area Structure Plan provides the Intent and Spirit of the Plan and the Plan Policies.

5.1.2 This section should not be interpreted as providing Policies, but as context for the Policies.

5.1.3 Section 6 contains the Policies that express the specific Plan regulations.

5.1.4 The Renderings, Maps, Plans, Schedules and Photographs included in this Plan are conceptual in nature, and are intended to illustrate the Intent and Spirit of this Plan.

5.1.5 Further field adjustments may be required at the Subdivision approval stage(s).

5.1.6 Further Architectural Design Guideline adjustments may be required at the Development Permit approval stage(s).

5.2 Intent of this Area Structure Plan:

5.2.1 To provide the framework for a planned and orderly Expansion of the existing Hamlet of Carseland, located in Wheatland County, Alberta.

5.3 Spirit of this Area Structure Plan:

5.3.1 To promote Community features and services that are supportive of family lifestyles and beneficial to Residents of all ages.

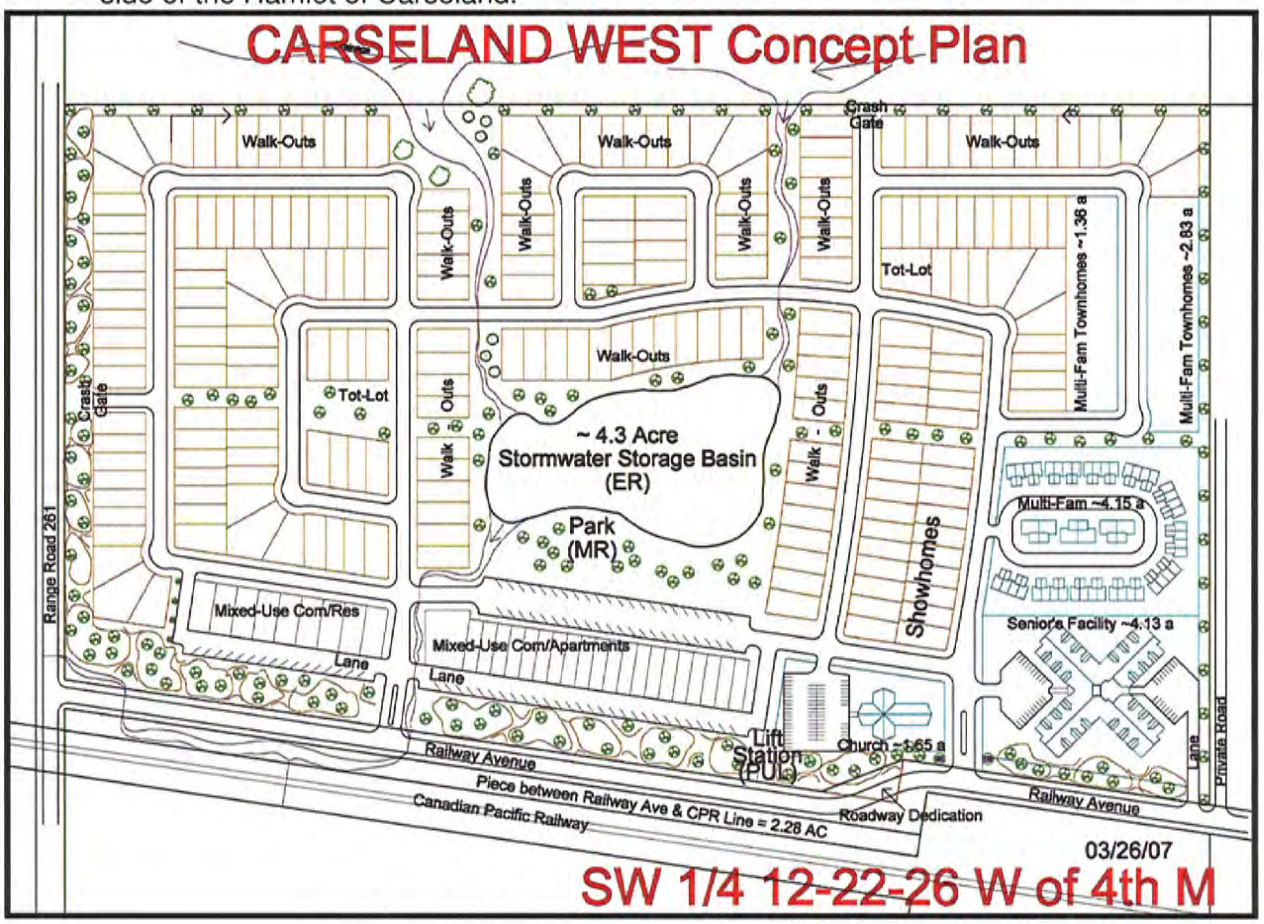
5.3.2 To encourage the development of an appropriate variety of residential living choices and solutions for the Residents.

5.3.3 To promote and preserve the "Prairie-Village" character of the Carseland Community.

5.3.4 To contribute to the future "best-interests" of Carseland and the Regional Community.

5.4 Land Use Concept Plan (Plan 01):

For a planned Expansion of approximately 89.96 Acres (36.403 Hectares) to the west side of the Hamlet of Carseland.



5.5 Schedule of Land Use Districts and Densities (Schedule 01):

Land Use District	Description	Average Lot Size/Area	Area	Coverage	Lots	Units	Est Pop
H-RRSF-m	Single-Family Detached	42' w, ~5,008.5 ft^2 46' w, ~5,485.5 ft^2 50' w, ~5,962.5 ft^2	~31.67 Ac	~35.20%	~227	~227	~795
H-Ins	Multi-Fam, semi-detached	see 5.6.2.b	~4.15 Ac	~4.61%	~50	~50	~175
H-Ins	Multi-Fam, townhomes	see 5.6.3.b	~2.83 Ac	~3.16%	~46	~46	~161
H-C	Mixed-Use Com/Res	50' w, ~ 5,800 5 ft^2	~1.20 Ac	~1.33%	~9	~9	~31
H-C	Mixed-Use Com/Apt	see 5.6.5.c	~2.09 Ac	~2.32%	~21	~21	~73
H-Ins	Seniors Facility	~4.13 Ac	~4.13 Ac	~4.59%	1	~112	~168
H-Ins	Church Facility	~1.65 Ac	~1.65 Ac	~1.83%	1		
ER	Stormwater Features		~7.50 Ac	~8.34%			
MR	Open or Green Space		~14.83 Ac	~16.49%			
PUL	Lift Station and R.O.W.		~.20 Ac	~0.22%			
Road Plan	Roadway and Laneway R.O.W.'s		~19.51 Ac	~21.69%			
Road Plan	Dedicate to Railway Avenue Plan 3063 BM		~.20 Ac	~0.22%			
TOTALS			**89.96 Ac**	**100.00%**	**~355**	**~465**	**~1,403**
A-G	Piece between Railway Ave & CPR line = 2.28Ac (0.923Ha)						

5.6 Development Characteristics and Features:

5.6.1 Single-Family Detached homes:

5.6.1.a The majority of the Development will consist of Single-Family Detached homes.

5.6.1.b In keeping with the Spirit of this Plan, a variety of Lot sizes will be offered, the three predominant average sizes being:

b.1 42' wide X 119' 3" in depth = 5,008.5 ft^2 in area (465.3 m^2):

b.1.1 Approximately 25% – 35% of the Lots.

b.1.2 NOTE: the Plan proposes this reduced-width variation for the purpose of addressing the challenges of home ownership affordability.

b.2 46' wide X 119' 3" in depth = 5,485.5 ft^2 in area (509.6 m^2).

b.2.1 Approximately 25% – 35% of the Lots.

b.3 50' wide X 119' 3" in depth = 5,962.5 ft^2 in area (553.9 m^2).

b.3.1 Approximately 35% – 50% of the Lots.

5.6.1.c A mixture of bungalow, split-level and two-story houses will be encouraged throughout the Development.

5.6.1.d The majority of the Lots backing onto the Stormwater Storage Basin will be contoured for basement level walk-outs.

5.6.1.e Several of the Lots backing onto the Drainage Courses will likewise be contoured for basement level walk-outs.

5.6.1.f Approximately 227 Units.

5.6.1.g H-RRSF-m Land Use District.

5.6.1.h Covering approximately 35.20% of the Site.

5.6.2 Multiple-Family Semi-Detached residences:

5.6.2.a A grouped assortment of duplex and fourplex style residences.

5.6.2.b Lot sizes vary, but the two predominant averages are:

b.1 Duplex; 24' wide X 112' 9" in depth = 2,706 ft^2 in area (251.4 m^2).

b.2 Fourplex; 46' wide X 100' 0" in depth = 4,600 ft^2 in area (427.3 m^2).

5.6.2.c Approximately 50 Units.

5.6.2.d H-Ins Land Use District.

5.6.2.e Covering approximately 4.61% of the Site.

5.6.3 Multiple-Family Townhome residences:

5.6.3.a A grouped arrangement of row house style residences.

5.6.3.b Lot sizes, if Lot sizes were to be applied, would average approximately 20' wide X 100' in depth = 2,000 ft^2 in area (185.8 m^2).

5.6.3.c Approximately 46 Units.

5.6.3.d H-Ins Land Use District.

5.6.3.e Covering approximately 3.16% of the Site.

5.6.4 Mixed-Use Commercial/Residential Lots:

5.6.4.a Subject to market acceptance, it is intended to offer a small number of Mixed-Use Commercial/Residential Lots where permanent Residential Living Quarters would be developed in conjunction with acceptable small-proprietor Commercial Businesses:

a.1 The Business portion of the building being built above, or behind, or in-front-of the Residential Living Quarters:

a.1.1 Approval subject to compliance with Architectural Design Guidelines.

5.6.4.b Approximately 9 Units:

b.1 Preliminary estimates related to the Traffic Impact Assessment are that the 9 Businesses will individually average 1,400 sft in size for a total Commercial floor area of approximately 12,600 ft^2.

b.2 Parking:

b.2.1 Conventional street and driveway parking will be available on and via the residential street serving the fronts of these Mixed-Use Commercial/Residential Lots:

b.2.1.1 In terms of possible traffic or parking disturbances affecting the Residential neighborhood, it should be noted that the Single-Family Detached Lots across this street are designed so they do not front onto the street, but instead are backed against it. This design is intended to mitigate the impact of any neighborhood traffic or parking disturbances related to the Business component of these Mixed-Use Lots.

b.2.2 Additionally, the Concept Plan includes provision for approximately 33 – 9' wide angle-parking spaces in the rear lane servicing these 9 Mixed-Use Lots.

5.6.4.c Lots are 50' wide X 116' 0" in depth = 5,800 ft^2 in area (538.8 m^2).

5.6.4.d H-C Land Use District.

5.6.4.e Covering approximately 1.33% of the Site.

5.6.4.f NOTE: If this Mixed-Use Commercial/Residential opportunity does not receive adequate market acceptance, this Area Structure Plan then contemplates alternative development in this same location, including that of Single-Family Detached, or mini-storage warehousing.

5.6.5 Mixed-Use Commercial/Residential District:

5.6.5.a A Mixed-Use Commercial/Residential District, consisting of Businesses providing goods and services supportive of the Carseland Community, and where the approved development of Residential Apartments above the Commercial premises will be a discretionary use:

a.1 Approval subject to compliance with Architectural Design Guidelines.

a.2 NOTE: This Area Structure Plan differentiates between the aforementioned Mixed-Use Commercial/Residential "Lots" of Item 5.6.4 and the Mixed-Use Commercial/Residential "District" of this Item 5.6.5 in the sense that business owners would be encouraged to Occupy the "Lot" residences, whereas the Occupancy status of the "District" residences would more likely be that of tenants in rental apartments.

5.6.5 b Approximately 21 Units:

b.1 Preliminary estimates related to the Traffic Impact Assessment are that the 21 Businesses will individually average 2,333.33 sft in size for a total Commercial floor area of approximately 49,000 ft^2.

b.2 Parking:

b.2.1 The Concept Plan includes provision for approximately 47 – 9' wide angle-parking spaces to the Business side of the Main Thoroughfare servicing these Businesses, as well as an additional approximately 47 – 9' wide angle-parking spaces to the Public Park side of the Main Thoroughfare. Additionally, there will be approximately 57 – 9' wide angle-parking spaces at the rear of the Businesses:

b.2.1.1 Totaling approximately 151 parking spaces servicing these 21 Mixed-Use Businesses that c/w discretionary provision for the development of Residential Apartments above.

5.6.5.c Lots are 32' 6" wide X 120' 4" in depth = 3,908 ft^2 in area (363.1 m^2):

c.1 Excepting the Lot at the west end of the District, which is approximately 12,867 ft^2 (1,178.6 m^2) in area.

5.6.5.d H-C Land Use District.

5.6.5.e Covering approximately 2.32% of the Site.

5.6.5.f NOTE: Subject to adequate market acceptance, this Area Structure Plan alternatively contemplates the development of reduced-width 25' wide Mixed-Use Commercial/Residential Lots instead of 32' 6" wide Lots, in which case the Lot/Unit count would be approximately 27 instead of 21.

5.6.6 Senior's Residential Facility:

5.6.6.a Subject to adequate market acceptance and demonstrated operational viability, the development of a Senior's Residential Facility.

