PREFACE

SOUTH GATE AREA STRUCTURE PLAN AMENDMENT BYLAW 6001

Background

The purpose of the South Gate Area Structure Plan amendment is to adjust the boundary of the Plan Area, reflecting the adoption of Bylaw 6000, the Southeast Area Structure Plan. The amended Plan Area allows for greater integration of utility servicing, multi-modal transportation networks and existing and future neighbourhoods.

The initial design for the interface between South Gate and future neighbourhoods within the Southeast Area Structure Plan would have seen a sharp separation due to the alignment of the 43 Street South arterial roadway (as shown both in the Southeast Lethbridge Urbanization Plan and the original South Gate Area Structure Plan). The vision of the Southeast Area Structure Plan is to promote greater infrastructure, transportation and overall neighbourhood integration. This is accomplished by moving the arterial function formerly proposed for 43 Street South to the eastern City boundary (shown as 58 Street South in the Southeast Area Structure Plan).

The integration of certain portions of the South Gate Area Structure Plan into the Southeast Area Structure Plan also facilitates the development of an elementary school.

Plan Adjustments

Bylaw 6001 does not change the low density residential character of the South Gate Area Structure Plan, nor the highway commercial development shown on the western portion of the Plan Area along Mayor Magrath Drive South. The only substantial changes to the land use concept include:

- 1. *Plan Area*. A portion of land (approximately 27.52 hectares) located within SE ¼ 22-8-21-W4M is removed from the South Gate Area and incorporated into the Southeast Area Structure Plan. The South Gate Plan Area will change in size from approximately 160.58 hectares to approximately 133.06 hectares as per the amended Plan Area Map (see Bylaw 6001 Schedule "A").
- 2. School Site. The relocation of the school site shown at the center of the South Gate Area Structure Plan Area to the northeast into the Southeast Area Structure Plan. The former school site shall be incorporated into the park and open space system of South Gate.
- 3. *Road Network and Utility Servicing.* Portions of the South Gate road network are realigned to facilitate greater servicing and transportation

integration with the future neighbourhoods within the Southeast Area Structure Plan.

No mapping, servicing and statistical information has been amended in the main body of the South Gate Area Structure Plan to reflect the amendments contained in Bylaw 6001.

For an updated map of the Plan Area, refer to Bylaw 6001 Schedule "A".

For servicing information, please refer to the South Gate Outline Plan and subsequent Outline Plans prepared for the Southeast Area Structure Plan Area.

Land Use Allocation Statistics					
Land Use	Area (Ha)	% of GDA*			
Gross Area	129.4				
Water Reservoir	1.2				
Public Utility Lot	0.8				
Gross Developable Area (GDA)	127.4	100.0%			
Commercial	25.6	20.1%			
Low Density Residential	62.0	48.7%			
Medium / High Density Residential	7.6	6.0%			
Residential Total	69.6	54.6%			
Institutional	2.8	2.2%			
Park, Open Space and Storm Water Management	8.2	6.4%			
Internal Road Network	21.2	16.6%			

For updated statistical information please refer to the following table:

*Gross Developable Area

For additional information and all other inquiries on the South Gate Area Structure Plan please contact the City of Lethbridge Planning and Development Services Department directly.



Lethbridge Southgate ASP

Amended by Bylaw 6001 – July 11, 2016

Boundary (2016) & Location



CITY OF Lethbridge

SOUTH GATE AREA STRUCTURE PLAN

SOUTH GATE AREA STRUCTURE PLAN

Prepared for:

Loblaw Properties West Inc. Thiessen Cattle Ltd.\Sunrise Investment Co. Ltd. Avonlea Land Corp. Ltd.

Prepared by:

UMA Engineering Ltd. Community Infrastructure 514 Stafford Drive N. Lethbridge, Alberta T1H 2B2

January 2004 File No.: D489-002-00 Report No.: 147

> City of Lethbridge 910 – 4 Avenue South Lethbridge, Alberta T1J 0P6

Adopted by City of Lethbridge By-law No. 5248, February 23, 2004 Amended by City of Lethbridge By-law No. 5386, April 18, 2006 Amended by City of Lethbridge By-law No. 5505, March 3, 2008 Amended by City of Lethbridge By-Law No. 6001, July 11, 2016

TABLE OF CONTENTS

Table	of Cont	tents	ii
1.0	INTF 1.1 1.2 1.3 1.4 1.5	RODUCTION Purpose Location and Area Landownership Planning Context Public Participation	1 1 1 2 2 4
2.0	EXIS 2.1 2.2 2.3 2.4	TING CONDITIONS Physical Characteristics Historical Resources Current Development Patterns Summary of Development Considerations	5 6 7 8
3.0	LANI 3.1 3.2 3.3 3.4	 D USE	9 9 10 10 11 11 13 13 14 16 16
4.0	CIRC 4.1 4.2 4.3 4.4	CULATION NETWORK Major External Roadways Internal Roadway Network - Collector and Local Roadways Pathways Transit	19 20 20 21
5.0	UTIL 5.1 5.2 5.3	 JTY SERVICING Sanitary Sewer Collection System Water Supply and Distribution Storm Water Management System 5.3.1 General Catchments Areas 5.3.2 Predevelopment Flows 5.3.3 Post Development Flows, Volumes and Hydrographs 5.3.4 Stormwater Storage Ponds 	22 22 23 24 24 24 24 25 31

		5.3.5 Proposed Connections to Downstream Systems	
		5.3.6 Downstream Impacts	
		5.3.7 Description of Major System Flow Routes	
	5.4	Shallow Utilities	
0	DEV	FI OPMENT STACING AND IMPLEMENTATION	22
.0	DEV 61	ELOPMENT STAGING AND IMPLEMENTATION	33
.0	DEV 6.1 6.2	ELOPMENT STAGING AND IMPLEMENTATION Development Staging	33
.0	DEV 6.1 6.2 6.3	ELOPMENT STAGING AND IMPLEMENTATION Development Staging Outline Plan Rezoning and Subdivision	

List of Figures

- Figure 1 Location
- Figure 2 Topography and Drainage
- Figure 3 Development Considerations
- Figure 4 Land Use Concept
- Figure 5 Sanitary Servicing Concept
- Figure 6 Water Distribution Concept
- Figure 7 Stormwater Management Concept

List of Appendices

- Appendix A Land Ownership
- Appendix B Interface Treatments
- Appendix C Student Generation
- Appendix D Land Use Allocation

This report has been prepared by UMA Engineering Ltd. ("UMA") for the benefit of the client to whom it is addressed. The information and data contained herein represent UMA's best professional judgement in light of the knowledge and information available to UMA at the time of preparation. UMA denies any liability whatsoever to other parties who may obtain access to this report for any injury, loss or damage suffered by such parties arising from their use of, or reliance upon, this report or any of its contents without the express written consent of UMA and the client.

