
SOUTH MACLEOD TRAIL REGIONAL POLICY PLAN



May 2007



THE CITY OF
CALGARY
LAND USE PLANNING & POLICY



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Part 1

South Macleod Trail Regional Policy Plan



PART 1
SOUTH MACLEOD TRAIL
REGIONAL POLICY PLAN

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PREFACE

The *South Macleod Trail Regional Policy Plan* (the “Plan”) comprises approximately 2289 hectares (5656 acres) of land in the south sector of Calgary. The Plan Area is bounded on the north by 194 Avenue S and the communities of Silverado and Chaparral, on the east by the Bow River and on the west and south by the City’s corporate boundary.

The Plan Area was annexed to the City in 2005 as part of a comprehensive annexation program. The planning program for the preparation of the Plan commenced shortly after annexation approval for the purpose of identifying The City’s broader planning objectives and to provide a framework for more detailed planning.

The Plan Area is currently undeveloped but is expected to serve as a residential and employment growth corridor for the City’s south sector. Several communities have been identified within the Plan Area with a projected overall population of approximately 70,000 people. An Employment/Mixed-Use Area has been identified on the west side of Macleod Trail S. The projected overall employment for the Plan Area is approximately 15,000 jobs.

Light Rail Transit (LRT) will be extended to this area from the north providing opportunities for transit oriented development (TOD).

Wetland systems together with the Pine Creek and Bow River valleys will create a comprehensive natural open space system for the benefit of the communities within the Plan Area and the greater City. The comprehensive open space system also consists of significant natural ecosystems providing ecological benefit to the area.

The southerly portion of the Bow River valley contains the Pine Creek Wastewater Treatment Plant. A future Water Treatment Plant will be developed immediately north of the Wastewater Treatment Plant. The northerly portion of the valley contains an active gravel mining operation and asphalt plant and concrete plant. Gravel mining will eventually phase out and the asphalt plant and concrete plant will consolidate at the south end of this property near the Wastewater Treatment Plant. The remaining valley lands will be developed as a combination of residential community and open space.

A landfill site is located east of Macleod Trail S and south of 194 Avenue S. This site will be redeveloped as open space. The mandatory landfill setback area will contain non-residential uses.

The detailed planning for the Plan Area will occur through a series of Area Structure Plans (ASPs) that will be prepared on a community-by-community basis. In order to co-ordinate this planning, a comprehensive policy framework is provided in the Plan that addresses the sequencing of ASPs to be prepared within the Plan Area and identifies regional-level land use, transportation and environmental components that need to be considered comprehensively with the preparation of each ASP.



1.0 INTRODUCTION

1.1 Purpose of the Plan

The *South Macleod Trail Regional Policy Plan* (the “Plan”) has three main purposes. Firstly, the Plan confirms The City’s broader planning objectives for the Plan Area by identifying predominantly residential, commercial and employment-related development and the importance of the Bow River, Pine Creek valleys and other significant natural areas and wetlands. Secondly, the Plan establishes a process that addresses the sequencing for the preparation of Area Structure Plans (ASPs) within the Plan Area to ensure urban growth proceeds logically and efficiently. Finally, the Plan identifies the key land use, transportation and environmental components that need to be addressed in a co-ordinated manner through the ASP preparation process.

1.2 Growth Rationale

It is a policy of The City of Calgary to maintain at least a 30 year supply of developable land for all uses (The Calgary Plan, Policy 1-1A). This policy is a key foundation of Calgary’s growth co-ordination approach. Ensuring a 30 year land supply allows for the comprehensive planning of new areas and encourages choice and competition in the marketplace.

The lands within the Plan Area were annexed from the Municipal District of Foothills in 2005 in order accommodate The City of Calgary’s projected urban growth. According to forecasts completed in 2004, The City of Calgary had an estimated 22-24 years of residential land supply available within the municipal boundaries. More land was therefore required to meet the 30 year land supply policy of The Calgary Plan and this in part prompted the annexation of the lands contained within the South Macleod Regional Plan.