5.6.6.b The envisioned focus of this "Facility" would be accommodation and assistance for Senior Residents.

5.6.6.c Approximately 112 Units:

c.1 Parking:

c.1.1 The Concept Plan includes provision for approximately 75 – 9' wide surface-level parking spaces on the Senior's Facility site.

5.6.6.d H-Ins Land Use District.

5.6.6.e Covering approximately 4.59% of the Site.

5.6.6.f NOTE: If the development of a Senior's Facility becomes unfeasible from a market acceptance or an operational perspective, this Area Structure Plan then contemplates alternative development in this same location, including that of Multiple-Family or Mixed-Use Commercial/Residential.

5.6.7 Consideration for a Church Facility within the Development:

5.6.7.a Very preliminary discussions with leadership representatives of the local Alliance Church indicated that it is unable to expand it's facility at it's current location within the Hamlet of Carseland, such that eventually a larger replacement site would most likely have to be located:

a.1 This Area Structure Plan includes consideration for this need by the setting aside of approximately 1.65 Acres for the local Church.

a.2 This Area Structure Plan would like to leave open the possibility of trading the existing Church property for this new and larger property, but ultimately, and including if the trade scenario proves unworkable, it intends that this Property would be gifted to the local Church.

a.3 This gifting of the Property to the local Church would be subject to agreement between BARTECH DEVELOPMENTS LTD. and the local Church to a document of Agreed Upon Terms and Conditions, which terms and conditions have yet to be discussed and/or developed.

5.6.7.b Preliminary estimates related to the Traffic Impact Assessment are for a Facility that is able to seat approximately 150 – 200 people:

b.1 Parking:

b.1.1 The Concept Plan includes provision for approximately 64 – 9' wide parking spaces on the Church site.

5.6.7.c H-Ins Land Use District.

5.6.7.d Covering approximately 1.83% of the Site.

5.6.7.e NOTE: If the development of a Church Facility becomes unfeasible for whatever reason, this Area Structure Plan then contemplates alternative Land Uses, including the dedication of this Property as Municipal Reserve District.

5.6.8 Architectural Design Guidelines intended to promote and preserve the "Prairie-Village" architectural character of the Carseland Community:

5.6.8.a The Architectural Design Guidelines will be implemented through a registered Building Scheme in order to ensure compatibility and quality controls for all Development in the Carseland West Subdivision.

5.6.8.b For more information on the Guidelines, see Item 6.7.

5.6.9 Open and/or Green-Spaces will be prominent Features in the Carseland West Subdivision:

5.6.9.a The Concept Plan proposes that Open and/or Green-Space will comprise approximately 24.83% of the Development:

a.1 Approximately 8.34% is Environmental Reserve District, ER.

a.2 Approximately 16.49% is Municipal Reserve District, MR.

5.6.10 20 Meter Wide Residential Street Rights-Of Way:

5.6.10.a In keeping with the Spirit of this Area Structure Plan, the Concept Plan provides for 20 meter wide Residential Street Rights-Of Way, as compared to the more standard and reduced-width 15 meter wide Residential Street R.O.W.

5.6.10.b The intent is to include provision within the R.O.W. for the possible inclusion of:

b.1 Mono-sidewalks to both sides of the Residential Street, instead of the more standard one-side-of-street only; and/or

b.2 Surface drainage swales, instead of underground storm sewers; and/or

b.3 Enlarged boulevard areas.

5.6.10.c The intent is NOT that the Shallow Utility R.O.W.s be included within these increased-width 20 meter wide Residential Street Rights-Of Way:

c.1 This Plan intends that the Shallow Utility R.O.W.s to be located outside the Street R.O.W., to the fronts of the adjoining Lots and in conventional fashion.

5.6.10.d NOTE: Should the development of 20 meter wide Residential Street Rights-Of Way ultimately prove unfeasible as according to the original intent, or as may otherwise be determined by BARTECH DEVELOPMENTS LTD, this Area Structure Plan alternatively contemplates reducing the R.O.W. to the more standard 15 meter width.

5.6.11 Public Park and Stormwater Storage Basin Area:

5.6.11.a The centrally located Public Park and Stormwater Storage Basin area will be accessible to the general public from all directions:

a.1 From the west, the north and the east via natural (not hard-surfaced) Pedestrian Pathways through Green Spaces that will also function as Drainage Courses (Environmental Reserve District, ER) leading to the Stormwater Storage Basin.

a.2 The south side of the Park, in combination with the other Park areas surrounding the Stormwater Storage Basin, will be a Public Park setting (Municipal Reserve District, MR) adjoining the Neighborhood Main Thoroughfare and Business District:

a.2.1 It will feature native landscaping and a hard-surfaced Pedestrian Pathway around the entire Stormwater Storage Basin.

a.3 Recognizing the alternating and unpredictable storm and drought conditions inherent to the western Canadian prairies, it is anticipated that at times the Stormwater Storage Basin (Environmental Reserve District, ER) will be full, that on occasions it may be dry and that it will likely be in a constant state of fluctuation between the two conditions.

5.6.12 Tot-Lots:

5.6.12.a The Concept Plan includes provision for the development of two conveniently located Tot-Lot's in publicly accessible Green Space areas:

a.1 One located in the northeast area of the Development, within Phase A.

a.2 One located in the west-central area of the Development, within Phase E.

5.6.12.b All residences, excepting those in the proposed Senior's Facility, are located within approximately 250 meters walking-distance of at least one of the two Tot-Lots.

5.6.13 Perimeter Boundary Buffer Zones:

5.6.13.a An approximately 67 foot wide West-Boundary Buffer Zone (Municipal Reserve District, MR) consisting of sculpted earthen berms and native landscaping will separate the west side of the Development from Range Road 261:

a.1 This West-Boundary Buffer Zone will also feature native landscaping and a natural (not hard-surfaced) Pedestrian Pathway.

a.2 In it's finished state it will function as a visual-screen and sound-attenuation barrier.

5.6.13.b An approximately 100 foot wide South-Boundary Buffer Zone (Municipal Reserve District, MR), along most of the south Boundary and also consisting of sculpted earthen berms and native landscaping, will separate the Development from the CPR Railway as well as from Railway Avenue:

b.1 The earthen berms to this South-Boundary Buffer Zone will be specifically constructed to provide a visual-screen and sound-attenuation barrier between the Development and the CPR Railway.

b.2 Strategically placed native landscaping will augment the visual-screen and sound-attenuation barrier elements of the berms.

b.3 A natural (not hard-surfaced) Pedestrian Pathway will likewise weave it's way through this South-Boundary Buffer Zone.

5.6.13.c An approximately 25 foot wide Buffer Zone (Municipal Reserve District, MR) bounding the north and east sides of the Development will contain more native landscaping and the last component of the natural (not hard-surfaced) Pedestrian Pathway, such that people will be able to walk the perimeter of the entire Site.

5.6.14 Internal Pedestrian Pathway Network:

5.6.14.a Approximately 4.3 km of Internal Pedestrian Pathways:

a.1 Hard-surfaced to the perimeter of the Stormwater Storage Basin, approximately .6 km in length.

a.2 Natural (not hard-surfaced) to the Boundary Buffer Zones surrounding the Development, approximately 2.5 km in length.

a.3 Natural (not hard-surfaced) connector Pathways between the Stormwater Storage Basin and Buffer Zone Pathways, most following the natural Drainage Courses leading to the Stormwater Storage Basin, approximately 1.2 km in length.

5.6.15 Native Landscaping:

5.6.15.a Species chosen will be native and field-proven drought-tolerant.

5.6.15.b Planting methods employed will minimize the demand for water:

b.1 In groups, mimicking the natural growth patterns of shrubs and trees.

b.2 On raised beds, where applicable, allowing for greater root depth.

b.3 Mulching, as appropriate, facilitating greater moisture retention.

5.6.15.c Native wildflowers will be incorporated into the native grass seeding mix.

5.6.15.d Tree species being considered, for both public and/or private areas, include, but are not limited to:

- d.1 Trembling Aspen – Populus tremloides.
- d.2 Swedish columnar Aspen – Populus tremula 'Erecta'.
- d.3 Popular – Populus ssp.
- d.4 Pincherry – Prunus pensylvanica.
- d.5 Willows – Salix ssp.
- d.6 Siberian Larch – Larix sibiria.
- d.7 Lodgepole Pine – Pinus contorta latifolia.
- d.8 Ponderosa Pine – Pinus ponderosa.
- d.9 Scots Pine – Pinus sylvertris.
- d.10 White Spruce – Picea glauca.
- d.11 Colorado Spruce – Picea pungens.

5.6.15.e Shrub species being considered, for both public and/or private areas, include, but are not limited to:

- e.1 Juniper – Juniperus ssp.
- e.2 Snowberry – Symphoricarpos ssp.
- e.3 Spirea – Sprirea ssp.
- e.4 Buffaloberry – Shepherdia ssp.
- e.5 Willows – Salix ssp.
- e.6 Raspberry – Rubus ssp.
- e.7 Rose – Rosa acicularis
- e.8 Currants – Ribes ssp.
- e.9 Potentilla – Potentilla ssp.
- e.10 Honeysuckles – Lonicera ssp.
- e.11 Sea Buckthorn – Hippophae rhamnoides.
- e.12 Dogwoods – Cornus ssp.
- e.13 Saskatoon – Amelanchier alnifolia.

5.6.15.f Ground Cover and/or Perennials being considered, for both public and/or private areas, include, but are not limited to:

- f.1 Yarrow – Achillea ssp.
- f.2 Columbine – Aquliegia ssp.
- f.3 Artemsia – Artemsia ssp.
- f.4 Aster – Aster ssp.
- f.5 Bellflower – Campanula ssp.
- f.6 Marsh Marigold – Caltha palustris.
- f.7 Cornflower – Centaurea ssp.
- f.8 Snow in summer – Cerastium tomentosa.
- f.9 Tickseed – Coreopis ssp.
- f.10 Coneflower – Echinacea ssp.

f.11 Globe thistle – Echinops ssp.
f.12 Cushion spurge – Euphorbia ssp
f.13 Strawberry – Fragaria ssp.
f.14 Blanket flower – Gaillardia ssp.
f.15 Geranium – Geranium ssp.
f.16 Daylily – Hemerocallis ssp.
f.17 Iris – Iris ssp.
f.18 Bee balm – Monarda ssp.
f.19 Stonecrop – Sedum ssp.

5.6.15.g Grasses being considered, for public areas, include, but are not limited to:

g.1 Awned Wheatgrass – Agropyron subsecundum.
g.2 Blue Grama – Bouteloua gracilis.
g.3 Carex pratcola – Carex praticola.
g.4 Tufted hair Grass – Deschampsia caespitosa.
g.5 Canada Wild Rye – Elymuss canadadensis.
g.6 Giant Wild Rye – Elmus cinereus.
g.7 Rocky Mountain Fescue – Festuca saximontana.
g.8 Prairie Muhly – Muhlenbergia cuspidate.
g.9 Indian Rice grass – Oryzopsis hymenoides.
g.10 Green Needle grass – Stipa viridula.

5.6.15.h Wildflowers incorporated into the grass seeding mix that are being considered, for public areas, include, but are not limited to:

h.1 Yarrow – Achillea ssp.
h.2 Pasture sage – Artemesia ludoviciana.
h.3 Prairie bluebell – Campanula rotundfolia.
h.4 Penstemon – Penstemon ssp.
h.5 Prairie mallow – Sphaeralcea coccinea.
h.6 Prairie Coneflower – Ratibida.
h.7 Golden Rod – Solidago.

5.6.16 <u>The Neighborhood Business District, Main Thoroughfare and Public Park</u>:

5.6.16.a The Business District is located along the south-central boundary of the Development.

5.6.16.b The Architectural Design Guidelines implemented will encourage two-storey building front-facades mimicking those common to the development era of so many Prairie Villages, examples of which remain in the three buildings located at the east end and the north side of Railway Avenue in Carseland.

5.6.16.c The grain elevators, prominent and majestic in stature along Railway Avenue, were a significant landmark in Carseland for so many decades before their

eventual demise and demolition. Elements of this formerly glorious elevator style and era will also be incorporated into the buildings of the Commercial District.