1.0 INTRODUCTION

1.1 Purpose

The purpose of the *South Gate Area Structure Plan* (ASP) is to provide a framework for land use, circulation and servicing patterns for the first stage of development designated by the *Southeast Lethbridge Urbanization Plan*. The Area Structure Plan supports the *City of Lethbridge Municipal Development Plan* which designates this area of the city for future commercial and residential development. The principles and objectives established in this ASP will guide the location, intensity and character of future land uses as well as the circulation patterns within the boundaries of the ASP area.

This ASP has been prepared in conformity with Section 633 of the *Municipal Government Act* and the *City of Lethbridge Municipal Development Plan*.

1.2 Location and Area

The South Gate ASP area is located in Southeast Lethbridge, as shown on Figure 1.

The ASP area includes:

- the southeast quarter and a portion of the southwest quarter of Section 21,
- portions of the southwest and northwest quarters of Section 22,
- portions of the northeast quarter of Section 16, and
- portions of the northwest quarter of Section 15, Township 8, Range 21 West of the 4th Meridian.

The ASP area is referred to as the 'West Neighborhood' in the Southeast Lethbridge Urbanization Plan.



Boundary (2016) & Location

Figure 1

Lethbridge Southgate ASP

Amended by Bylaw 6001 – July 11, 2016

It is bounded by:

- the Fairmont Park neighborhood to the north,
- the conceptual future re-alignment of the 43rd Street South corridor to the east,
- a future open space and stormwater management corridor to the southeast,
- the northern limit of the River Valley Area Redevelopment Plan including Six Mile Coulee to the south, and
- Mayor Magrath Drive/Highway 5 to the west.

The north, south and west boundaries of the ASP area are fixed by existing physical features – Fairmont Park neighborhood, Six Mile Coulee and Mayor Magrath Drive. The eastern boundary will be more precisely defined by functional planning for 43rd Street. The southeastern boundary will be refined through more detailed planning and design for the future open space and stormwater management system.

The South Gate ASP area encompasses an area of some 156.4 hectares (386.4 acres).

1.3 Landownership

The landownership pattern for the ASP area is summarized in graphic and tabular format in Appendix A. The land is fragmented into eighteen parcels and several road allowances. The larger parcels are located within Section 21. Major land owners are: Avonlea Land Corp. Ltd (17.5 ha), 412410 Alberta Ltd. (17.4 ha), Thiessen Cattle Ltd. (19.31 ha) and 675544 Alberta Ltd. (20.20 ha). Jointly, these four parcels comprise nearly half of the ASP area.

1.4 Planning Context

This ASP has been prepared within the context of the City of Lethbridge's planning system. The following documents provide policy guidance to the ASP area: *City of Lethbridge Municipal Development Plan, Southeast Lethbridge Urbanization Plan, City of Lethbridge Land Use Bylaw* and the Draft *County of Lethbridge and City of Lethbridge Intermunicipal Plan.* These documents are discussed below.

City of Lethbridge Municipal Development Plan

The *City of Lethbridge Municipal Development Plan* (MDP) Bylaw No. 5205, as amended, designates the South Gate area for future residential uses. The undeveloped portions along the east side of Mayor Magrath Drive/Highway 5 are designated for commercial land uses. In addressing future growth in Southeast Lethbridge, the MDP states:

"Southeast Lethbridge has been growing with both residential and commercial land uses. Currently, 2000 persons can be accommodated in Fairmont Park and the remaining land base can likely accommodate another 12,000 persons. The area has good access to regional highways and is expected to continue to attract regional commercial facilities."

The land use concept outlined in Section 3.0 conforms with this policy statement.

Southeast Lethbridge Urbanization Plan

The Southeast Lethbridge Urbanization Plan, adopted by resolution by City Council, sets out a longrange vision of how urbanization should proceed within the Southeast sector of the city. The Urbanization Plan identifies the South Gate area as the 'West Neighborhood' with policy guidelines for the development of the neighborhood. These guidelines permit regional-scale commercial uses along the Mayor Magrath/ Highway 5 corridor and a variety of residential uses and non-residential uses, such as schools are designated for the balance of the South Gate area. It is also noted in the Urbanization Plan that there should be a compatible land use transition between the adjacent subdivision of Fairmont Park and any future development to the south, which includes the South Gate area.

City of Lethbridge Land Use Bylaw

Land use within the city is regulated under the provisions of the *City of Lethbridge Land Use Bylaw* (LUB), Bylaw No. 4100 as amended. According to the LUB, portions of the South Gate area are districted DC – Direct Control. This includes an area immediately north of Six Mile Coulee and a 40 acre parcel in southwest quarter of Section 22 of Township 8, Range 21, West of the 4th Meridian. The balance of the area is districted UR – Urban Reserve. The purpose of the UR district is to manage the development of undeveloped land until the necessary municipal services are available, at which time more appropriate land use districts are applied. Subject land parcels will be redistricted to the appropriate land use districts in conjunction with the subdivision of specific stages of development.

County of Lethbridge and City of Lethbridge Intermunicipal Development Plan

The Intermunicipal Development Plan (IDP) for the County of Lethbridge and the City of Lethbridge is currently in draft form. The draft IDP notes that an area structure plan should be prepared for the South Gate area.

1.5 Public Participation

An extensive public participation process was completed through the preparation of the *Southeast Lethbridge Urbanization Plan* that established the context for this Area Structure Plan.

A landowner's open house was held on September 4, 2003 to discuss the Land Use Concept with those landowners within the ASP area. General concurrence was reached with respect to the principles of the Land Use Concept. Concerns were expressed by one landowner relating to the future interface of urban and country residential development. These issues are being addressed through discussions between adjacent landowners.

A further open house was held on October 15, 2003 to discuss the nature of the interface between Fairmont Park residents and future development to the south. Invitations were sent to 24 landowners within Fairmont Park whose property would be adjacent to the interface treatments. The landowners were presented a series of sketches illustrating the interface between current and proposed development. These sketches are presented in Appendix B. Prior meetings had been held with individual residents to discuss options for the interface. Generally, the proposed interface treatment was considered to be acceptable to adjacent residents.