Land uses other than residential have strategic importance in the South Macleod area and also justify the initiation of planning within the area. Achieving a better jobs/housing balance is an important cornerstone in realizing a number of Calgary Plan objectives and in enhancing Calgary’s sustainability. The need for a mixture of land uses was also established through previous planning work within the Chaparral Area Structure Plan. In the absence of significant jobs or retail development in the Chaparral area, Council had recommended that commercial office and retail development should be provided in South Macleod when annexed (Bylaw 8P2003).

1.3 Composition of the Plan

In order to accomplish this purpose, the Plan contains the following:

- a vision and goals that describe the future form the Plan Area will take while creating a benchmark to measure the success of the Plan over time;
- a planning areas map that defines the areas that will be the subject of future ASPs, together with policies that address the sequencing of these plans; and
- a land use concept map that identifies regionally-significant land use and transportation components within the Plan Area together with policy statements to ensure these components are addressed comprehensively through the preparation of each ASP.

1.4 Relationship with other Policy Documents

Integral to the success of the Plan, and subsequent Area Structure Plans, is the application of relevant strategic policies approved by Council. These policies are contained in key documents that include, but may not be limited to, the Calgary Municipal Development Plan (1998), Triple Bottom Line Policy (2005), Sustainable Suburbs Study (1995), Transit Oriented Development Policy Guidelines (2004), Transit Friendly Design Guidelines (1996), Calgary Transportation Plan (1995), Urban Parks Master Plan (1994), and Wetlands Conservation Plan (2003). The new policy documents are also expected to be in alignment with the overall vision stated in imagineCALGARY and Council's Sustainability Principles (2007). The recognition of the City-wide policy directives in these documents establishes a context for the Plan. Specifically, this Plan and future Area Structure Plans will be directed by the following policies:

- (1) Future ASPs shall have regard to all current relevant policies, guidelines and standards; including those that may be amended or developed in the intervening period (i.e. between the time the South Macleod Trail Regional Plan is adopted and an ASP is developed). A comprehensive list of these documents is outlined in Part 2, Supporting Information, of this Plan.
- (2) This Plan and future ASPs shall uphold Council's commitment to the Triple Bottom Line Policy (2005), as detailed in Part 2, Supporting Information, of this Plan. Specifically, relating to
 - (a) Economic Policies, ASPs, within the boundary of this Plan Area, will encourage and promote economic development activities that contribute to Calgary's long-term prosperity;
 - (b) Environmental Policies, ASPs, within the boundary of this Plan Area, will provide for the conservation, protection, improvement and sustainability of Calgary's environment for the benefit of all citizens of this region, now and in the future;

- (c) Social Policies, ASPs, within the boundary of this Plan Area, will provide for a safe, inclusive community for all Calgarians, one that responds to the needs of its vulnerable and disadvantaged citizens, and where diversity is embraced and valued as a community asset;
- (d) Smart Growth Policies, ASPs, within the boundary of this Plan Area, will respond to Calgarians' desire for accessible, affordable, and appealing communities that have a mix of housing, jobs, shops, parks, and open spaces, connected by a well-planned, integrated transportation system.

1.5 Direction of the Plan

In accordance with Policy 2.2.2.2C of the Municipal Development Plan, Community Plans prepared within the Plan Area should ensure that “...new communities become more sustainable by:

- *Achieving a minimum residential density of 7 units per gross residential acre.*
- *Providing livable and complete communities that include a mix of single and multi-unit dwelling types, densities and land uses such as commercial and employment.*
- *Ensuring a more compact urban form that efficiently utilizes land and infrastructure.*
- *Creating areas of higher residential density to take advantage of transit and reduce reliance on the private automobile.*
- *Designing pedestrian, cyclist and transit-oriented communities that reduce reliance on the private automobile.*
- *Providing attractive public spaces and commercial areas that encourage walking and a vibrant community life.”*

Area Structure Plans shall contain policy statements that are directed toward achieving the above principles, in particular, the minimum density requirements for new communities.

1.6 Authority of the Plan

The Plan has been approved through a resolution passed by Council and is a non-statutory planning document. Part 1 comprises the approved Plan. Part 2, Supporting Information, does not form part of the approved Plan but contains supporting information that is useful in understanding the Plan.

While the Plan is a non-statutory document, it is intended that, in practice, subsequent ASPs prepared within the Plan Area will be consistent with the Plan.