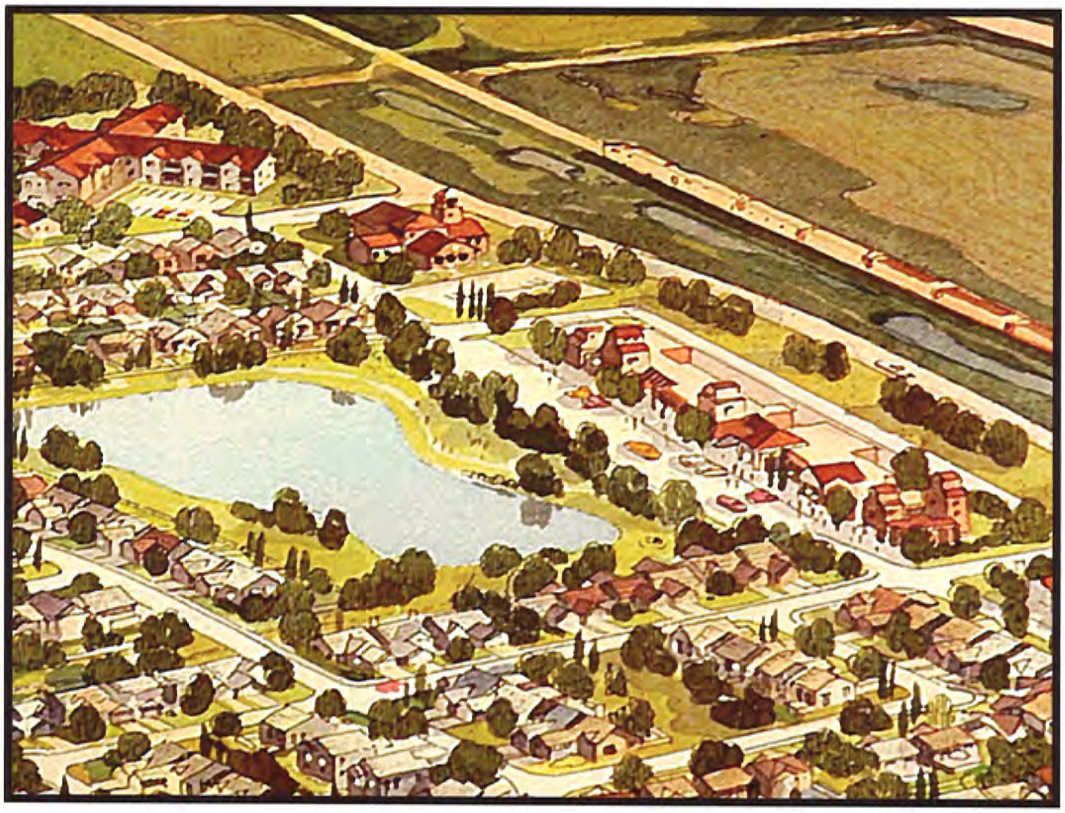
5.6.16.d The businesses and their clientele in this Area will be served with a generously wide Main Thoroughfare; wide enough to comfortable accommodate angle-parking on both sides, a feature reminiscent of the bygone days in so many of the smaller Prairie communities.

5.6.16.e Wide sidewalks, boardwalk-like in style, will flank both sides of this Main Thoroughfare.

5.6.16.f And spilling out and away from the north-side "boardwalk" will be the large and naturally landscaped Public Park setting.

5.6.16.g This Main Thoroughfare and Neighborhood, consisting of the community Businesses, the thematic architecture, the expansive Thoroughfare, the wide-open Public Park and the people who work and shop and move through and congregate here, may well become a unique focal point within the Carseland West Subdivision – friendly in nature and rural in style.

5.6.16.h Conceptual Rendering of Carseland West Main Thoroughfare and Neighborhood (Rendering 02):



5.6.17 Carseland West Subdivision Entrance Features:

5.6.17.a The southeast entrance to the Subdivision will feature:

a.1 Unique signage identifying the Carseland West Subdivision that will be installed on both sides of the entrance connecting to Railway Avenue.

a.2 A landscaped center island that will additionally delineate this generously wide entrance corridor.

5.6.17.b The Concept Plan anticipates that the southwest entrance corridor connecting to Railway Avenue will also feature a landscaped center island.

5.6.18 Subdivision Additional Access/Egress Features:

5.6.18.a Subject to Final Subdivision Design either verifying or eliminating the need for same, the Concept Plan makes provision for a west-side Emergency Egress/Access Road intersecting with Range Road 261:

a.1 C/w crash gates.

a.2 To be developed concurrently with Phase F.

a.3 NOTE: Should final design determine that this Emergency Egress/Access Road is not required, this Area Structure Plan then contemplates alternative development in this same location, including that of Single-Family Detached or Green Space (MR).

5.6.18.b The Concept Plan makes provision for a north-side Connector Road to a possible future development on the property to the north of Carseland West:

b.1 C/w crash gates.

b.2 To be developed concurrently with Phase B.

b.3 The portion of the Roadway Allowance within the Perimeter Buffer Zone will be landscaped until such time as actual use of this Connector Road may become necessary.

5.6.19 Recreational Vehicle (RV) Storage:

5.6.19.a The storage of Recreational Vehicles (RV's), other than for short periods of functional loading or unloading purposes, or for other special-case circumstances yet to be defined, will not be permitted within the Carseland West Development.

5.6.19.b Therefore, this Area Structure Plan recognizes the need to provide offsite RV storage for the Carseland West Residents. Discussions have begun with a nearby landowner regarding the transfer and dedication of Property intended specifically for this purpose.

5.6.20 Subdivision to Separate Title of the 2.28 Acre Piece Between Railway Avenue and CPR Line:

5.6.20.a Initial Subdivision will Subdivide the approximately 2.28 Acre (.923 Ha) Piece located between Railway Avenue Plan 3063 BM and Canadian Pacific Railway Plan RW 30 to Separate Title from the 89.96 Acre Parcel to the north side of Railway Avenue.

5.6.21 Dedication of .20 Acres of Property to Railway Avenue Plan 3063 BM:

5.6.21.a Initial Subdivision will Dedicate approximately .20 Acres of Property to existing Railway Avenue Plan 3063 BM, as required to accommodate what is apparently a very slight and existing encroachment of Railway Avenue onto the Subject Property.

5.6.21.b This Dedication will also facilitate a slight realignment of Railway Avenue, such that the "bend" can be moved slightly further west to properly accommodate the southeast Entrance to the Carseland West Subdivision.

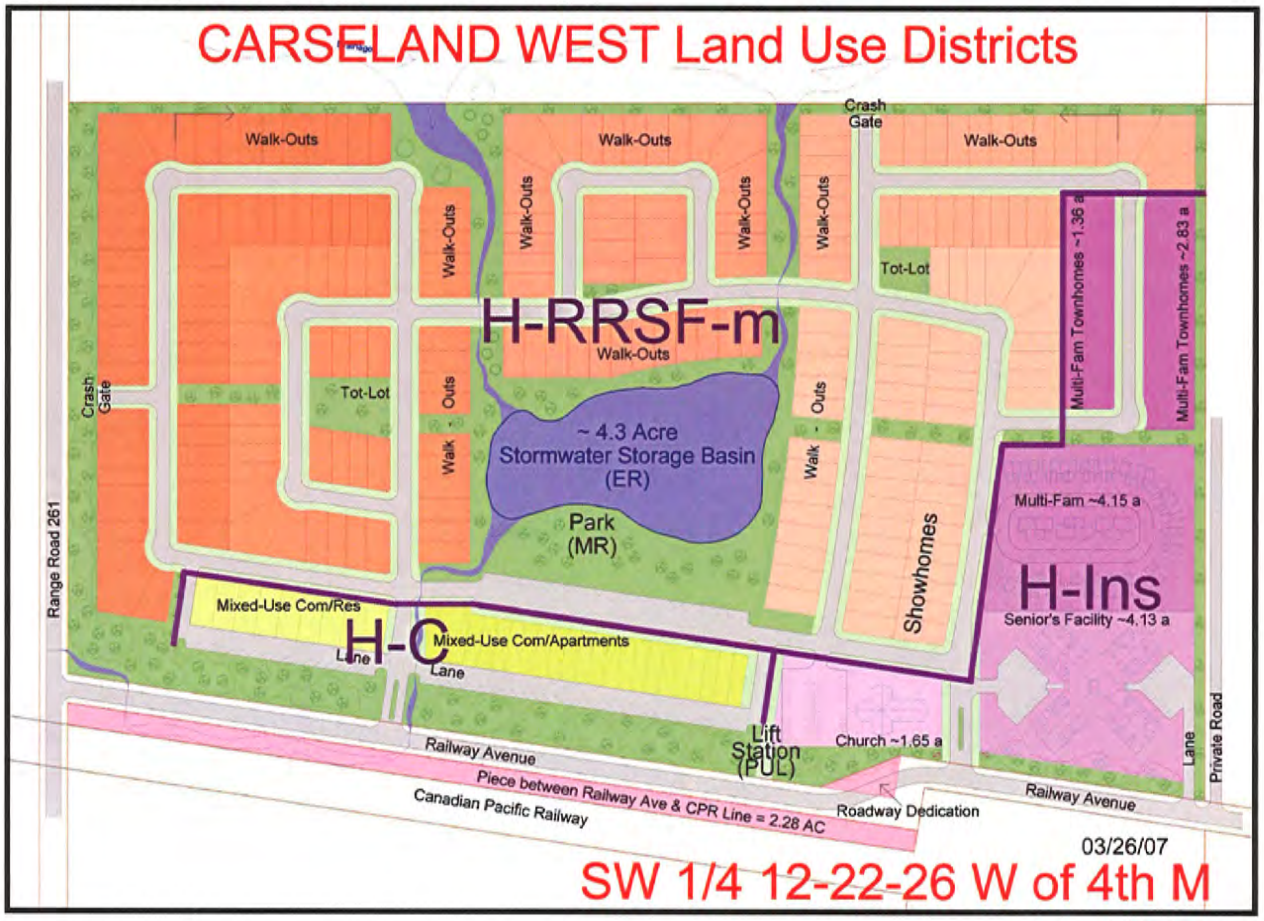
5.6.22 Miscellaneous:

5.6.22.a This Area Structure Plan does NOT make provision for existing and/or modular and/or otherwise pre-assembled off-site Residential buildings and/or structures to be moved onto Site. All Residentially permitted, discretionary and ancillary buildings and/or structures must be Site constructed.

5.6.22.b This Area Structure Plan does NOT contemplate the installation of a Perimeter Fence, of any type or description, around the Carseland West Subdivision.

5.7 Land Use Districts:

5.7.1 Plan of Land Use Districts (Plan 02):



5.7.2 Schedule of Land Use Districts and Densities (Schedule 01):

Land Use District	Description	Average Lot Size/Area	Area	Coverage	Lots	Units	Est Pop
H-RRSF-m	Single-Family Detached	42' w, ~5,008.5 ft^2 46' w, ~5,485.5 ft^2 50' w, ~5,962.5 ft^2	~31.67 Ac	~35.20%	~227	~227	~795
H-Ins	Multi-Fam, semi-detached	see 5.6.2.b	~4.15 Ac	~4.61%	~50	~50	~175
H-Ins	Multi-Fam, townhomes	see 5.6.3.b	~2.83 Ac	~3.16%	~46	~46	~161
H-C	Mixed-Use Com/Res	50' w, ~ 5,800 5 ft^2	~1.20 Ac	~1.33%	~9	~9	~31
H-C	Mixed-Use Com/Apt	see 5.6.5.c	~2.09 Ac	~2.32%	~21	~21	~73
H-Ins	Seniors Facility	~4.13 Ac	~4.13 Ac	~4.59%	1	~112	~168
H-Ins	Church Facility	~1.65 Ac	~1.65 Ac	~1.83%	1		
ER	Stormwater Features		~7.50 Ac	~8.34%			
MR	Open or Green Space		~14.83 Ac	~16.49%			
PUL	Lift Station and R.O.W.		~.20 Ac	~0.22%			
Road Plan	Roadway and Laneway R.O.W.'s		~19.51 Ac	~21.69%			
Road Plan	Dedicate to Railway Avenue Plan 3063 BM		~.20 Ac	~0.22%			
TOTALS			**89.96 Ac**	**100.00%**	**~355**	**~465**	**~1,403**
A-G	Piece between Railway Ave & CPR line = 2.28Ac (0.923Ha)						

5.7.3 Where H-RRSF-m refers to Single-Family Detached Dwelling Units meeting all criteria and requirements of the H-RRSF Designation, excepting that:

5.7.3.a H-RRSF-m is not an actual Wheatland County Land Use Designation, but is employed by this Area Structure Plan as an interim variant of the H-RRSF Designation, until a Designation can be provided that permits the following variant conditions:

a.1 Item 26.05.02.a: The reduction of the Minimum Assessable Floor Area of Single-Family Dwellings requirement of 1,250 ft^2 to 1,050 ft^2:

a.1.1 NOTE: In keeping with the Spirit of this Area Structure Plan, the Plan proposes this reduced-floor-area variation for the purpose of addressing the challenges of home ownership affordability.

a.2 Item 26.05.03.a: The reduction of the Minimum Width of Site (Residential Lot) requirement of 45' to 42':

a.2.1 NOTE: Lots reduced to less than 45' in Minimum Width will still meet the Minimum Area of Site requirement of 5,000 ft^2 (Item 26.05.01).

a.2.2 NOTE: In keeping with the Spirit of this Area Structure Plan, the Plan proposes this reduced-width variation for the purpose of addressing the challenges of home ownership affordability.

a.3 Item 26.05.04.b.1.c: The amendment of the Minimum Side Yard Setback Requirement in a laneless subdivision such that if the original Development Permit includes an attached garage to the Principal Building, then the minimum Side Yard requirement to each side would be reduced to 4.0 ft (1.22m), excepting not to the street side of a corner site.

a.4 Confirmation that the given Maximum Height of 28 ft for Principal Buildings is to the underside of the roof eave.