2.0 EXISTING CONDITIONS

2.1 Physical Characteristics

The ASP area is suited for urban development in terms of geology, soils, topography, drainage and other environmental factors. The bedrock geology underlying the ASP area is known as the Oldman Formation. This formation consists of clayey siltstone, green and grey mudstone, carbonaceous shale, concretionary ironstone beds, and non-marine medium to coarse-grained fieldspathic sandstone. The majority of the soils throughout the tablelands in the ASP area consist of till deposits overlain by localized lacustrine deposits. These lacustrine deposits are a result of the settling of erosional sediments in the standing water bodies of the glacial lakes that formed due to the retreating of glacial ice.

Six Mile Coulee is a major landscape feature that defines the southern limit of conventional urban development within the ASP area. At Mayor Magrath Drive South the valley is about 32 meters deep. Slope stability investigations within the ASP area are documented in the report *Phase II Development Setback Assessment Oldman River Valley Slopes*, prepared by AMEC Earth and Environmental Ltd., in November 2002 for the City of Lethbridge. The report establishes a potential development setback line from the top of the bank of Six Mile Coulee. This line is significant – it determines the limit of development and defines the southern limit of the Area Structure Plan. The location of this setback line must be reconfirmed through geotechnical investigation at the subdivision development stage for properties that abut onto Six Mile Coulee.

Topographically, the ASP area has level to gently sloping terrain (Figure 2). The upland to the north of Six Mile Coulee rises gently to a plateau extending northwest-southeast through the centre of Section 22. The plateau borders the northeast boundary of the ASP area and defines the divide between land drainage to the northeast and southwest. The majority of the ASP area drains naturally to the southwest. Surface elevations on the upland fall gradually from an elevation of 918.5 metres above sea level in the northeast to some 909 metres in the southwest.

Much of the land within the ASP area has been extensively cultivated for many years. There are a number of planted shelterbelts along the property lines that define the existing small holdings located along 43rd Street South and 40th Avenue. Wherever possible, consideration should be given to retaining and integrating these stands into the future neighborhood.

2.2 Historical Resources

A study entitled *Historical Resources Overview of the Southeast Lethbridge Urbanization Plan Area* (January 2002) was completed by Arrow Ltd. Archaeological and GIS Consultants for the City of Lethbridge. The purpose of the study was to identify and assess the historical resource potential of lands within the boundaries of the *Southeast Lethbridge Urbanization Plan*. The study divides the *Southeast Lethbridge Urbanization Plan* area into three zones of historical resources potential. These include a high potential zone, a moderate potential zone and a low potential zone. As detailed in the study, the uplands that comprise the ASP area have a low potential of containing historical resources due to the biophysical characteristics of the area. However, the lands in close proximity to Six Mile Coulee have a moderate potential for containing historical resources.

It should be noted that the historical resources overview is not a comprehensive investigation and inventory of archaeological and historical sites within Southeast Lethbridge. Therefore, the study recommended that Alberta Community Development be contacted to determine any further requirements under the *Alberta Historical Resources Act* prior to any land construction activities taking place.



UMA FILE NAME: 002ASP002.dwg Saved By: tarmstrong

PLOT: 03/10/27;10:12:27 AM By: tarmstrong

VIII F

Kanadanan

S) 10

00

A SIZE 8.5" x 11" (216mm x 279mm)

2.3 Current Development Patterns

The ASP area is bordered by the Fairmont Park residential neighborhood immediately to the north. An electrical substation is located to the northeast of the ASP area, at the northeast corner of 24th Avenue South/Highway 4 and 43rd Street South. A 138 kV power line runs south from this substation.

The Mayor Magrath Drive/Highway 5 corridor defines the western boundary of the ASP area. Mayor Magrath Drive is a major commercial corridor in the city. Since the mid-1990s regional scale commercial development has been concentrating along Mayor Magrath Drive, south of 24th Avenue South. Several big box format retail outlets have developed on the west side of Mayor Magrath Drive. The only commercial development that currently exists within the ASP area is located on the east side of Mayor Magrath Drive immediately north of Six Mile Coulee.

The ASP area has a rural to semi-rural character, comprising residential estates, agricultural small holdings and farms. The area has been subdivided into 40 acre or smaller parcels. Forty-third Street South is a rural road that traverses the ASP area north-south before heading east and then abruptly turning in a southerly direction. Most of the farmsteads and residential estates are situated on either side of existing 43rd Street South. There is a cluster of farmsteads in the southeast quarter of Section 22, adjacent to the existing alignment of 43rd Street South.

A number of residential dwellings are located on large parcels immediately north of Six Mile Coulee. These parcels obtain road access from a private road along their northern boundary, which approximates the alignment of the extension of 40th Avenue.

The Land Use Concept gives careful consideration to the integration of existing residential development into the urban fabric of the future neighborhood.

An irrigation system provides irrigation water to portions of the ASP area. There are irrigation lines along both 43rd Street and 40th Avenue. This system provides an opportunity to utilize irrigation water to supplement stormwater management wet ponds.

2.4 Summary of Development Considerations

Figure 3 shows a composite of development considerations, including:

- existing development patterns, including a number of residences in the area,
- significant physical features, Mayor Magrath Drive and Six Mile Coulee,
- environmental considerations, notably Six Mile Coulee,
- adjacent land uses, including Fairmont Park to the north and the regional commercial development to the west,
- the Six Mile Coulee top-of-bank, and
- development setback lines.

These development considerations have been taken into account in the preparation of the Land Use Concept for the South Gate area.



A SIZE 8.5" x 11" (216mm x 279mm)

Lethbridge South Gate **Area Structure Plan**

Development Constraints

Figure - 3

UMA FILE NAME: 002ASP003.dwg

500 250

Saved By: tarmstrong

500 1000 1500m

SCALE 1:12,500

PLOT: 04/01/12;3:37:49 PM By: tarmstrong

3.0 LAND USE CONCEPT

3.1 Objectives

The objectives of the South Gate Area Structure Plan are:

- to guide urban development in an orderly and economical manner;
- to provide a framework that guides neighborhood land use planning and the resulting subdivision and development;
- to integrate the internal land use and circulation patterns with 34th Avenue South and 43rd Street South,
- to provide a range of housing options reflecting future market and demographic conditions in Lethbridge;
- to strategically locate commercial sites in order to easily serve the community and the region in a manner that will ensure their economic viability;
- to respect existing urban development and to facilitate a smooth transition from rural to urban use,
- to ensure that development is comparable in terms of the quality and density of development to the north, and
- to create an appropriate interface with Six Mile Coulee.

The Land Use Concept to achieve these objectives is shown as Figure 4. The alignment of and access to 43rd Street South represent the best information available at the time of the submission of this Area Structure Plan and are subject to refinement through functional planning or other studies. In addition, the land use and circulation patterns illustrated by the Land Use Concept are intended to be general and conceptual. The exact size and location of a particular land use parcels will be further refined at the Outline Plan stage of planning and development.