1.7 Timeframe of the Plan

The Plan is future-oriented and depicts a broad land use and transportation pattern for the Plan Area. In this regard, no specific timeframe is applied to the Plan.

1.8 Interpretation of the Plan

1.8.1 Map Interpretation

Unless otherwise specified within the Plan, the boundaries or locations of any symbols or areas shown on the maps in the Plan are approximate only, not absolute, and shall be interpreted as such. They are not intended to define exact locations except where they coincide with clearly recognizable physical features or fixed boundaries such as property lines, or registered road and utility rights-of-way.

1.8.2 Policy Interpretation

The text accompanying a policy within the Plan is provided for information purposes only to enhance the understanding of the policy. If an inconsistency arises between the text and a policy, the policy shall take precedence.

Where “shall” is used in a policy, the policy is considered mandatory. However, where actual quantities or numerical standards are contained within the policy such quantities or standards may be varied, provided that the variance is necessary to address the unique circumstances that would otherwise render compliance impractical or impossible, and the general intent of the policy is achieved.

Where “should” is used in a policy, the intent is that the policy is to be complied with. However, the policy may be varied in a specific situation provided that the variance is necessary to address unique circumstances that will otherwise render compliance impractical or impossible, or an acceptable alternate means to achieve the general intent of the policy is introduced.

Where a policy requires the submission of studies, analysis or information, that requirement shall not be considered to be all inclusive, and the form and content of the studies, analysis or information required may be readdressed in any manner notwithstanding the provisions of the policy.

1.9 Amendment of the Plan

In order to make any change to the text or maps within the Plan, an amendment to the Plan will be required to be approved through a resolution of Council. Any amendment shall require the holding of a non-statutory public hearing together with public notification carried out in accordance with procedures established by Council. Where an amendment to the Plan is requested, the applicant will be required to submit supporting information necessary to evaluate and justify the amendment.

Changes to the text or maps in Part 2, Supporting Information, will not require Council approval. Such changes will be made from time to time as determined necessary to ensure that the text and maps remain accurate.

1.10 Monitoring of the Plan

The policies of the Plan shall be monitored over time to ensure that they remain current and relevant. Where determined necessary, the policies shall be updated through the plan amendment process either generally or in response to a specific issue.