5.7.3.b NOTE: Regarding the above proposed variant conditions, Item 3.01.01.a.3 of the Land Use Bylaw states, "The Council may waive or vary or relax development standards notwithstanding that the proposed development does not comply with the Land Use Bylaw if, in the opinion of the Council:

b.1 a. the proposed development would not:

b.1.1 1. unduly interfere with the amenities of the neighborhood; or

b.1.2 2. Materially interfere with or affect the use, enjoyment, or value of neighboring properties;

b.2 b. the proposed development conforms with the use prescribed for that land or building in the Land Use Bylaw; and

b.3 c. the proposed development complies with any adopted statutory plans."

b.4 THIS AREA STRUCTURE PLAN BELIEVES THAT THE ABOVE PROPOSED VARIANCES MEET THE ABOVE PRESCRIBED CONDITIONS SET FORTH IN THE LAND USE BYLAW FOR THE APPROVAL OF SAME BY COUNCIL.

5.7.4 Where H-Ins provides for the Development of the:

5.7.4.a Multiple-Family Semi-Detached and Townhome Dwellings:

a.1 Item 30.02.06, Permitted Use.

5.7.4.b Senior's Facility:

b.1 Item 30.02.05, Permitted Use.

5.7.4.c Church Facility:

c.1 Not specifically listed as a Permitted or Discretionary Use, BUT:

c.1.1 Item 30.02.07 refers to "Institutional Developments".

c.1.2 Item 13.01 of Institutional Development of the Municipal Development Plan specifically refers to Church Facilities as Institutional Developments.

c.1.3 This Area Structure Plan therefore presumes that H-Ins is the correct Land Use Designation for the Church Facility.

5.7.4.d NOTE: This Area Structure Plan seeks confirmation of the Maximum Building Height(s) permitted by the H-Ins Designation, including confirmation that a 3-storey high Senior's Facility would be permitted.

5.7.5 Where H-C provides for the Development of:

5.7.5.a Mixed-Use Commercial/Residential Lots by means of a Permitted or Discretionary Use:

a.1 Mixed-Use Commercial/Residential Lots: where the development of permanent Residential Living Quarters in conjunction with acceptable small-proprietor Commercial Businesses will be encouraged.

5.7.5.b Mixed-Use Commercial/Residential District by means of a Permitted or Discretionary Use:

b.1 Mixed-Use Commercial/Residential District: where emphasis is on shops and services supportive of a Community that is both Family-oriented and attractive to Residents of all ages, and where the appropriate development of Residential apartments above the Commercial premises will be a Permitted or Discretionary Use.

5.7.5.c NOTE: This Area Structure Plan seeks confirmation of the Maximum Building Height(s) permitted by the H-C Designation, including confirmation that 3-storey high "Grain Elevator" functional elements, as are expected to be incorporated within the architectural component of the Mixed-Use Commercial/Residential District, would be permitted.

5.7.6 Where ER refers to Environmental Reserve District.

5.7.7 Where MR refers to Municipal Reserve District.

5.7.8 Where PUL refers to Public Utility Lot.

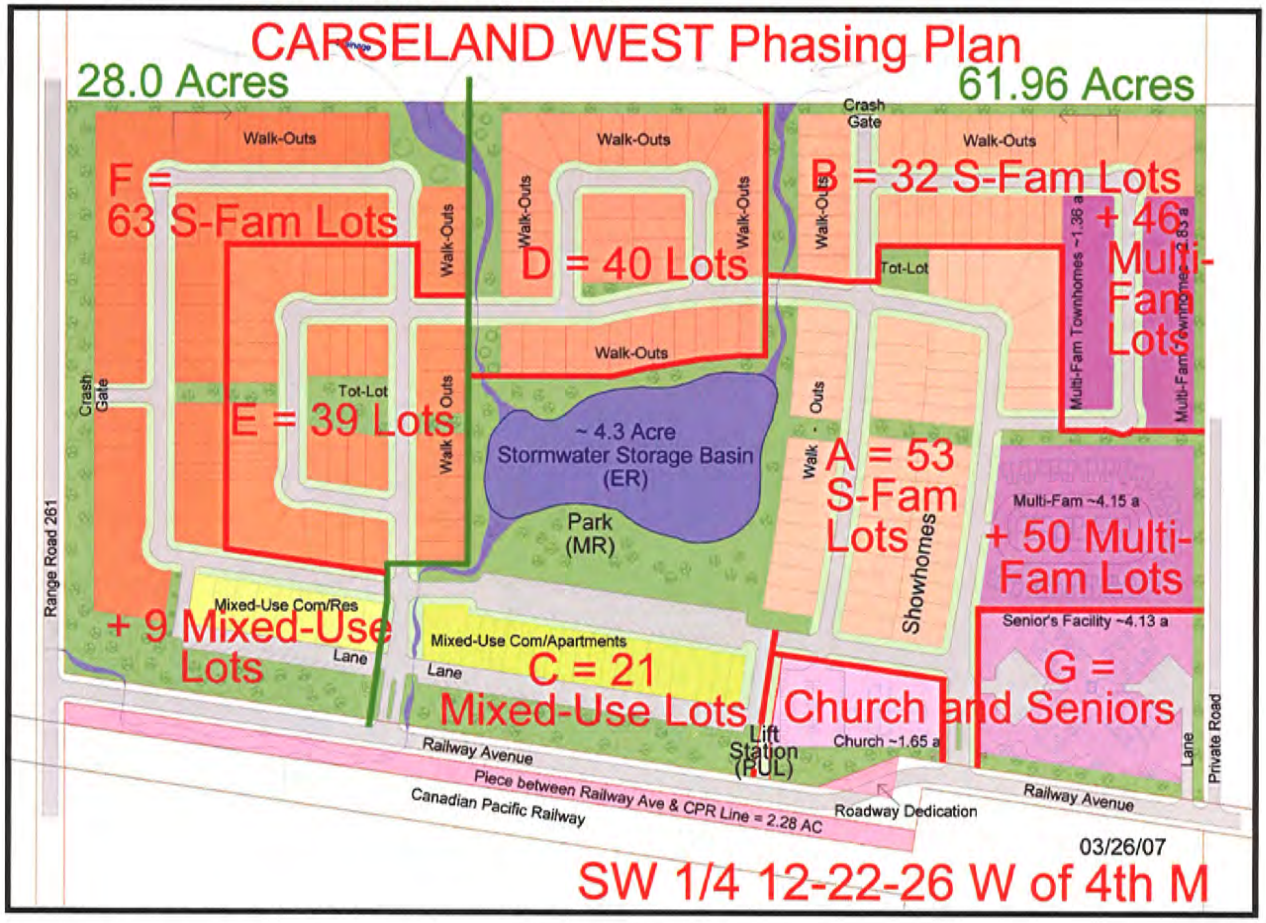
5.7.9 Where Road Plan refers to Roadway and Laneway Rights-of-Way.

5.7.10 Where A-G refers to Agriculture – General.

5.8 Subdivided Phasing (Sequencing) of the Development:

5.8.1 Conceptually, the Development is comprised of seven Phases, A through G.

5.8.2 Plan of Phased Development (Plan 03):



5.8.3 Schedule of Phased Development (Schedule 02):

Phase	Land Use District	Description	Lots	Units (x est Res)	Estimated Population
Initial SD	A-G	Subdivide Piece between Railway Ave & CPR line to Separate Title			
Initial SD	Road Plan	~0.20 Acre Portion Dedicated to Railway Ave existing Plan 3063 BM			
A	H-RRSF-m	Single-Family Detached	~53	~53 (x 3.5)	~185
	H-Ins	Multi-Family semi-detached	~50	~50 (x 3.5)	~175
B	H-RRSF-m	Single-Family Detached	~32	~32 (x 3.5)	~112
	H-Ins	Multi-Family townhomes	~46	~46 (x 3.5)	~161
C	H-C	Commercial	~21	~21 (x 3.5)	~73
D	H-RRSF-m	Single-Family Detached	~40	~40 (x 3.5)	~140
E	H-RRSF-m	Single-Family Detached	~39	~39 (x 3.5)	~137
F	H-RRSF-m	Single-Family Detached	~63	~63 (x 3.5)	~221
	M-U C/R	Mixed-Use Com/Res	~9	~9 (x 3.5)	~31
G	H-Ins	Seniors Facility	1	~112 (x 1.5)	~168
		Church	1		
TOTALS			**~355**	**~465**	**~1,403**

5.8.4 NOTE: Initially the 2.28 Acre Piece Between Railway Avenue and the Canadian Pacific Railway Line, as well as the 61.96 Acres to the East side of the Development, will be Subdivided from the existing Parcel, and then the remaining 28.00 Acre Parcel to the West side of the Development will be Subdivided.

5.8.4.a NOTE that Initial Subdivision Includes:

a.1 The Subdivision of the 2.28 Acre Piece Between Railway Avenue Plan 3063 BM and Canadian Pacific Railway Plan RW 30 to Separate Title from the 89.96 Acre Parcel to the north side of Railway Avenue.

a.2 The approximately .20 Acre portion of the Parcel being Dedicated to the extension of Railway Avenue Plan 3063 BM (as this Area Structure Plan presumes will be required) being so Subdivided and Dedicated.

5.8.5 Development will begin with Phase A, which in addition to the H-RRSF-m and H-Ins Lots will also include Development of the:

5.8.5.a Southeast corner Entrance servicing the Subdivision.

5.8.5.b Stormwater Storage Basin, including the northeast Drainage Course leading into the Basin from the north, and the southwest Drainage Course leading out of the Basin to the south.

5.8.5.c Portions of the Landscape Berm along the South Boundary of the Development.

5.8.5.d Lift Station Lot (PUL).

5.8.5.e Water and Wastewater Service Connections, along Railway Avenue and to the approximate point of the existing Carseland Water Treatment Building.

5.8.5.f Reconstruction/Resurfacing of Railway Avenue, beginning at approximately the Carseland Water Treatment Building at the east extent and extending to a logical point of termination in the vicinity of the Lift Station Lot at the west extent.

5.8.6 Then Phase B.

5.8.7 Then Phase C, or D, or both concurrently:

5.8.7.a Development of Phase C, or D, or both concurrently, is to include:

a.1 Completion of the southwest corner Entrance servicing the Subdivision.

a.2 Reconstruction/Resurfacing of Railway Avenue, from the vicinity of the Lift Station Lot at the east extent to the intersection of Range Road 261 and Railway Avenue at the west extent.

a.3 When Phase D is developed, the northwest Drainage Course leading into the Stormwater Storage Basin from the north will also be completed.

a.4 When Phase C is developed, the Internal Roadway (Main Thoroughfare) to the south side of the Stormwater Storage Basin will also be completed.

5.8.8 Then Phase E, or E and F concurrently:

5.8.8.a When Phase F is developed, the Emergency Egress/Access Road intersecting with Range Road 261, and c/w crash gates, is to be completed, if final Subdivision design verifies that this Emergency Egress/Access Road is required

5.8.9 Phase G has been designed so that all, or portions thereof, can be developed at any and varying times during the Phased Development of the Carseland West Subdivision.

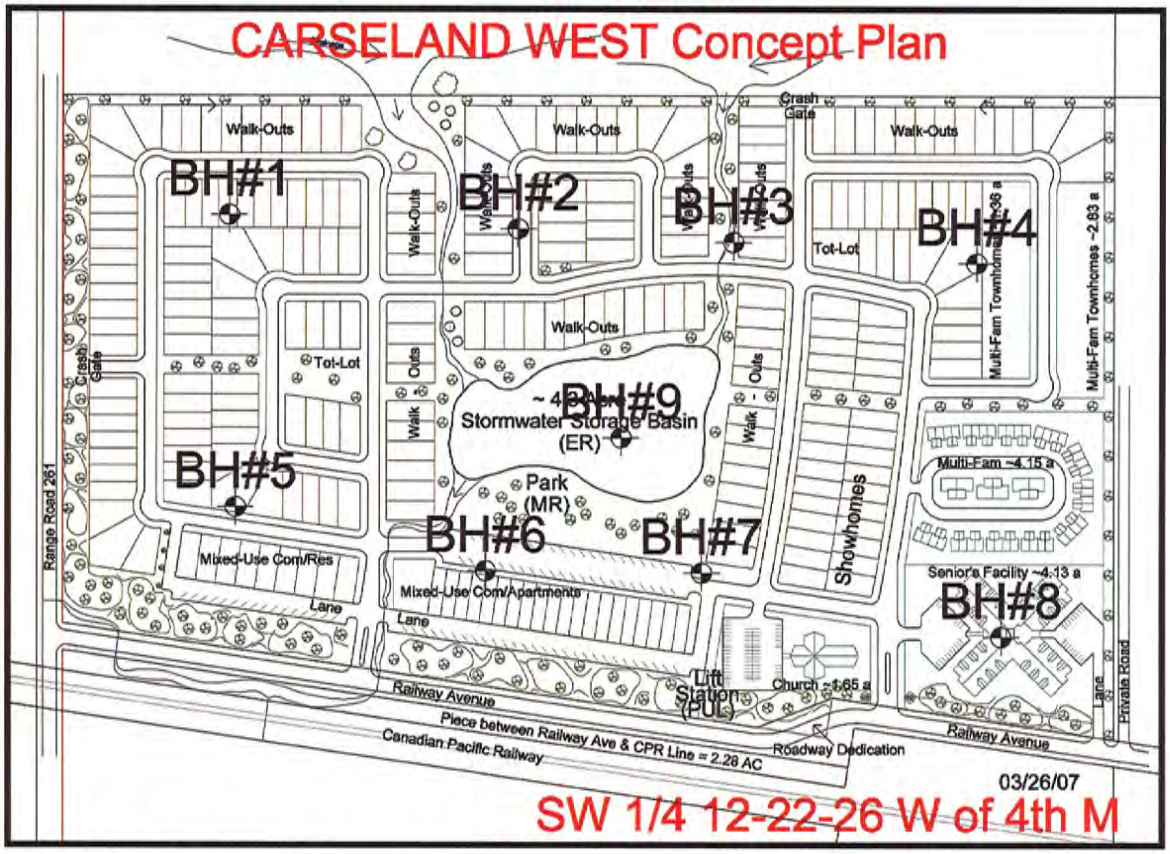
5.9 Geotechnical Evaluation (Summary):

5.9.1 Prepared by MCINTOSH•LALANI ENGINEERING LTD. in May of 2006.

5.9.2 A supplementary document specifically addressing "Geotechnical Suitability for Development" and dated December 20, 2006 states:

5.9.2.a "Based on our field investigation of the Site, it is M•L's opinion that no geotechnical impediment to development exists on the Subject Lands, and that they are suitable for development as proposed, with the recommendations given in our report of May 15, 2006. Conventional building and construction practices are suitable for this site."