3.2 Overview of Land Use Patterns

The two major factors that affect the urban form of the future South Gate Neighborhood are the major roadways and the open space system.

The collector roadway network defines residential development areas. Thirty-fourth Avenue South and 40th Avenue South will be extended east and connected to form a continuous loop, traversing the ASP area and dividing it into several development areas of varying size.

Forty-third Street South will be re-aligned some distance to the east in order to avoid disruption to existing residences and to cross Six Mile Coulee further south. Existing 43rd Street South will be ultimately closed and integrated into the neighborhood.

The open space system features a further articulation of the distribution and pattern of open space uses outlined in the Southeast Lethbridge Urbanization Plan. The open space system will consist of a primary north-south pathway corridor, secondary pathways, a central neighborhood park and school site, three stormwater management facilities and several neighborhood parks associated with the stormwater management facilities.

Commercial development will be strategically situated in a corridor on the east side of Mayor Magrath Drive South. This location will ensure high visibility and ease of access while adding to the synergy and critical mass of existing commercial sites along the corridor. An open space corridor and water reservoir will provide a transition between commercial development and adjacent residential development in Fairmont Park.

The balance of the ASP area will be comprised of residential development. The South Gate Neighborhood will primarily contain low density residential dwellings interspersed with a number of strategically placed medium and high density residential sites. Special consideration will be given to the integration of existing residential development into the overall neighborhood fabric.

Innovative housing forms and residential development patterns may be dispersed throughout the ASP area. The provision for opportunities for innovative housing is a response to the Southeast Lethbridge Urbanization Plan, which states that developers are "encouraged to explore 'innovative' and/or alternate development approaches to the delivery of single- and semi-detached housing forms" (Section 4.0, p.36).

3.3 Specific Land Uses

3.3.1 Residential

The Land Use Concept (Figure 4) designates three categories of residential land uses:

- low density residential,
- medium density residential, and
- high density residential.

These differing residential housing forms are intended to accommodate a diverse range of socioeconomic groups, age groups and lifestyles.

Low Density Residential

Low density residential will be the predominant land use within the South Gate Neighborhood. Low density residential uses include single detached and semi-detached housing forms.

Throughout the ASP area 'innovative housing' will be encouraged. Examples of innovations include secondary suites, grow homes, self-contained servicing and/or energy systems and alternative development standards or other forms of innovation that respond to market, demographic or environmental factors. Some of these housing forms may require amendments to the Land Use Bylaw. Market forces will ultimately determine innovations in housing forms.

Medium Density Residential

Medium density residential development includes a range of attached housing forms including triplexes, fourplexes, row housing and low rise apartments.

Medium density residential developments are encouraged to be located in small clusters in proximity to the collector loop, school, parks and other open spaces uses. These developments are encouraged to provide adequate off-street parking, and be sited to provide convenient access to the collector roadway network. This will minimize the infiltration of high volumes of traffic through local residential pockets. Medium density residential developments will also be connected to the pathway system.

The number, location, form and size of the medium density residential sites as shown on the Land Use Concept (Figure 4) are conceptual and will be confirmed or revised at the Outline Plan stage.

High Density Residential

High density development will be strategically placed within the plan area. High density can include a range of multiple-family housing such as medium-rise and high-rise apartment buildings.

High density development will be located in very specific and prominent locations within the plan area. It is to be located in close proximity to walking trails and major collector roads, so as to best utilize these features. It is anticipated that public transit routes will follow the plan area's major collector roads. The proximity of the high density development to the major collector roads is desirable, as residents who live in high density areas are more likely to utilize public transit than those in less dense residential areas. Being near major collector roads will also make traffic access to and from the high density site much easier and will limit the impact of the increased traffic which the higher densities will create.

The location, form and size of the high density residential sites as shown on the Land Use Concept (Figure 4) are conceptual and will be confirmed or revised at the Outline Plan stage.

Interface Treatment

The interface between the South Gate neighborhood and existing Fairmont Park is given special consideration and comprises two approaches.

Where existing residential lots in Fairmont back onto proposed residential lots in South Gate, residential development area will be similar in form, lot size and density to existing residential development.

West of the southerly extension of Fairmont Road, an active adult multi-family housing development will act as a transition between the commercial and residential land uses. In addition, a landscaped open space buffer will be provided between the active adult housing and the back of residential lots. Immediately to the west, a water reservoir on a landscaped site will constitute the land use transition. A landscaped open space corridor to the west will provide access to the reservoir and a buffer between residential and commercial land use. The width, landscape treatment and ownership of the buffer will be given further attention at the Outline Plan Stage. Open space buffers may be located on private land and enforced through a restrictive covenant or may be public open space eligible for municipal reserve designation. The location of these buffers on private land is desirable in several cases in order to minimize continuing maintenance responsibilities for the City of Lethbridge.

3.3.2 Commercial

The focus of commercial land use will be the corridor along the east side of Mayor Magrath Drive. Mayor Magrath Drive is the major commercial corridor in the city. Since the mid-1990s commercial development has been concentrating along Mayor Magrath Drive south of Scenic Drive South. The

majority of commercial development in this area is of regional scale, that is, it is oriented to the entire City and the surrounding region. It is anticipated that this commercial trend will continue.

No internal neighborhood commercial centers are designated in the Land Use Concept. This is to avoid land use and traffic conflicts. As well, ample commercial opportunities will be provided to the neighborhood by the regional commercial corridor and the future Urban Village to the east of 43rd Street.

In order to minimize potential conflicts between commercial and non-commercial uses a buffering strategy will be required for all commercial development adjacent to existing and future residential areas. The buffer should be designed to effectively separate or protect one type of land use or development from another. The buffering strategy may include a lane, a parcel of land, vegetation, berming or some combination of these mitigative measures. In addition, all commercial development shall be required to provide a high level of site landscaping and design. This will reduce the visual impacts of commercial development in areas where residential and commercial uses abut.

3.3.3 Parks and Open Space System

Open space uses such as schools, parks, wet ponds and natural areas are important amenities that contribute to the overall aesthetics and livability of a neighborhood. The open space system in South Gate is intended to support a variety of passive and active recreational activities and to facilitate recreational circulation within the neighborhood with links to adjacent neighborhoods and Six Mile Coulee.

The open space system will comprise the following major components:

- a centrally located school/park site,
- several neighborhood parks, and
- three stormwater management facilities.

These individual components are elaborated on below.