2.0 PLAN AREA

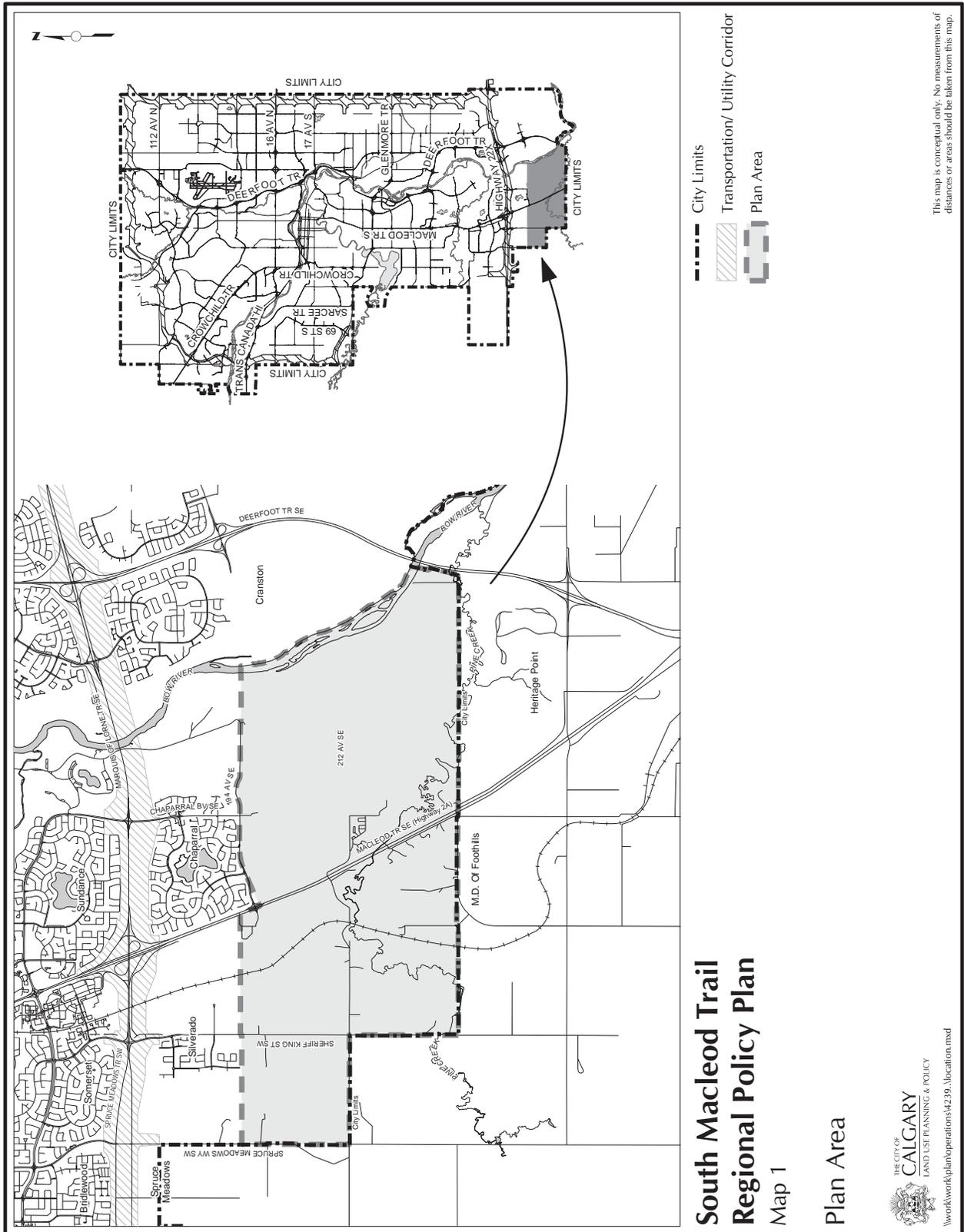
2.1 Application of the Plan

The Plan applies to those lands shown on the Plan Area Map (Map 1). The Plan Area comprises approximately 2289 hectares (5656 acres) of land in the south sector of Calgary. The Plan Area is bounded by 194 Avenue S and the communities of Silverado and Chaparral to the north, the Bow River to the east and The City's corporate boundaries to the west and south.

2.2 Ownership Pattern

The landownership pattern in the Plan Area ranges from larger consolidated parcels east and west of Macleod Trail S, north of Pine Creek, to smaller parcels west of Macleod Trail S, south of Pine Creek. The majority of lands have been maintained in an undeveloped state, with the exception of some of these parcels containing residential and other agricultural uses. The City has consolidated land adjacent to the Bow River for the Pine Creek Wastewater Treatment Plant. A private land fill site, gravel mining operation and asphalt and concrete plants exist east of Macleod Trail S and south of 194 Avenue S.

Map 1: Plan Area



3.0 VISION

3.1 Sustainability Principles

In January 2007, Calgary City Council approved the following Sustainability Principles to provide direction and create a “made-in-Calgary” approach to the broadly recognized Smart Growth principles. These principles have been included in the Plan and create the basis for the vision, goals and policy direction for East Macleod.

Principle 1: Create a range of housing opportunities and choices

Provide a mix of housing types and ownerships, in the same neighbourhood, to allow residents to live affordably in the same community throughout their lives. A mix of housing creates a more adaptable and resilient community fabric as it is able to respond to demographic changes such as aging populations, empty nesters and smaller households.

Principle 2: Create walkable environments

Create pedestrian-friendly environments with an interconnected street network to ensure walkable access to commercial and public services and amenities. Streets and arterials are designed for walking, cycling, transit access and cars. Neighbourhoods are sufficiently compact with mixed uses to provide sustained transit service.

Principle 3: Foster distinctive, attractive communities with a strong sense of place

Create distinctive, high quality communities designed with architectural and natural elements that reflect local conditions and the values of the residents.

Principle 4: Provide a variety of transportation options

Couple a multi-modal approach to transportation with supportive development patterns to create a variety of transportation options. This includes; increasing the availability of high quality transit service, creating resiliency and connectivity within the road networks and ensuring connectivity between pedestrian, bike, transit and road facilities.