5.9.3 Map of Nine Investigative Borehole Locations (Plan 04):



5.9.4 Summary of Subsurface Soil Conditions (M•L Geotechnical Evaluation, Section 5.1, page 2):

5.9.4.a "The general subsurface soil stratigraphy consists of varying amounts of surficial organic topsoils overlying silty clay glacial tills atop silt and sands."

5.9.4.b "Overall, the average depth of organic soil encountered was 175 mm."

5.9.4.c "Underlying the organic soils, silty clay till was typically encountered, being generally described as stiff to very stiff with traces of sand and gravel throughout. The clay was generally low to medium plastic and damp to moist. The clay extended to depths of 5 to 7 metres."

5.9.4.d "Underlying the silty clay till, silt and sand deposits were encountered, being dense and damp. Flowing water was encountered in the sand layers in several boreholes. The sand and silt deposits extended beyond the depth of the drilling in all boreholes."

5.9.5 Summary of Subsurface Groundwater Conditions (M•L Geotechnical Evaluation, Section 5.2, page 3):

5.9.5.a "Upon completion of drilling, groundwater seepage was noted in five of the nine boreholes, with the remainder of the boreholes being largely dry on completion."

5.9.5.b "Groundwater levels were monitored approximately one week after drilling [the geotechnical boreholes] and, at that point ranged from 1.0 to 3.2 m below existing grade."

5.9.6 Summary of Recommendations:

5.9.6.a "Over the majority of the Site, we do not anticipate any difficulties with regard to [deep water and sewer services] pipe support. Conventional methods for pipe support are considered feasible." (M•L Geotechnical Evaluation, Section 6.3, page 4)

5.9.6.b "Based on the results of the geotechnical investigation, conventional strip and spread footings may be used for residential structures within this Development." (M•L Geotechnical Evaluation, Section 6.4, page 4)

5.9.6.c "All concrete elements in contact with Site soils should use Type HS cement and have a 56 day strength of 32 MPa." (M•L Geotechnical Evaluation, Section 6.5, page 4)

5.9.6.d [In the area of the Stormwater Storage Basin], "Atterberg Limit testing of select soil samples have shown the silty clay till to be of medium plasticity, which typically indicates suitability for a compacted clay liner." (M•L Geotechnical Evaluation, Section 6.6, page 4)

d.1 A supplementary document specifically addressing "Soil Permeability Testing" and dated January 18, 2007 states:

d.1.1 "This soil is considered suitable for construction of a compacted clay liner."

5.9.6.e M•L recommends installing a subsurface perforated weeping tile system around the perimeter of all residential house foundations. The exterior perimeter perforated weeping tile should be drained to the storm sewer system or to a sump and discharged overland. (from M•L Geotechnical Evaluation, Section 6.7, page 5)

5.10 Traffic Impact Assessment (Summary):

5.10.1 D.A. WATT CONSULTING (DAW) has prepared a Traffic Impact Assessment (TIA), dated March 12, 2007, conforming to the Guidelines set out by Alberta Infrastructure & Transportation (AIT), and according to an agreed upon Scope of Work with Palliser Regional Municipal Services acting on behalf of Wheatland County:

5.10.1.a **CONCLUSIONS:**

a.1 Background (prior to Development) Operating Conditions:

a11 "Short-Term [existing]: The intersections are operating at an Overall Good Level of Service (LOS A) with minimal delays and have spare capacity to accommodate additional traffic during the morning and afternoon peak hours." (DAW Traffic Impact Assessment, Section 1.3, page 4)

a12 "Overall, we conclude that the road network in the area has spare capacity to accommodate the expected traffic generated by the proposed development, and that [ultimately] the following upgrades are required" [or recommended]: (DAW Traffic Impact Assessment, Section 1:3, page 5)

a13 "We recommend that past the ASP stage and prior to other applications for the site, the operation of the studied intersections be addressed again based on the phasing program of this project. The new assessment will assist the site's owners and the approving authorities in estimating the timeframe and the resources needed for any upgrades or improvements required for the existing road network." (DAW Traffic Impact Assessment, Section 1:3, page 6)

a.2 In ensuring a proper operation of the overall road network in the area, and subject to follow-up studies as the Phased Development begins to generate traffic, the following recommendations will need to be considered:

(The following points of this Item 5.10.1.a.2 are taken either directly or in a condensed general sense from the Traffic Impact Assessment, Section 1.3, page 5):

a21 Ultimately (at the year 2026 or at full completion of the development), the intersection of Highway 24 and Range Road 261 be upgraded from a Type I to a Type IV intersection as per the Alberta Infrastructure & Transportation Guidelines, to provide for an exclusive eastbound left-turn lane, and an exclusive westbound right-turn lane.

a22 That Railway Avenue be paved between the Ball Diamonds and the intersection with Range Road 261.

a.2.3 That Range Road 261 be paved between the intersections with Railway Avenue and Highway 24:

a.2.3.1 NOTE: Consideration may have to be given to reducing the incline of the northbound and southbound approaches of Range Road 261 to the CPR tracks, and/or installing signage and/or installing advance warning devices regulating driving speeds and informing drivers of the unusual circumstance of a hidden intersection with Railway Avenue just north of the railway crossing.

a.3 The proposed Development "is within 800 metres of a rural highway where the speed limit on that highway is 80 kilometres per hour or more", that being Highway 24. Therefore, and as according to Wheatland County Land Use Bylaw 4.04.01b, the approval of Alberta Infrastructure & Transportation is required for the Development.

5.10.2 FOR ADDITIONAL CONSIDERATION:

5.10.2.a Highway 24 Future Road Alignment:

a.1 Alberta Infrastructure & Transportation has plans to re-align Highway 24 to follow an upgraded Highway 817 north to Strathmore. This would involve de-gazetting the current Highway 24 designation west of the intersection of Hwy 24 and Hwy 817. In addition, Hwy 24 would be upgraded and extended straight eastward to Hwy 817 rather than bisecting NE5-22-25-W4M. Therefore, that section of Hwy 24 between the above-noted intersection and it's intersection with Highway 22X, including that portion adjacent to the Hamlet of Carseland, would become a local road.

a.2 The timing for this appears to be increasingly imminent, AND:

a.2.1 In that case, the above described change in status may affect (lower) traffic volumes on Highway 24, and thus may affect (reduce) the need for physical improvements on Highway 24.

5.11 Other Transportation Networks; Railway, Pedestrian, Water and Air:

5.11.1 CPR Railway:

5.11.1.a Separation from the CPR railway track will be approximately 95 – 105 metres between it and:

a.1 The Single-Family houses in the southwest corner.

a.2 The Mixed-Use Commercial/Residential Lot buildings (residences within).

a.3 The Mixed-Use Commercial/Residential District buildings (apartments above).

a.4 The possible Church Facility.

a.5 The possible Senior's Facility.

5.11.1.b Sound Attenuation Plan (see previous Item 5.6.13.b for additional detail):

b.1 An approximately 100 foot wide South-Boundary Buffer Zone (Municipal Reserve District, MR) along most of the south Boundary, consisting of sculpted earthen berms and native landscaping that will separate the Development from the CPR Railway as well as from Railway Avenue.

b.2 The earthen berms to this South-Boundary Buffer Zone will be specifically constructed to provide a visual-screen and sound-attenuation barrier between the Development and the CPR Railway.

b.3 Strategically placed native landscaping will augment the visual-screen and sound-attenuation barrier elements of these berms.

5.11.2 Internal Pedestrian Pathway Network:

5.11.2.a Approximately 4.3 km of Internal Pedestrian Pathways:

a.1 Hard-surfaced to the perimeter of the Stormwater Storage Basin, approximately .6 km in length.

a.2 Natural (not hard-surfaced) to the Boundary Buffer Zones surrounding the Development, approximately 2.5 km in length.

a.3 Natural (not hard-surfaced) connector Pathways between the Stormwater Storage Basin and Buffer Zone Pathways, most following the natural Drainage Courses leading to the Stormwater Storage Basin, approximately 1.2 km in length.

5.11.3 Water:

5.11.3.a Not applicable.

5.11.4 Air:

5.11.4.a Not applicable.

5.12 Municipal Water Supply and Servicing Plan:

5.12.1 Prepared by BARTECH DEVELOPMENTS LTD. in January of 2007 (reviewed by JUBILEE ENGINEERING CONSULTANTS LTD. in January of 2007):

5.12.1.a Subsequently updated by BARTECH in March of 2007 for Final-Version ASP.

5.12.2 Schedule of Projected Water Supply Volumes (Consumption) by Date and Phase Completion (Schedule 03):

PHASE	Units	Dec 31 2009	Dec 31 2010	Dec 31 2011	Dec 31 2012	Dec 31 2013	Dec 31 2014	Dec 31 2015	Dec 31 2016
Phase A – Single-Fam	53	9.18	35.06	60.10	81.80	83.47	83.47	83.47	83.47
Phase A – Mulit-Fam	50		29.92	59.84	78.74	78.74	78.74	78.74	78.74
Phase B – Single-Fam	32		8.06	29.73	50.40	50.40	50.40	50.40	50.40
Phase B – Multi-Fam	46			10.14	47.09	72.44	72.44	72.44	72.44
Phase C – Commercial	21			1.65	7.94	14.22	20.50	26.79	33.07
Phase C – Apartments				1.65	7.94	14.22	20.50	26.79	33.07
Phase D – Single-Fam	40			3.15	30.24	56.69	62.99	62.99	62.99
Phase E – Single-Fam	39				11.06	42.38	58.35	61.42	61.42
Phase F – Single-Fam	63					13.89	45.64	77.39	99.22
Phase F – Mixed-Use	09						3.12	9.50	14.17
Phase G – Senior Res	112						17.37	34.74	52.63
Phase G – Church							15.75	15.75	15.75
M^3 per Day		9.18	73.04	166.27	315.19	426.46	529.28	600.41	657.38
M^3 per Year		**3,351**	**26,660**	**60,690**	**115,045**	**155,656**	**193,186**	**219,150**	**239,942**
Imp Gal per Minute		1.40	11.17	25.43	48.20	65.21	80.94	91.81	100.52
Imp Gal per Year		737,335	5,865,795	13,352,967	25,312,206	34,247,488	42,504,697	48,217,279	52,792,140

5.12.3 **The above Schedule shows that the Carseland West Subdivision will require delivery of approximately 239,942 M^3 of Water annually (or 52,792,140 Imp Gal) at Completion, for all indoor and outdoor use:**

5.12.3.a Single-Family dwelling water consumption calculations are based on an average of 3.5 persons per household (Unit) and an average daily consumption of 90 Imp/gpd per person:

a.1 Statistics Canada publicly available information based on the 2001 Census is that the average number of persons per private household in Alberta is 2.6. Carseland West is intended to be a family-oriented community, so for modeling purposes the average number of persons per private household has been increased to 3.5.

a.2 Epcor/City of Edmonton publicly available information based on metered residential consumption is that the average single family household consumes 89 Imp/gpd per person for indoor and outdoor use:

a.2.1 Epcor/City of Edmonton average consumption volumes were chosen instead of Calgary average volumes because Edmonton has an established history of metering water consumption, whereas Calgary does not.

a.2.2 For comparison purposes: August 2006 recorded data for the Carseland/Speargrass I Municipal Water System averages 71.6 Imp/gpd (85.95 US/gpd) per Carseland resident.

5.12.3.b Multiple-Family dwelling water consumption calculations are based on an average of 3.5 persons per household (Unit) and an average daily consumption of 90 Imp/gpd per person.

5.12.3.c Commercial component of the Mixed-Use Commercial/Apartment Lot (Unit) water consumption calculations are based on volumes similar to the average Single-Family household of 3.5 persons consuming 90 Imp/gpd per person, which equals 315 Imp/gpd per household (per Lot/Unit).

5.12.3.d Apartment component of the Mixed-Use Commercial/Apartment Lot (Unit) water consumption calculations are based on volumes similar to the average Single-Family household of 3.5 persons consuming 90 Imp/gpd per person, which equals 315 Imp/gpd per household (per Lot/Unit).