Central School and Park Site

A central park combined with a potential school site will be a focal point of the neighborhood's overall open space system. The site will be situated on the 40th Avenue leg of the collector loop to facilitate ease of pedestrian, automobile and bus access. The location has been established through discussions with School District No. 51. An area of six hectares (15 acres) has been allocated at the ASP stage. The site size and configuration may be modified at the Outline Plan or detailed design stage. In the event that a school is not built within the site, the site will be developed entirely as a central park.

The school site is intended to accommodate a public elementary school. It will serve not only the South Gate Neighborhood but surrounding neighborhoods as well. Careful site planning will be required to avoid pedestrian/vehicular conflicts, especially at pick-up and drop-off areas and to ensure the safety of children walking to the school.

The public elementary school site is provided in accordance with expected population density levels, and current student generation ratios as related to anticipated housing mix, and projected future occupancy of existing schools in established neighborhoods in proximity to the ASP area. The projected enrolments for the ASP area do not justify provision of sites for a public middle school or a Holy Spirit school. Following the direction of the *Southeast Lethbridge Urbanization* Plan, it is anticipated that these students will be accommodated at the major school sites planned east of 43rd Street South.

Projected student enrolments for the ASP area are provided by school type and school system in Appendix C.

Neighborhood Parks

The Land Use Concept designates four neighborhood parks located in proximity to the stormwater management facilities. These parks will provide amenity value for the neighborhood by providing a combination of playground opportunities, informal play areas and sitting areas. The exact size, shape and location of the neighborhood parks will be determined at the Outline Plan stage. The parks will be credited for municipal reserve subject to approval by the City of Lethbridge.

No park space has been designated north of 34th Avenue South, as the residential development is in close proximity to the parks and open space features of Fairmont Park.

Stormwater Management Facilities

Three stormwater management facilities will provide additional visual amenity, passive recreational opportunities and functional open space. The facilities will be developed as wet or dry ponds and will provide water quantity and quality management prior to stormwater discharge into the Six Mile Coulee drainage basin. Treated stormwater may also be used to irrigate parks, the school site and other open space uses.

Municipal Reserve

The dedication of Municipal Reserve will be the main mechanism to create the parks and open space system shown in the Land Use Concept. The water surface of stormwater facilities will not be eligible for Municipal Reserve. The creation of a coherent parks and open space system requires that Municipal Reserve will be distributed unequally among the multiple parcels of land.

The amount of Municipal Reserve for each parcel of land will be determined at the Outline Plan stage. The Outline Plan process will identify the amount of over- or under-dedication for each parcel. Where less than ten per cent is required to be dedicated, money in lieu will be taken at the time of subdivision. Where a landowner is required to dedicate more than ten per cent, a
compensation mechanism will be required to provide equitable treatment to all landowners. The compensation system will be designed by the landowners at the outline plan stage in a manner acceptable to the City of Lethbridge.

3.3.4 Other Land Uses

A three hectare parcel designated as 'Institutional' is located immediately south of the southeast corner of the Fairmont Park neighbourhood and north of 34th Avenue South. This is to be a site for the development of an assisted living senior's care facility.

The site designated for 'Utility' use between the regional commercial area and Fairmont Park is the intended site of the water reservoir, as discussed elsewhere in this document.

3.4 Land Use Allocation

The allocation of land use is shown in Appendix D. The ASP area will have a Gross Area of 156.38 ha or 386.42 acres. Commercial development will comprise 26.88 ha (66.4 acres) along the west side of the ASP area. Residential will be the largest land use with 79.11 hectares, comprising 50.9 per cent of the Gross Developable Area. At assumed land use and population densities, the neighborhood will support 1988 housing units with an estimated population of 4908. The residential density will be 38.2 persons per gross hectare excluding the commercial area. The proportion of low, medium and high density residential development is estimated to be 60.5 per cent low density residential units, 24.4 per cent medium density residential units and 15.1 per cent high density residential units.

Municipal Reserve for the school and park site and the neighborhood parks jointly comprise 8.3 per cent of the Gross Developable Area. Other arrangements such as money in lieu of land will be made for municipal reserve for the commercial lands that would require about 1.7 per cent if land were taken.

Greater detail as to the location and size of Municipal Reserve parcels will be provided at the Outline Plan stage.

4.0 CIRCULATION NETWORK

4.1 Major External Roadways

Major access and egress to the South Gate ASP area will be from Mayor Magrath Drive to the west. A major, circuitous access to 43rd Street South to the east will be provided later, when required. Both Mayor Magrath Drive and 43rd Street South are the subject of functional planning studies to confirm right-of-way requirements, access management standards, roadway cross-sections and other functional considerations.

The Area Structure Plan circulation network as shown on the Land Use Concept (Figure 4) is based on three access points from Mayor Magrath Drive, namely:

- 34th Avenue,
- 36th Avenue, and
- 40th Avenue.

Thirty-Fourth Avenue and 40th Avenue will be constructed as super collectors adjacent to the commercial lands, then continue as major collectors into the residential area. Access points along 34th Avenue South and 40th Avenue South will provide adequate, convenient and safe access/egress to adjacent regional commercial lands, at appropriate locations. Thirty-sixth Avenue South will be constructed as a super collector that will provide direct access into the regional commercial lands to the east, unless a Traffic Impact Study can prove the intersection may be downsized.

Only one access/egress point to 43rd Street South is shown on the Land Use Concept and this access point leads to a circuitous major road network leading to the internal collector loop. The objective is to minimize access points to 43rd Street South in order to maintain a high level of service for traffic flows on the future roadway and prevent short-cutting through the neighborhood.

The functional plan for 43rd Street South may also provide direction as to appropriate noise attenuation measures for adjacent residential development. Noise attenuation may include berming, fencing, spatial separation or a combination of these.

4.2 Internal Roadway Network - Collector and Local Roadways

The internal roadway system will be defined by a simple loop collector road. The collector will be formed by the eastward extension of 34th Avenue South and 40th Avenue South and their deflection towards each other to describe a continuous loop. This will be a major collector with direct residential access.

One major collector will provide north-south mobility just east of the regional commercial area.

Access to and from Fairmont Park will be provided through local roads which will be sufficiently offset to provide an indirect, circuitous route in order to minimize the risk of shortcutting through the two neighborhoods.

As stated earlier, the road network will provide an indirect link between the collector loop and 43rd Street South. The purpose of this link is to provide access to 43rd Street, particularly for the residents of the eastern portion of the neighborhood, as well as emergency access. However, the link will be sufficiently circuitous to discourage shortcutting of external traffic through the neighborhood. The collector road link is shown conceptually on Figure 4 and will be given greater definition in the Outline Plan.