Principle 5: Preserve open space, agricultural land, natural beauty and critical environmental areas

Maintain and restore ecosystem functions. Respect the natural functions of the landscape, particularly working agricultural land, watersheds and aquatic habitats. Design communities to integrate natural systems with human activities, placing high value on community access to natural systems and parks.

Principle 6: Mix land uses

Mix land use by having homes, businesses, schools and recreational opportunities in closer proximity. This will provide the opportunity for alternatives to driving such as walking and biking while increasing transit viability. This can also enhance the vitality and perceived security of an area by increasing the number of people on the street. Mixed land use is key to achieving more complete communities.

Principle 7: Strategically direct and manage redevelopment opportunities within existing areas

Direct redevelopment towards and within existing areas to create and enhance places in existing communities, while preserving stable areas and valuing existing community context. Strategic intensification makes more efficient use of existing infrastructure and increases transit efficiency.

Principle 8: Support compact development

Compact development supports transit viability and modes of travel other than the automobile. It also allows for the preservation of open space and more efficient use of infrastructure.

Principle 9: Connect people, goods and services locally, regionally and globally

Connectivity of all modes of transportation locally, regionally and globally, ensures a more effective and efficient transportation system for people, goods and services.

Principle 10: Provide transportation services in a safe, effective, affordable and efficient manner that ensures reasonable accessibility to all areas of the city for all citizens

Transportation services and infrastructure should be delivered in a cost-effective and energy efficient manner. The transportation system should provide citizens with safe, barrier-free access to services that supply reasonable access to all areas of the city. Optimally designed and operated transportation systems help to improve the quality of life for citizens, support economic development and protect environmental health.

Principle 11: Utilize green infrastructure and buildings

Utilizing the ecological services provided by the environment will reduce community and environmental impacts as well as private, public, and taxpayer costs of development and infrastructure. Green infrastructure can include energy solutions such as co-generation or renewable energy and water solutions such as stormwater retention and recharge. Green buildings including but not limited to externally certified standards such as LEED (Leading in Energy and Environmental Design), BOMA Go Green for commercial buildings and Built Green™ for residential applications.

3.2 Vision of the Future

The South Macleod Trail Regional Plan comprises three well integrated and vibrant communities, which when fully developed, will have over 70,000 residents and 15,000 jobs. The communities are designed to create a sense of place and identity, which fosters ownership and pride among the residents. A key amenity available to all the communities is the comprehensive open space system which integrates the natural features that characterize the lands including the Pine Creek Valley, the Bow River and the wetland areas.

The communities are largely residential, supported by commercial, employment and limited industrial uses. The communities are 'inclusive', providing a mix of housing types to meet the needs of a broad socio-economic group. The Plan Area provides a healthy mix of single and multi-family buildings including affordable housing and housing to meet the needs of seniors. The Plan Area is serviced by a well-connected system of bike and pedestrian pathways, a high quality transit service and an efficient road network, providing the residents with a choice of mode of transport.

The residential areas are well-served by gateway commercial and core commercial centres, which are distributed through the Plan Area. These commercial centres are designed to meet the demand generated by the Plan Area in order to minimize the need for the residents to travel outside the area for their shopping requirements. The core commercial centres also function as the activity hubs for the communities. There is a high emphasis on design, high density residential and mixed-use developments, place-making, pedestrian-orientation and high quality public transit in the core commercial centres. The gateway commercial centres, strategically located adjacent to east and west Macleod Trail S, have excellent vehicular and pedestrian access and provide regional commercial amenities for the area residents.

The employment/mixed uses located on the west side of Macleod Trail S function as a multi-faceted and dynamic area anchored by the light rail transit (LRT) station, community facilities and higher density residential. It provides job opportunities for residents living in the area, and is within walking distance to the core commercial centre on the west side of Macleod Trail.

Limited industrial development is concentrated in the vicinity of the Pine Creek wastewater treatment facility. Industrial uses also include a water treatment plant, a concrete plant and an asphalt plant. The industrial uses are concentrated in a single location with appropriate interface treatment with the adjacent residential uses to minimize their impact.