5.12.3.e Mixed-Use Commercial/Residential Lot (Unit) water consumption calculations are based on volumes similar to the average Single-Family household of 3.5 persons consuming 90 Imp/gpd per person, which equals 315 Imp/gpd per household (per Lot/Unit).

5.12.3.f Senior's Facility water consumption calculations are based on:

f.1 An average of 1.5 persons per Unit and an average daily consumption of 90 Imp/gpd per person.

f.2 PLUS, an internal Facilities and Maintenance additional average daily consumption of 13.5 Imp/gpd per person:

f.2.1 "Facilities and Maintenance" includes commercial kitchen and general cleaning requirements as well as other public amenity services like salons and snack shops.

f.3 THEREFORE, the average daily consumption within the Senior's Facility is calculated at 103.5 Imp/gpd per person.

5.12.3.g The Church Facility water consumption calculation is based on a volume equivalent to that of 10 Single-Family households consuming 315 Imp/gpd per household, which is 10 x 315 = 3,150 Imp/gpd for the Church Facility.

5.12.3.h **ADDITIONALLY: ALL calculated water consumption volumes have been factored upwards an additional 10.0% to compensate for Municipal Water System normal Facilities and Maintenance requirements and allowances; i.e. testing, flushing, wash-down, malfunction and spillage, as well as for usage in public parks and community areas, etc.**

5.12.4 Letter of Commitment regarding the Carseland Four Water Wells:

5.12.4.a A formal Letter of Request, dated January 29, 2007, accompanied the Carseland West Draft-Version Area Structure Plan submitted by BARTECH DEVELOPMENTS LTD. to Wheatland County on January 29, 2007:

a.1 The Letter of Request requested a formal Letter of Commitment from Wheatland County which, "Both commits the production volumes from the Carseland Four Wells to BARTECH DEVELOPMENTS LTD. and the proposed Carseland West Subdivision, and also authorizes Carseland West to connect to the existing Carseland/Speargrass I Municipal Water System."

a.2 And, the January 29/2007 Draft-Version ASP stated that, "Upon receipt of this Letter of Commitment from Wheatland County, BARTECH DEVELOPMENTS LTD. is able to proceed with it's application for Water License to Alberta Environment for Carseland West."

5.12.4.b At the Wheatland County Council Meeting of February 20, 2007, the Approved Minutes of which are now publicly available and therefore considered official, "RESOLUTION 07-85 Bartech Developments" was Moved and Carried, stating:

b.1 "**FARTHING MOVED** approval for the County to provide a letter of commitment to Bartech Developments Ltd., to commit the production volumes from the existing four water wells licensed to the hamlet of Carseland to the proposed Carseland West Subdivision with the understanding that this commitment meets Alberta Environment approval and also with the understanding that this commitment authorizes connection of this proposed subdivision to the existing Carseland/Speargrass I municipal water system."

b.2 A copy of "RESOLUTION 07-85 Bartech Developments" has also been included as Appendix K.

5.12.4.c If this Commitment receives Alberta Environment approval, as per "RESOLUTION 07-85 Bartech Developments", BARTECH DEVELOPMENTS LTD. and this Area Structure Plan then consider that:

c.1 The Carseland West Subdivision is authorized to connect to the existing Carseland/Speargrass I Municipal Water System.

c.2 The Carseland West Subdivision has been granted the production volumes from the Carseland Four Wells.

5.12.5 Contribution of the Carseland Four Water Wells to Carseland West's Projected Water Supply Requirements:

5.12.5.a According to data provided by Wheatland County to BARTECH DEVELOPMENTS LTD. regarding the Carseland Four Water Wells, it is understood that:

a.1 Well 93-1 is Licensed to produce 59,474 M^3 of Water annually.

a.2 Well 85-2 is Licensed to produce 10,896 M^3 of Water annually.

a.3 Well 85-3 is Licensed to produce 13,620 M^3 of Water annually.

a.4 Well 85-5 is Licensed to produce 12,258 M^3 of Water annually.

a.5 **TOTALING 96,248 M^3 LICENSED ANNUAL VOLUME.**

5.12.5.b According to the Schedule of Projected Water Supply Volumes (Consumption) by Date and Phase Completion (Schedule 03), Item 5.12.2 on page 60 of this ASP, the Carseland West Subdivision:

b.1 Requires 239,942 M^3 of Water annually, at Completion.

5.12.5.c **The Carseland Four Water Wells are therefore expected to be able to contribute approximately 40% of the Carseland West Subdivision's Projected Water Supply Requirements, at Completion.**

5.12.5.d It should be additionally NOTED that, as per the Schedule of Projected Water Supply Volumes (Consumption) by Date and Phase Completion (Schedule 03) of this ASP, the Annual Licensed Volume of 96,248 M^3 for the Carseland Four Water Wells is projected, by this Area Structure Plan, to be able to supply ALL of Carseland West's Water Supply Requirements until approximately the third quarter of the Year 2012, subject to:

d.1 Pump Test verification of the production capabilities of the Four Wells.

d.2 Alberta Environment Approval of "RESOLUTION 07-85 Bartech Developments".

5.12.6 Discussion regarding the connection of the Carseland West Subdivision to the existing Carseland/Speargrass I Municipal Water System:

5.12.6.a Some existing System components will need to be upgraded and/or otherwise addressed before the existing Water System is capable of supplying the Carseland West volumes that will be required at Completion:

a.1 The existing Carseland/Speargrass I Surface Water Diversion Certificate/ License of 307,950 M^3 is projected to be adequate to meet only the Water Supply requirements of the Carseland and Speargrass I communities, including Raw Water for the 18 hole Speargrass golf course. Therefore, according to current operational parameters and projections, this existing

Certificate/License is not expected to be able to contribute any Water Supply to the Carseland West Subdivision, and so Water Supply supplemental to that from the Carseland Four Water Wells must be sourced:

- Possible sources, or combinations thereof, that are under consideration include:

  - BARTECH DEVELOPMENTS LTD. making application to Alberta Environment (AE) for increased Annual Licensed Volumes from the Carseland Four Water Wells, if formal Pump Tests verify their capability for increased production.

  - BARTECH DEVELOPMENTS LTD. making application to Alberta Environment (AE) for another Groundwater Diversion License, and then drilling more water wells as required and this water then being processed through the Carseland Water Treatment Plant.

  - BARTECH DEVELOPMENTS LTD. making application to Alberta Environment (AE) for a Transfer of Surface Water Allocation License (transfer an existing License), and this water then being processed through the Carseland/Speargrass I Speargrass Water Treatment Plant.

  - Subsequent to the submission of the Draft-Version ASP, and as a function of the current moratorium on new Licenses being granted from the Bow River Basin, Mr. Randy Poon, Water Administration Engineer/Approvals/Southern Region for Alberta Environment, informed BARTECH that an application for a new Surface Water Diversion License from the Bow River (different from the transfer of an existing License), in and of itself, would NOT be accepted:

    - Therefore, and for the time being, this option no longer remains under consideration.

  - Assuming that this multiple-approach to an application for Water License is successful within a reasonable period of time, the License and the Water Rights associated with it would be transferred from BARTECH DEVELOPMENTS LTD. to Wheatland County, at an agreed upon time, under agreed upon terms and conditions, and in accordance with Alberta Environment Transfer of Water Allocation License requirements:

    - Specifically, the Carseland/Speargrass I Municipal Water System would assume ownership of the Water License secured by BARTECH DEVELOPMENTS LTD.

  - Additionally, it is understood that the Calgary Regional Partnership, to which Wheatland County is a participating contributor, is planning for the supply of water from Calgary to Strathmore, via pipeline, and that same is tentatively expected to be operational in approximately 2 years, by the end of 2009:

And, that in conjunction with the Strathmore regional pipeline, another water supply pipeline to the Carseland regional area is under consideration, and that same is tentatively expected to be operational approximately 5 years after the completion of the Strathmore pipeline, at the end of 2014.

a.2 Inadequate Speargrass Water Treatment Plant Capacity:

a.2.1 The production capacity of the existing Carseland/Speargrass I Speargrass Water Treatment Plant is projected to be adequate to meet only the Water Supply requirements of the Carseland and Speargrass I communities. Therefore, according to current operational parameters and projections, it is not expected to be able to contribute any Water Supply to the Carseland West Subdivision.

5.12.7 CONCLUSIONS:

5.12.7.a Adequate Water License volumes must be secured from Alberta Environment before the proposed development of Carseland West can be Completed.

5.12.7.b Formal engineering analysis of the existing Carseland/Speargrass I Municipal Water System is required to identify Water System components that will need to be upgraded and/or otherwise addressed before the System is capable of supplying the Carseland West Water Supply volumes that will be required at Completion. This Area Structure Plan presumes that the engineering analysis would be under the purview of Wheatland County, and that BARTECH DEVELOPMENTS LTD. and/or it's Engineering Representative(s) would participate in material fashion.

5.12.7.c ADDITIONALLY:

c.1 BARTECH DEVELOPMENTS LTD. recognizes it's responsibility for participating in and contributing to the Analysis Process, and is ready to receive Wheatland County's proposal in this regard.

c.2 BARTECH DEVELOPMENTS LTD. anticipates working constructively with Wheatland County, the Communities of Carseland and Speargrass I and Alberta Environment to arrive at a planned solution that satisfies the needs of all participants in the complex matter of Water Supply.

c.3 The Analysis Process may want to additionally consider the probability of increasing future demands for Water Supply as the Carseland Regional Area continues to participate in the robust Alberta economy and experiences the resultant development pressures.

c.4 The embracing of aggressive and innovative water conservation strategies and practices by the Carseland/Speargrass I Municipal Water System may well be a vital component of any solution that successfully resolves the need for increased Water Supply in and to the Carseland Regional Area.

5.13 Municipal Wastewater Disposal and Treatment Servicing Plan:

5.13.1 Prepared by BARTECH DEVELOPMENTS LTD. in January of 2007 (reviewed by JUBILEE ENGINEERING CONSULTANTS LTD. in January of 2007).

5.13.1.a Subsequently updated by BARTECH in March of 2007 for Final-Version ASP.

5.13.2 Schedule of Projected Wastewater Volumes Generated by Date and Phase Completion (Schedule 04):

PHASE	Units	Dec 31 2009	Dec 31 2010	Dec 31 2011	Dec 31 2012	Dec 31 2013	Dec 31 2014	Dec 31 2015	Dec 31 2016
Phase A – Single-Fam	53	9.18	35.06	60.10	81.80	83.47	83.47	83.47	83.47
Phase A – Mulit-Fam	50		29.92	59.84	78.74	78.74	78.74	78.74	78.74
Phase B – Single-Fam	32		8.06	29.73	50.40	50.40	50.40	50.40	50.40
Phase B – Multi-Fam	46			10.14	47.09	72.44	72.44	72.44	72.44
Phase C – Commercial	21			1.65	7.94	14.22	20.50	26.79	33.07
Phase C – Apartments				1.65	7.94	14.22	20.50	26.79	33.07
Phase D – Single-Fam	40			3.15	30.24	56.69	62.99	62.99	62.99
Phase E – Single-Fam	39				11.06	42.38	58.35	61.42	61.42
Phase F – Single-Fam	63					13.89	45.64	77.39	99.22
Phase F – Mixed-Use	09						3.12	9.50	14.17
Phase G – Senior Res	112						17.37	34.74	52.63
Phase G – Church							15.75	15.75	15.75
M^3 per Day		9.18	73.04	166.27	315.19	426.46	529.28	600.41	657.38
M^3 per Year		**3,351**	**26,660**	**60,690**	**115,045**	**155,656**	**193,186**	**219,150**	**239,942**

5.13.3 **The above Schedule shows that the Carseland West Subdivision will generate approximately 239,942 M^3 of Wastewater for disposal and treatment annually at Completion**:

5.13.3.a NOTE: Although Wastewater generated volumes are initially calculated to be approximately 10% less than Water delivery volumes, the calculations are not factored downwards in order that water infiltration into the underground sewer system might be properly accounted for.

5.13.4 **Discussion regarding the proposed connection of Carseland West to the existing Carseland/Speargrass I Municipal Wastewater Disposal and Treatment System:**

5.13.4.a In preliminary discussions with Wheatland County (WC) personnel BARTECH DEVELOPMENTS LTD. (BDL) has proposed that Carseland West be connected to and serviced by the existing Carseland/Speargrass I Municipal Wastewater Disposal and Treatment System. Some existing System components will need to be upgraded and/or otherwise addressed before the existing Wastewater System is capable of receiving the Carseland West volumes that will be generated at Completion:

a.1 Inadequate Main Sanitary Sewer Line Capacity and Performance: As noted previously in Section 4.0, Item 4.6.3.c. of Conclusions:

a.1.1 The Carseland Sanitary Sewer System is prone to backing-up into houses, particularly during rainy periods. This is contributed to in part by the fact that several residential sump pumps are connected to the Sanitary Sewer System.

a.1.2 The design whereby the approximately 1 block length of Forcemain underneath Railway Avenue in Carseland directly deposits effluent into the Gravity-Flow Main Sanitary Sewer Line has proven to be troublesome. This is particularly so during rainy periods when the additional volumes introduced under pressure of the Forcemain overload the southern collection portion of the Gravity-Flow Main Sanitary Sewer Line. This contributes tangibly to the sewer back-ups in the Hamlet.

a.2 Inadequate Lagoon Capacity: The treatment and storage capacity of the existing Carseland/Speargrass I Lagoon is projected to be adequate to meet only the requirements of the Carseland and Speargrass I communities. Therefore, according to current operational parameters and projections, it is not expected to be able to receive any wastewater from the Carseland West Subdivision.