4.3 Pathways

An integrated pathway network will link local amenities, such as parks, Six Mile Coulee and stormwater management facilities. The system will provide opportunities for recreation and nonmotorized transport throughout the neighborhood. In addition, the pathway network should be

designed with the potential to connect with the city's regional trail system, which may be extended along 34th Avenue South and 43rd Street South.

In order to provide public access to scenic vistas and viewpoints along Six Mile Coulee a series of pathways should be developed along the coulee's top-of-bank. The Land Use Concept shows two access points from the residential area to the coulee to minimize damage or disruption to the natural resources of the coulee.

The land use concept shows a primary pathway traversing the ASP area from north to south. This primary pathway is intended to serve as a recreational connector route linking city wide amenities with local amenities. Individual linkages will be addressed at the Outline Plan Stage. This will ensure a truly integrated pathway network.

4.4 Transit

In accordance with the city's subdivision design standards, public transit routes will be designed to follow collector roadways. The design of all subdivisions will follow the "Planning and Building Transit Friendly Residential Sub-Division" guidelines contained in the *Southeast Lethbridge Urbanization Plan*.

The City of Lethbridge uses a public transit-servicing standard that provides public transit access within 400 meters of at least 95 percent of all residences, commercial facilities and public service facilities. It is anticipated that the collector loop will be the transit route through the neighborhood. Their alignment appears to satisfy the 400 metre requirement. In addition, an effort will be made to extend transit service to the regional commercial area.

5.0 UTILITY SERVICING

5.1 Sanitary Sewer Collection System

The sanitary sewage generated from the South Gate Area Structure Plan area is conveyed to the City of Lethbridge Waste Water Treatment Plant. The Plant is located, in the River Valley, north of the Highway No. 3 River Crossing.

The Southeast Lethbridge Urbanization Plan provides an evaluation of the existing sanitary sewer system and the upgrades to the Mayor Magrath Drive sanitary sewer system. The Mayor Magrath Drive system has been constructed with a total potential capacity of 275 L/s for the southeast, however all of this capacity cannot be fully exploited at present without infrastructure upgrades. Based on this there has been a capacity of 100 L/s allotted to the southeast development. This 100 L/s of capacity is equivalent to approximately 192 hectares of development. Given that the South Gate Area Structure Plan encompasses approximately 156.38 hectares it was determined that the 100 L/s capacity is sufficient for full build out of the South Gate development.

The north portion of the ASP area (approximately 85 ha) will be serviced by a conventional gravity sanitary trunk line that will tie into the existing sanitary trunk line in Mayor Magrath Drive, just west of the proposed development. The remainder of the study area (approximately 72 ha) will require a lift station and a force main to convey the sewage flows north to the gravity sanitary trunk line mentioned above, which in turn ties into the sanitary trunk line in Mayor Magrath Drive. A schematic layout of the sanitary sewer system and catchment areas are shown in Figure 5.

Confirmation of the available capacity in the existing Mayor Magrath Drive trunk line and the final sizing and detailed alignment of the sanitary sewer system will be part of the Master Servicing Plan developed at the Outline Plan Stage.



5.2 Water Supply and Distribution

The water supply for the ASP is the City of Lethbridge Water Treatment Plant, located in the Oldman River Valley, south of the Whoop Up Drive River Crossing.

An underground water storage reservoir and pumping system is proposed in the northwest corner of the ASP area. Construction of the water reservoir by the City of Lethbridge is scheduled for 2005. Development in the southeast area will be staged in order to coincide with the construction of the water reservoir. Without the water reservoir being constructed full build out of the southeast area will be restricted.

The supply line for the reservoir will extend from the existing 600 mm diameter supply line in Mayor Magrath Drive, located just north of the development. The distribution line from the reservoir will tie into the existing 450 mm distribution line in Mayor Magrath Drive, located just north of the development. The 450 mm line will then extend south along Mayor Magrath Drive. A new distribution line to service the southeast development will tie into this line. A schematic layout of the water distribution system is shown in Figure 6.

The storage capacity of the reservoir requires that three components of storage be provided. The storage reserve must accommodate a critical fire in the service area, it must include emergency storage equivalent to 12 hours of the average daily demand (ADD) in the service area and it must provide peaking storage reserve equivalent too approximately 10% of the service area ADD.

The water distribution network will follow the major roadways identified in the Land Use Concept. The PVC pipe distribution system will be sized to accommodate the levels of service discussed in the *Southeast Lethbridge Urbanization Plan* (SELUP) water distribution network analysis and development, adopted from the criteria developed in the *Underground Infrastructure Management Plan* (UIMP) *Study*, as stated below:



- A minimum pressure of 50 pounds per square inch (psi) is required during peak hour conditions and less than 90 psi during low demand conditions.
- Fire flow of 75 liters per second (L/s) under maximum day demand conditions is regarded as acceptable fire flow criteria in residential areas with minimum allowable residual pressures of 21.7 psi (150 kPa) during maximum day demand conditions.

The final sizing and detailed alignment of the water distribution system will be part of the Master Servicing Plan developed at the Outline Submission Stage.

5.3 Storm Water Management System

5.3.1 General Catchment Areas

The topography of the ASP area and the pattern of proposed development suggest five catchment areas. As shown in Figure 7, there are three catchment areas for the residential component, one for the commercial component and one for Mayor Magrath Drive south of Scenic Drive.

The stormwater management system for the ASP area will be independent of the systems in the developed area to the north (Fairmont), the area west of Mayor Magrath Drive and the area east of 43rd Street South.

5.3.2 Predevelopment Flows

The 2002 *Southeast Lethbridge Urbanization Plan* envisioned that storm drainage within the ASP area would be conveyed to Six-Mile Coulee. The plan evaluated the entire Six-Mile Coulee watershed, including the ASP area. The plan recommended that post development discharge rates be limited to 1 in 5 year predevelopment levels. The plan also noted that the entire Six-Mile Coulee watershed has a 1 in 5 year predevelopment unit discharge rate of 1 L/s/ha.

24



The unit discharge rate of 1 L/s/ha is extremely conservative in that it represents the characteristics of the entire 6,215 ha watershed draining to Six-Mile Coulee. For catchment areas on the scale of the ASP area, 1 in 5 year predevelopment unit discharge rates will be greater than 1 L/s/ha. For the purposes of this ASP, a unit discharge rate of 6.25 L/s/ha has been used to estimate the required storage volumes. This unit rate is based on the modeled 1 in 5 year predevelopment runoff for the 150 ha ASP area. The resulting predevelopment discharge rates for each of the catchment areas within the ASP area are shown in Table 5.1.