5.13.5 CONCLUSIONS:

5.13.5.a Connection of Carseland West to the existing Carseland/Speargrass I Municipal Wastewater Disposal and Treatment System is the most logical means for servicing the proposed Expansion of the Hamlet of Carseland:

5.13.5.b Formal engineering analysis of the existing Carseland/Speargrass I Municipal Wastewater Disposal and Treatment System is required to identify Wastewater System components that will need to be upgraded and/or otherwise addressed before the System is capable of receiving the Carseland West Wastewater volumes that will be generated at Completion. This Area Structure Plan presumes that the engineering analysis would be under the purview of Wheatland County, and that BARTECH DEVELOPMENTS LTD. and/or it's Engineering Representative(s) would participate in material fashion.

5.13.5.c ADDITIONALLY:

c.1 BARTECH DEVELOPMENTS LTD. recognizes it's responsibility for participating in and contributing to the Analysis Process, and is ready to receive Wheatland County's proposal in this regard.

c.2 BARTECH DEVELOPMENTS LTD. anticipates working constructively with Wheatland County, the Communities of Carseland and Speargrass I and with Alberta Environment to arrive at a planned solution that satisfies the needs of all participants in the matter of Wastewater Disposal and Treatment.

c.3 The Analysis Process may want to additionally consider the probability for increasing future demands for Wastewater Disposal and Treatment as the Carseland Regional Area continues to participate in the robust Alberta economy and the resultant development pressures.

5.14 Stormwater Management Concept Plan:

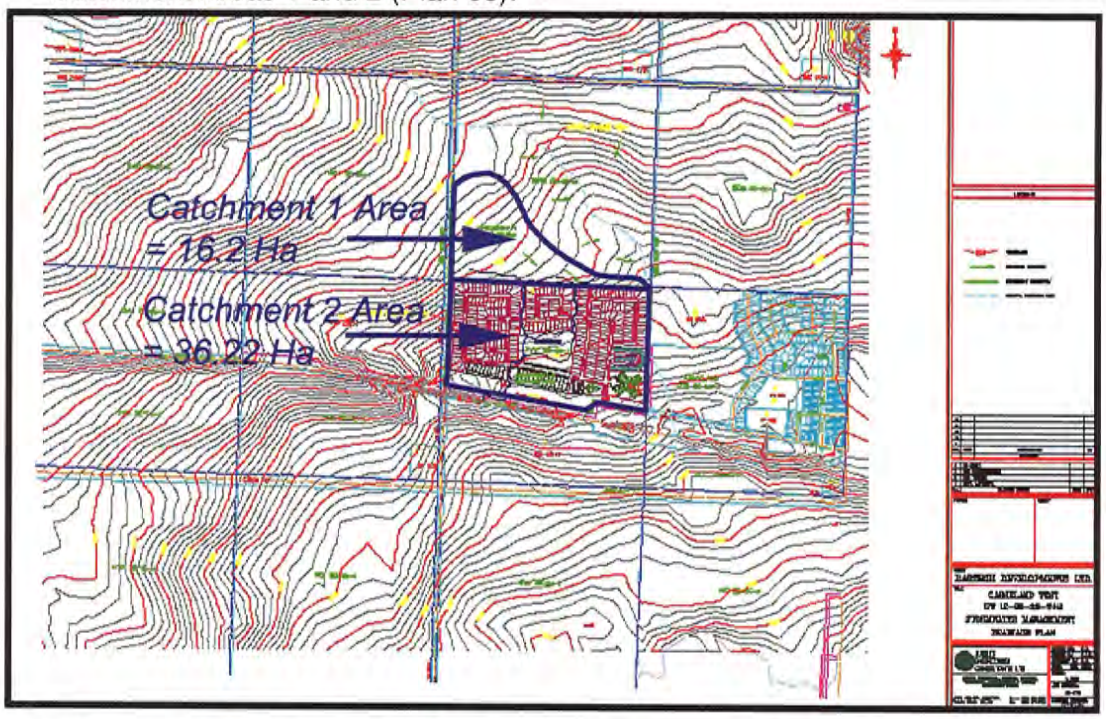
5.14.1 Prepared by JUBILEE ENGINEERING CONSULTANTS LTD., dated October 26, 2006.

(The following point items are either "quoted" or taken in a condensed general sense from the Stormwater Management Concept Plan):

5.14.2 The Site is bordered by the existing Hamlet of Carseland to the east, the CPR line to the south, a township road to the west and a quarter section of agricultural land c/w one homestead to the north.

5.14.3 "As per the topography obtained through AltaLis, the land slopes from north to south. The area is divided into two catchments, 1 and 2. Catchment 2 encompasses the Site and Catchment 1 in the north is outside the Site boundaries and runoff from this Catchment passes through the Site. All as shown on Drawing SWM1."

5.14.3.a JUBILEE Drawing SWM1, Stormwater Management Drainage Plan, Showing Catchment Areas 1 and 2 (Plan 05):



5.14.4 For the Stormwater Management Plan, the 1:100 year event post-development runoff shall be contained on Site, to ensure that the post-development release is less than or equal to the pre-development release. As shown on the Drawing, a Storage [Basin] shall be provided and sized to contain the post-development flows for a 1:100 year event. Outflow from the Storm[water Storage Basin] shall be controlled to the pre-development flows and shall" [be led southwards underneath Railway Avenue via drainage culverts, as per the existing culverts facilitating southwards flow underneath Railway Avenue, and then continue underneath the CPR Railway via the existing culverts and then follow naturally established drainage channels towards the Bow River].

5.14.5 "Drainage from the Subdivision shall be directed to the [Stormwater Storage Basin] through a system of adequately designed storm sewers [and/or roadway ditches]. Site grading shall ensure the flow to the [Stormwater Storage Basin]. The [Stormwater Storage Basin] is located in the center of the subdivision and low areas shall be graded (filled) to provide positive drainage to the [Stormwater Storage Basin]."

5.14.6 "For water quality, the [Stormwater Storage Basin] shall be preferably designed as a Wet Pond, to meet the requirement of the Stormwater Management Design Guidelines, as per City of Calgary and Alberta Environment."

5.14.7 The details of the Stormwater Management Plan will be worked out as part of final design of the Subdivision, and shall include a complete Site topographic survey.

5.15 Phase One Environmental Site Assessment, ESA1 (Summary):

5.15.1 Prepared by BASE PROPERTY CONSULTANTS LTD. (BPL), dated October 25, 2006.

5.15.2 "Base Property Consultants Ltd. conducted a Phase One Environmental Site Assessment (ESA1) for an acreage property located west of Carseland, Alberta in Wheatland County. The objective of this investigation was to identify and evaluate potential environmental liabilities associated with past and current activities on the Site." (BPL ESA1, Section 1.1, page 3)

5.15.3 The Scope of Work c/w related observations of this Phase One ESA includes the following: (following "quotes" taken from BPL ESA1, Section 1.3, page 3)

5.15.3.a "Undertake a historical review of the subject and adjacent properties using such documents as Land Titles for previous ownership, air photos, records kept by Municipal and Provincial Governments pertaining to land use and environmental compliance."

5.15.3.b "Undertake a site reconnaissance noting any potential building hazardous materials (using no destructive sampling methods), present physical features, site surface drainage, location and identification of any obvious surface dump material and any obvious drainage sumps or standing water existing on site. This investigation does not address mold issues on the premises."

5.15.3.c "Note obvious past and present adjacent land uses that may be an environmental concern to the Subject Site."

5.15.3.d "Evaluate data collected for potential on-site environmental liability and prepare a final document expressing comments and opinions based on this investigation."

5.15.4 Observations:

5.15.4.a Aerial photos from 1962 to present indicate there has been no development on the Property during that time; including that of oil and gas wells, or pipelines, or transmission utilities, or buildings.

5.15.4.b "A search of the Alberta Energy and Utility Board's oil and gas well database for this portion of Alberta indicates no oil and gas wells or pipelines on the Subject Site." (BPL ESA1, Section 3.3, page 5)

5.15.4.c Alberta Environment's Groundwater Information Website indicates no water wells are on the Subject Site. (BPL ESA1, Section 3.3, page 5)

5.15.4.d "Correspondence with Alberta Environment, Freedom of Information and Protection of Privacy Division [has] not identified any records for the Subject Site." (BPL ESA1, Section 3.5, page 6)

5.15.4.e "Correspondence with the Calgary Health Region [has not identified] any outstanding executive orders or any environmental concerns for this Property". (BPL ESA1, Section 3.5, page 6)

5.15.5 The Executive Summary, page 1 of the ESA1 concludes, "Therefore, based upon the results of the historical records review, site reconnaissance and information available to the author at the time of preparing this report [October 2006], it is our opinion that no significant environmental impairment exists on the Subject Site. Further environmental investigation is not required at this time."

5.16 Historical Resources Overview:

5.16.1 All areas of the Subject Property have been broken, seeded and harvested for agricultural purposes for several years.

5.16.2 Because all areas of the Subject Property have been subjected to intensive farming practices for several years, a formal Historical Resources Impact Assessment has not been undertaken.

5.17 Oil and Gas Facilities Overview:

5.17.1 A review of the documentation materials in the Land Development Information Package received from the Alberta Energy and Utilities Board in December of 2006 indicates that:

5.17.1.a There are no producing sour gas wells or facilities within the required minimum setback of 0.8 km of the Subject Property.

5.17.1.b There are no other producing gas or oil facilities within the required minimum setbacks of the Subject Property.

5.17.1.c There are no abandoned wells on the Subject Property.

5.17.1.d There are no underground high-pressure gas pipelines on or within the required minimum setbacks of the Subject Property.

5.17.1.e There are no underground low-pressure gas pipelines on the Subject Property.

5.17.1.f There are no abandoned pipelines on the Subject Property.

6.0 CARSELAND WEST AREA STRUCTURE PLAN – IMPLEMENTATION POLICIES:

6.1 Introduction:

6.1.1 The Concept for Expansion of the Hamlet of Carseland as outlined above in Section 5 of this Area Structure Plan establishes the Intent and Spirit – the guiding principles and basis – of the following Plan Implementation Policies.

6.1.2 The following Implementation Policies are specific actions and standards that the Developer and the Municipality shall follow unless an application is made and approved to amend this Area Structure Plan and/or the Land Use Bylaw.

6.2 Land Use Policies:

6.2.1 Future Subdivision and Development shall be in accordance with this Area Structure Plan. Major deviations to the Plan Concept (design) and Implementation Policies shall require an amendment to this Plan. Minor relaxations may be considered without an amendment to this Plan where the Developer can demonstrate to the satisfaction of the Subdivision or Development Approving Authority, as the case may be, that the reconfiguration of parcels, land use adjustments, road design and development detail would maintain the overall Intent and Spirit of this Carseland West Area Structure Plan.

6.2.2 Land Uses for this planned Expansion of the Hamlet of Carseland shall consist of:

6.2.2.a Single-Family detached homes.

6.2.2.b Multiple-Family residences; both Semi-Detached and Townhomes.

6.2.2.c Mixed-Use Commercial/Residential Lots, where the development of permanent Residential Living Quarters in conjunction with acceptable small-proprietor Commercial Businesses will be encouraged. (See Item 5.6.4)

6.2.2.d A Mixed-Use Commercial/Residential District, with emphasis on shops and services supportive of a Community that is both Family-oriented and attractive to Residents of all ages, and where the appropriate development of Residential apartments above the Commercial premises will be a discretionary use. (See Item 5.6.5)

6.2.2.e Senior's Residential Facility, provision for.

6.2.2.f Church Facility, consideration for.

6.2.2.g Roadways, c/w corresponding easements and rights-of-way, as required to service the Carseland West Subdivision.

6.2.2.h Municipal Services and Franchise Utilities, c/w corresponding easements and rights-of-way, as required to service the Carseland West Subdivision.

6.2.2.i Environmental Reserve District, approximately 8.34%, consisting of:

i.1 The Stormwater Drainage Courses, and

i.2 The Stormwater Storage Basin.

6.2.2.j Municipal Reserve District, approximately 16.49%, consisting of:

j.1 The central Public Park.

j.2 The perimeter Boundary Buffer Zones.

j.3 The remaining Open and/or Green Spaces.

6.2.2.k Internal Pedestrian Pathways, approximately 4.3 km, consisting of:

k.1 0.6 km, hard-surfaced, to the Stormwater Storage Basin perimeter.

k.2 2.5 km, natural (not hard-surfaced), to the Buffer Zones surrounding the Development.

k.3 1.2 km, natural, to the connector Pathways between the Stormwater Storage Basin and Buffer Zone Pathways.