Catchment Area	Land Use	Area	Discharge Rate	
		ha	L/s	
A	Urban-Residential	78	490	
В	Urban-Residential	30	188	
С	Urban-Residential	13	86	
Commercial	Commercial	28	173	
Mayor Magrath Dr.	Roadway	12	75	

Table 5.1 Predevelopment Discharge Rates

5.3.3 Post Development Flows, Volumes and Hydrographs

Peak post development flows for the 1 in 5 and 1 in 100 year rainfall events are presented in Tables 5.2 and 5.3 for each of the five catchment areas. These flows were calculated using the Rational Method with the parameters specified in the latest issue of the City of Lethbridge Design Standards.

Catchment Area	Area	Time of Concentration	Rainfall Intensity	Runoff Coefficient	Post Development Peak Flow (Total for Catchment Area)	Post Development Peak Flow (Unit Rate)
	ha	Min	mm/hr		L/s	L/s/ha
A	78	20	50	0.40	4,360	56
В	30	20	50	0.40	1,670	56
С	14	20	50	0.40	770	56
Commercial	28	10	90	0.80	5,540	200
Mayor Magrath Dr.	12	10	90	0.80	2,400	200

Table 5.2 1 in 5 Post Development Peak Flows

Catchment Area	Area	Time of Concentration	Rainfall Intensity	Runoff Coefficient	Post Development Peak Flow (Total for Catchment Area)	Post Development Peak Flow (Unit Rate)
	ha	min	mm/hr		L/s	L/s/ha
A	78	20	140	0.50	15,270	195
В	30	20	140	0.50	5,840	195
С	14	20	140	0.50	2,690	195
Commercial	28	10	195	1.00	14,990	542
Mayor Magrath Dr.	12	10	195	1.00	6,510	542

Table 5.3 1 in 100 Post Development Peak Flows

SWMHYMO was used to confirm the calculated peak flows, determine required storage volumes and generate inflow/outflow hydrographs for the storage facilities. The City of Lethbridge 1 in 100 year 24 hour design storm, shown in Figure 5.1, was used for all storage and hydrograph modeling. The SWMHYMO modeling parameters used are summarized in Table 5.4.



Table 5.4 SWMHYMO Modeling Parameters

Catchment Area	Area	Slope	CN for Pervious Area	Percent Impervious	Depression Storage (Pervious Areas)	Depression Storage (Impervious Areas)
	ha	%		%	mm	mm
A	78	0.6	72	60	7.5	2.5
В	30	0.5	72	60	7.5	2.5
С	14	0.7	72	60	7.5	2.5
Commercial	28	0.6	72	85	7.5	2.5
Mayor Magrath Drive	12	0.2	72	90	7.5	2.5

The storage volume for each catchment required to limit discharge to 6.25 L/s/ha is shown in Table 5.5. These volumes reflect the results of SWMHYMO's ROUTE RESERVOIR and COMPUTE VOLUME routines.

Table 5.5 Pond Inflow, Outflow and Volume							
Catchment Area	Area	Modeled Peak Inflow	Modeled Peak Outflow	Required Storage Volume			
	ha	L/s	L/s	ha m			
A	78	15,040	490	4.67			
В	30	6,150	188	1.79			
С	14	3,120	86	0.82			
Commercial	28	10,030	173	2.20			
Mayor Magrath Dr.	12	4,000	75	0.92			

The storage volume for each pond will be finalized at the Outline Plan Stage, once the catchment areas can be accurately defined.

1 in 100 year inflow and outflow hydrographs for each storage facility are shown in Figures 5.2 through 5.6. These hydrographs serve to highlight the reduction in peak flow required to limit discharge rates to 1 in 5 year predevelopment levels.







29





Peak inflows shown in the above hydrographs may appear lower than the values presented in Tables 5.3 and 5.5, this is merely a result of a 30 minute time step being used for plotting the hydrographs.

5.3.4 Stormwater Storage Ponds

General locations of the proposed stormwater storage ponds are shown in Figure 4.

The catchment area for Pond A consists of catchment A (78 ha) and the majority of the commercial area (28 ha). Pond A will also provide stormwater storage for Mayor Magrath Drive north of 40th Avenue. The two portions of the pond on either side of 40th Avenue are intended to operate as a single storage facility, hydraulically connected under the roadway. Pond A will be designed as a wet pond, with a pre-treatment forebay and inlet structure located at its north end.

The catchment area for Pond B is 30 ha and is bounded to the east by 43rd Street South. Pond B may be designed as either a wet or dry pond. If designed as a dry pond, Pond B would discharge into Pond A to ensure stormwater quality objectives are satisfied.

The catchment area for Pond C is 14 ha of residential development and a small portion of the commercial area to the north and west and Mayor Magrath Drive south of 40th Avenue. At the time of writing, future development in the southwest portion of the ASP area south of 40th Avenue is not as well defined as in the areas to the north. Ideally, Pond C will be located as far west as possible to take full advantage of the topography of the catchment area.

For the commercial area, it is envisioned that a portion of the required stormwater storage will be provided on-site, within paved parking areas and drainage swales. The balance of stormwater storage for the commercial area will be provided by Ponds A and C.

Upgrading of Mayor Magrath Drive to 40th Avenue South will likely be completed before the stormwater ponds have been constructed. It is therefore envisioned that, at least for the short term,

stormwater management for Mayor Magrath Drive will be provided within the Mayor Magrath rightof-way. Over the long term, the stormwater management system for Mayor Magrath Drive will be integrated with Ponds A and C.

All ponds will be designed in accordance with the recommendations published in Alberta Environment's *Stormwater Management Guidelines*.

5.3.5 Proposed Connections to Downstream Systems

For the ASP area, there are no connections to downstream minor or major systems. Both the minor and major systems within the ASP area will discharge to Six-Mile Coulee via a combined outlet from the proposed storage ponds.

5.3.6 Downstream Impacts

Limiting discharge rates to predevelopment 1 in 5 year levels will mitigate downstream impacts from the ASP area. The extent of flooding or erosion resulting from a 1 in 100 event will be the same as that occurring under predevelopment conditions.

The routing of all residential flows through the proposed wet ponds will mitigate any potential downstream impact that might result from the quality of runoff from the ASP area.

5.3.7 Description of Major System Flow Routes

Major system flow routes for the commercial and residential portions of the ASP will extend from the boundary of each catchment area to the associated storage pond. Each storage pond will share a common outlet and emergency overflow to Six-Mile Coulee.