6.2.3 Architectural Design Guidelines will be established and registered as a Building Scheme by the Developer to ensure compatibility and quality controls for all Development in the Carseland West Subdivision; in accordance with the Intent and Spirit of this Area Structure Plan:

6.2.3.a As of Submission of this Area Structure Plan, the Architectural Design Guidelines have not been completed.

6.2.3.b Methods under consideration, but not yet decided upon, for enforcing Compliance with the Architectural Design Guidelines include:

b.1 A Security Deposit, refundable upon 100% satisfactory Completion and Compliance.

b.2 Making 100% satisfactory Completion and Compliance a Condition of Release for a Final Occupancy Permit.

6.3 Reserve Land Policies:

6.3.1 Municipal Reserve Land will be provided in accordance with the Alberta Municipal Government Act and to the satisfaction of the Subdivision Approving Authority at the time of Subdivision.

6.3.2 NOTE: This Area Structure Plan presumes that more than sufficient School and/or Recreational Development Reserve Lands already exist within the existing Hamlet of Carseland to supply the infrastructure needs of the Carseland West Residents as will be

required, without at the same time compromising the same needs of the existing Carseland Residents:

6.3.2.a Therefore, no additional School and/or Recreational Development Reserve Lands have been set aside or dedicated or otherwise provided for within this Area Structure Plan and accompanying Concept Plan.

6.3.2.b However, in review, this Area Structure Plan and accompanying Concept Plan do provide for a Total of approximately 24.83% Open and/or Green Space when the allotted Environmental and Municipal Reserve Districts are combined.

6.3.2.c Also for consideration in this regard; as per Item 5.6.7 of this ASP, this Area Structure Plan intends that approximately 1.65 Acres of land would be gifted to the local Church.

6.4 Servicing Policies:

6.4.1 Development Agreement:

6.4.1.a The Developer shall enter into a Development Agreement with Wheatland County prior to Subdivision Approval, details of which shall be subject to negotiations and to the satisfaction of Wheatland County and the Developer.

6.4.2 Servicing:

6.4.2.a All engineering and development costs associated with the provision of Deep and Shallow Services Infrastructure within the Carseland West Subdivision shall be the responsibility of the Developer (On-Site Services).

6.4.2.b All engineering and development costs associated with the provision of Deep Services Infrastructure (Water and Wastewater) between the Carseland West Subdivision and the Connection Points to the existing Carseland/Speargrass I Municipal Water and Wastewater Systems shall be the responsibility of the Developer (Off-Site Services).

6.4.3 Water Supply:

6.4.3.a All costs associated with the securing of additionally required Water License Volumes from Alberta Environment for the Carseland West Subdivision shall be the responsibility of the Developer.

6.4.3.b ADDITIONALLY, as per Item 5.12.4.c of this Area Structure Plan:

b.1 If this Commitment receives Alberta Environment approval, as per "RESOLUTION 07-85 Bartech Developments", BARTECH DEVELOPMENTS LTD. and this Area Structure Plan then consider that:

b.1.1 The Carseland West Subdivision is authorized to connect to the existing Carseland/Speargrass I Municipal Water System.

b1.2 The Carseland West Subdivision has been granted the production volumes from the Carseland Four Wells.

6.4.3.c AND, as per Conclusions Item 5.12.7 of this Area Structure Plan:

c.1 Formal engineering analysis of the existing Carseland/Speargrass I Municipal Water System is required to identify Water System components that will need to be upgraded and/or otherwise addressed before the System is capable of supplying the Carseland West Water Supply volumes that will be required at Completion. This Area Structure Plan presumes that the engineering analysis would be under the purview of Wheatland County, and that BARTECH DEVELOPMENTS LTD. and/or it's Engineering Representative(s) would participate in material fashion.

c.2 BARTECH DEVELOPMENTS LTD. recognizes it's responsibility for participating in and contributing to the Analysis Process, and is ready to receive Wheatland County's proposal in this regard, agreement upon which shall be subject to negotiations and to the satisfaction of Wheatland County and the Developer.

6.4.4 Wastewater Disposal and Treatment:

6.4.4.a As per Item 5.13.5 of this Area Structure Plan:

a.1 Connection of Carseland West to the existing Carseland/Speargrass I Municipal Wastewater Disposal and Treatment System is the most logical means for servicing the proposed Expansion of the Hamlet of Carseland.

a.2 Formal engineering analysis of the existing Carseland/Speargrass I Municipal Wastewater Disposal and Treatment System is required to identify Wastewater System components that will need to be upgraded and/or otherwise addressed before the System is capable of receiving the Carseland West Wastewater volumes that will be generated at Completion. This Area Structure Plan presumes that the engineering analysis would be under the purview of Wheatland County, and that BARTECH DEVELOPMENTS LTD. and/or it's Engineering Representative(s) would participate in material fashion.

a.3 BARTECH DEVELOPMENTS LTD. recognizes it's responsibility for participating in and contributing to the Analysis Process, and is ready to receive Wheatland County's proposal in this regard, agreement upon which shall be subject to negotiations and to the satisfaction of Wheatland County and the Developer.

6.4.5 Shallow Utility Services (Franchise Utilities):

6.4.5.a Shallow Utility Services such as gas, underground power, street lights, telephone, and cable shall be provided in accordance with the standards and requirements of the Shallow Utility Providers and to the satisfaction of Wheatland County.

6.4.6 Transfer of Municipal Improvements to Wheatland County:

6.4.6.a Upon satisfactory completion of the construction and installation of the Municipal Improvements and the Final Acceptance of them by Wheatland County, the said Municipal Improvements which are on or under Public Property and those on or under land subject to easements and utility rights-of-way shall become the Property of Wheatland County (from the preamble to the Wheatland County Standard Development Agreement).

6.4.6.b In accordance with Section 10 of the Wheatland County Standard Development Agreement.

6.4.7 Maintenance of Municipal Improvements by Developer:

6.4.7.a In accordance with Section 11 of the Wheatland County Standard Development Agreement.

6.5 Access and Road Policies:

6.5.1 Access Policies:

6.5.1.a Subdivision Approval shall be conditional upon a Development Agreement Special Condition establishing that prior to the Registration of an agreed-upon and particular Phase during the Development of the Carseland West Subdivision, and subject to subsequent follow-up studies confirming the need for and verifying the extent of same, and subject to the approval of Alberta Infrastructure & Transportation regarding this proposal for deferment of same, the Developer, at it's cost, shall be required to upgrade the intersection of Highway 24 and Range Road 261 from a Type I to a Type IV, as per the Conclusions of Item 5.10.1.a.2.1 of this Plan.

6.5.1.b Subdivision Approval shall be conditional upon a Development Agreement Special Condition establishing that prior to the Registration of an agreed-upon and particular Phase during the Development of the Carseland West Subdivision, and subject to subsequent follow-up studies confirming the need for and verifying the extent of same, and subject to the approval of Alberta Infrastructure & Transportation regarding this proposal for deferment of same, the Developer, at it's cost, shall be required to upgrade that portion of Range Road 261 between it's intersections with Highway 24 and Railway Avenue, as per the Conclusions of Item 5.10.1.a.2.2 of this Plan.

6.5.1.c Subdivision Approval shall be conditional upon a Development Agreement Special Condition establishing that prior to the Registration of an agreed-upon and particular Phase, or Phases, during the Development of the Carseland West Subdivision, the Developer, at it's cost, shall be required to upgrade that portion of Railway Avenue adjacent to the Subject Property, between Range Road 261 and the eastern extent of disturbances to Railway Avenue directly related to this Development, as per the Conclusions of Item 5.10.1.a.2.3 of this Plan.

6.5.1.d Provision for the Emergency Egress/Access Road intersecting with Range Road 261, and c/w crash gates, when Phase F is developed, if final Subdivision design verifies that this Emergency Egress/Access Road is required, to be at the cost of the Developer and to the satisfaction of Wheatland County and the Developer.

6.5.2 External Roadway Policies:

6.5.2.a Transfer of Municipal Improvements (External Roadways) to Alberta Infrastructure & Transportation shall be in accordance with Section 10 of the Wheatland County Standard Development Agreement; and Maintenance of Municipal Improvements by Developer (External Roadways) shall be in accordance with Section 11 of the Wheatland County Standard Development Agreement:

a.1 That portion of the intersection of Highway 24 and Range Road 261 which may be upgraded from a Type I to a Type IV at the Developers cost, subject to subsequent follow-up studies confirming the need for and verifying the extent of same, and subject to the approval of Alberta Infrastructure & Transportation regarding this proposal for deferment of same, and as per the Conclusions of Item 5.10.1 of this Plan.

6.5.2.b Transfer of Municipal Improvements (External Roadways) to Wheatland County shall be in accordance with Section 10 of the Wheatland County Standard Development Agreement; and Maintenance of Municipal Improvements by Developer (External Roadways) shall be in accordance with Section 11 of the Wheatland County Standard Development Agreement:

b.1 That portion of Range Road 261 between it's intersections with Highway 24 and Railway Avenue which may be upgraded at the Developers cost, subject to subsequent follow-up studies confirming the need for and verifying the extent of same, and subject to the approval of Alberta Infrastructure & Transportation regarding this proposal for deferment of same, and as per the Conclusions of Item 5.10.1 of this Plan.

b.2 That portion of Railway Avenue adjacent to the Subject Property, between Range Road 261 and the eastern extent of disturbances directly related to this Development (Deep Services Infrastructure – Water and Wastewater), which will be repaired and/or upgraded at the Developers cost, and as per the Conclusions of Item 5.10.1 of this Plan.

6.5.3 Internal Roadway Policies:

6.5.3.a Internal Roadways in the Carseland West Subdivision are developed at the cost of the Developer and shall be built to current City of Calgary Standards.

6.5.3.b Transfer of Municipal Improvements (Internal Roadways) to Wheatland County shall be in accordance with Section 10 of the Wheatland County Standard Development Agreement; and Maintenance of Municipal Improvements by Developer (Internal Roadways) shall be in accordance with Section 11 of the Wheatland County Standard Development Agreement.

6.6 Community Services Policies:

6.6.1 Fire Protection:

6.6.1.a Service from and by the existing Carseland Volunteer Fire Department is the most logical means for servicing the proposed Expansion of the Hamlet of Carseland.

6.6.1.b This Area Structure Plan presumes that arrangements satisfactory to Wheatland County and the Developer can be arrived at and agreed upon in this regard.

6.6.2 Police Protection:

6.6.2.a The existing RCMP detachment located in Strathmore will provide police services.

6.6.2.b An Informal discussion with a detachment individual explaining the nature of the Carseland West Subdivision indicates that no extraordinary policing measures, beyond those considered to be the norm for a Development of this nature, are expected.

6.6.3 EMS and Hospital Services:

6.6.3.a The Emergency Medical Services Association provide an ambulance service based in Strathmore.

6.6.3.b Residents of Carseland West will receive hospital services at the Valley General Hospital in Strathmore.

6.6.4 Schools:

6.6.4.a Elementary students are able to attend the local Carseland Elementary School.

6.6.4.b High School students would be attending in Strathmore.

6.6.5 Garbage Disposal:

6.6.5.a Similar to Carseland existing Residents, Carseland West Residents will be expected to deliver their refuse and recyclables to the Transfer Site located near the Hamlet at the southwest corner of the Lagoon.

6.6.5.b This service is provided by Wheatland County through participation in the Drumheller Solid Waste Management Association.

6.6.6 Public Works:

6.6.6.a This Area Structure Plan presumes that Public Works services will be provided in normal fashion, when, as and/or if required, to the Carseland West Subdivision, including, but not limited to:

a.1 Road maintenance, including, but not limited to:

a.1.1 Snow clearing.

a.1.2 Sanding and graveling.

a.1.3 Repairs and maintenance.

a.2 Cutting of the boulevard and Open and/or Green Space grasses.

6.7 Architectural Design Guideline Policies:

6.7.1 Architectural Design Guidelines will be established and registered as a Building Scheme by the Developer to ensure compatibility and quality controls for all Development in the Carseland West Subdivision; in accordance with the Intent and Spirit of this Area Structure Plan.

6.7.1.a Specifically, the Architectural Design Guidelines are intended to:

a.1 Promote and preserve the "Prairie-Village" character of the Carseland Community.

a.2 Retain value for the Residents and the Community.

a.3 Encourage two-storey building front-facades to the Commercial District buildings, mimicking those common to the development era of so many Prairie Villages, examples of which remain in the three buildings located at the east end and the north side of Railway Avenue in Carseland.

6.7.1.b The Owner of the Lands which are the Subject of the Subdivision application must register a Building Scheme in the nature of a Restrictive Covenant for the purpose of encouraging that the design, character and appearance of the Developments within Carseland West remain consistent with the Intent and Spirit of this Area Structure Plan.

6.7.1.c As of Submission of this Area Structure Plan, the Architectural Design Guidelines have not been completed.

6.7.1.d Methods under consideration, but not yet decided upon, for enforcing Compliance with the Architectural Design Guidelines include:

d.1 A Security Deposit, refundable upon 100% satisfactory Completion and Compliance.

d.2 Making 100% satisfactory Completion and Compliance a Condition of Release for a Final Occupancy Permit.

6.7.2 All Development within the Carseland West Subdivision will be Subject to enforced Compliance with the Architectural Design Guidelines, as they are to be set forth by the Developer, BARTECH DEVELOPMENTS LTD.