At least over the short term, it is envisioned that the major drainage system for Mayor Magrath Drive will have a separate outlet and emergency overflow to Six-Mile Coulee.

5.4 Shallow Utilities

In consultation with the respective utility companies, shallow utilities, including electrical services, telephone and cable required to service industrial development will be extended into the ASP area from the existing infrastructure.

6.0 DEVELOPMENT STAGING AND IMPLEMENTATION

The objectives of the staging and implementation programs are to ensure that the implementation of this ASP proceeds in a coordinated and cost-effective manner, and that this ASP remains current through active monitoring, reviewing and updating. This will help to ensure that future growth and land use decisions will reflect the needs and aspirations of residents, business and industry.

6.1 Development Staging

Generally, development will occur from west to east, in line with the orderly and economical provision of municipal services, and in response to market demand.

6.2 Outline Plan

As per standard City of Lethbridge practice, an Outline Plan will be prepared for the ASP area. The Outline Plan will provide more specifics with regard to land use, staging, the local road network and the provision of municipal infrastructure.

6.3 Rezoning and Subdivision

Rezoning and subdivision applications will be advanced for specific stages in response to market demand.

6.4 Intermunicipal Planning and Cooperation

Following the policy direction of the *Southeast Lethbridge Urbanization Plan* and the draft *County of Lethbridge and City of Lethbridge Intermunicipal Development Plan* (IDP), the City of Lethbridge will circulate to the County of Lethbridge for comment the following:

- the proposed *South Gate Area Structure Plan*;
- any proposed amendments to the *South Gate Area Structure Plan*,
- any proposed amendments to the land use bylaw within the ASP boundaries, and
- any other decisions for the ASP area that would have a direct impact on the County of Lethbridge.

In order to rectify any disputes that may arise, with respect to the ASP area, the dispute resolution process outlined in the draft IDP should be followed.

APPENDIX A

Land Ownership



002ASP00A.dwg

Appendix A – Land Ownership

Legal Description	Owner	Areas			% of Total	
		Titled Areas		Area Within the ASP		
		Area	A #22 (22)	Area (ha)	A #22 (2.2)	
		(na)	Area (ac)	Area (na)	Area (ac)	
Block 1, Plan 1734LK	Avonlea Land Corp	17.50	43.24	17.50	43.24	11.19%
Block 2, Plan 1734LK	412410 Alberta Ltd	17.40	43.00	17.40	43.00	11.13%
Block 3, Plan 1734LK	Thiessen Cattle Ltd	19.31	47.72	19.31	47.72	12.35%
Block 4, Plan 1734LK	675544 Alberta Ltd	20.20	49.91	20.20	49.91	12.92%
Plan 1734LK	Mayor Magrath Service Road ROW	2.80	6.92	2.80	6.92	1.79%
SW Section 22-8-21-W4M, 5&6	50% Ltd.	14.69	36.30	5.24	12.95	3.35%
SW Section 22-8-21-W4M, 5&6	Leo and Agnes Davidson	15.89	39.27	8.45	20.88	5.40%
SW Section 22-8-21-W4M, 3&4	Gordon Anderson	16.20	40.03	11.33	28.00	7.25%
SW Section 22-8-21-W4M, 5&6	St. Mary River Irrigation Dist.	1.51	3.73	0.32	0.79	0.20%
SW Section 22-8-21-W4M, 3&4	Kenneth and Ruth Hudson	16.20	40.03	12.27	30.32	7.85%
NW Section 16- 8-21-W4M, 14	Allsports Replay Ltd	-	-	2.32	5.73	1.48%
NW Section 22-8-21-W4M	1000824 Alberta Ltd	61.46	151.87	3.18	7.86	2.03%
	831657 Alberta Ltd.					
Lot 1, Block 1, Plan 961 0597	Harold and Lorraine Moodie	8.10	20.02	4.60	11.37	2.94%
Lot 2, Block 1, Plan 961 0597	Johannes and Anne Vanee	8.18	20.21	6.02	14.88	3.85%
Lot 3, Block 1, Plan 961 0597	Bryan and Janet Murray	8.22	20.31	6.12	15.12	3.91%
Lot 8, Block 1, Plan 011 1827	Frank and Marlies Perrotta	4.25	10.50	3.37	8.33	2.16%
Lot 9, Block 1, Plan 011 1827	Shannon and Laura Kooy	4.25	10.50	3.19	7.88	2.04%
Lot 7, Block 1, Plan 961 2299	Karlo and Inez Malik	0.769	1.90	0.77	1.90	0.49%
Lot 1, Block 1, Plan 931 1977	Alex and Maria Chubenko	6.149	15.19	6.94	17.15	4.44%
Lot 2, Block 1, Plan 021 4078	Alex and Maria Chubenko	0.971	2.40	-	-	-
Lot 1, Block 2, Plan 011 1356	Richard and Carol Gwatkin	3.41	8.43	0.71	1.75	0.45%
SE Section 21-8-21-W4M	Mary River, Irrigation District	0.117	0.29	0.12	0.30	0.08%
Block 10, Plan 021 1086	ROAD PLAN	0.00	0.00	0.97	2.40	0.62%
43 Street South	City of Lethbridge	-	-	3.25	8.03	2.08%
Total		244.78	604.85	156.38	386.41	100.00%

APPENDIX B

Interface Treatments



Reservoir & Villa Concept Plan - Southgate Area Structure Plan




Reservoir Concept Section - Southgate Area Structure Plan





Villa Concept Section - Southgate Area Structure Plan



APPENDIX C

Student Generation

Appendix C – Student Generation

School	Student Per Dwelling Unit	No. Of Students (1988) Units
Public Elementary (ECS to 5)	.17	338
Public Middle (6 to 8)	.085	169
Public Senior	.113	225
Holy Spirit Elementary	.08	159
Holy Spirit Middle	.04	80
Holy Spirit High	.04	80
Total		1051

APPENDIX D

Land Use Allocations

Appendix D: Land Use Statistics – As amended by Bylaw 6001 – July 11, 2016

Land Use Allocation Statistics				
Land Use	Area (Ha)	% of GDA*		
Gross Area	129.4			
Water Reservoir	1.2			
Public Utility Lot	0.8			
Gross Developable Area (GDA)	127.4	100.0%		
Commercial	25.6	20.1%		
Low Density Residential	62.0	48.7%		
Medium / High Density Residential	7.6	6.0%		
Residential Total	69.6	54.6%		
Institutional	2.8	2.2%		
Park, Open Space and Storm Water Management	8.2	6.4%		
Internal Road Network	21.2	16.6%		

*Gross Developable Area