Essential regional services are strategically located in the Plan Area. These services include two senior high schools, a library, a recreation centre, an athletic park, two fire/EMS stations, a City transit maintenance facility and a City operations workplace centre.

The Plan Area facilitates easy accessibility to Calgary's downtown core via a high quality transit system which consists of light rail transit (LRT) on the west side of Macleod Trail S and effective bus transit services on the east. Two LRT stations and park'n'ride facilities are conveniently located along the LRT line with the northerly station serving the employment/mixed-use area. Development around the LRT stations incorporates the principles of transit oriented development (TOD), creating a mixed-use pedestrian environment. The bus transit east of Macleod Trail is integrated with the core commercial centre, in order to maximize transit potential.

The regional road network, consisting of expressways and major roads, transport the residents in the Plan Area to their places of work efficiently and effectively. Macleod Trail S (Highway 2A), an expressway/freeway, runs centrally through the Plan Area and provides a direct connection to the city centre. Highway 22X, 194th Avenue S and 212th Avenue S provide east-west connections, which facilitate access to Macleod Trail.

The natural open space system, including the Bow River and Pine Creek valleys, offers a unique amenity to the Plan Area. Urban development sensitively integrates these features to enable the residents to enjoy the natural environment. The open space is enhanced by natural and constructed wetlands which are integrated with storm retention facilities where this will ensure their long term sustainability. A comprehensive regional pathway system provides connectivity through the Plan Area and facilitates pedestrian and bicycle access to the open space destinations, regional facilities, commercial centres and TOD areas.

Overall, the South Macleod Trail Regional Plan Area forms a well-conceived, complete living and working environment, containing the mix of land uses, transportation, services and amenities required to provide sustainable communities. The Plan Area provides the opportunity for people to live, work and play in their community, ultimately leading to a stronger sense of place and contributing to the vitality of the area as a whole.

3.3 Goals of the Plan

- **Complete Communities**

To provide for a balanced and well-integrated area, that its residents take pride in, and that not only facilitates but encourages innovative design and a viable, creative approach to land use.
- **Residential Communities**

To provide for well-integrated, walkable residential communities, a mix of housing types, and a range of densities that is attractive to a diverse range of people of various incomes.
- **Commercial Development**

To provide a full range of commercial development to meet the retail and service needs of the area.
- **Commercial Core**

To provide a mixed-use retail, social and recreational core for communities, which provides a sense of place and identity.
- **Employment Base**

To provide for a viable employment base in a mixed-use area that is accessible to the residents of the Plan Area, and that also draws people into the area.
- **Transit Service**

To provide convenient, effective and efficient bus and LRT transit services and facilities, that promote and encourage transit use as a viable transportation option for the residents and workers of the Plan Area.
- **Transit Oriented Development (TOD)**

To provide high density, mixed-use development within walking distance to LRT stations that is pedestrian oriented and is integrated with adjacent land uses through an inviting pathway system.
- **Network Efficiency**

To create an effective and efficient road system that meets the safety and mobility needs of motorists, transit, pedestrians and cyclists.
- **Regional Pathway**

To provide an extensive regional pathway system that connects communities, employment areas, commercial core areas, schools, transit and other amenities.

- **Natural Areas Protection & Enhancement**

To provide for the protection, conservation and long term viability of significant wetlands and the Bow River and Pine Creek valleys and to embrace the beauty of natural areas through integration of land use and vistas.

- **Regional Facilities**

To provide regional facilities to meet the educational, recreational, emergency, operational and maintenance needs of the area.

- **Storm Water Management**

To identify an approach to stormwater management and servicing and to determine the role of wetlands in this process.

- **Utility Infrastructure**

To identify the regional infrastructure (sanitary sewer, waterworks, storm sewer and other utilities) required to facilitate the preparation of detailed Area Structure Plans.

- **Resources Extraction**

To provide for continuation of the existing aggregate, concrete and asphalt operations in a compatible manner with adjacent and nearby development and the eventual reclamation and transition of this area to urban uses.

- **Land Fill Operations**

To provide for the co-existence of the BFI landfill site and its development setback area in a compatible manner with adjacent development.

4.0 FUTURE PLANNING AREAS

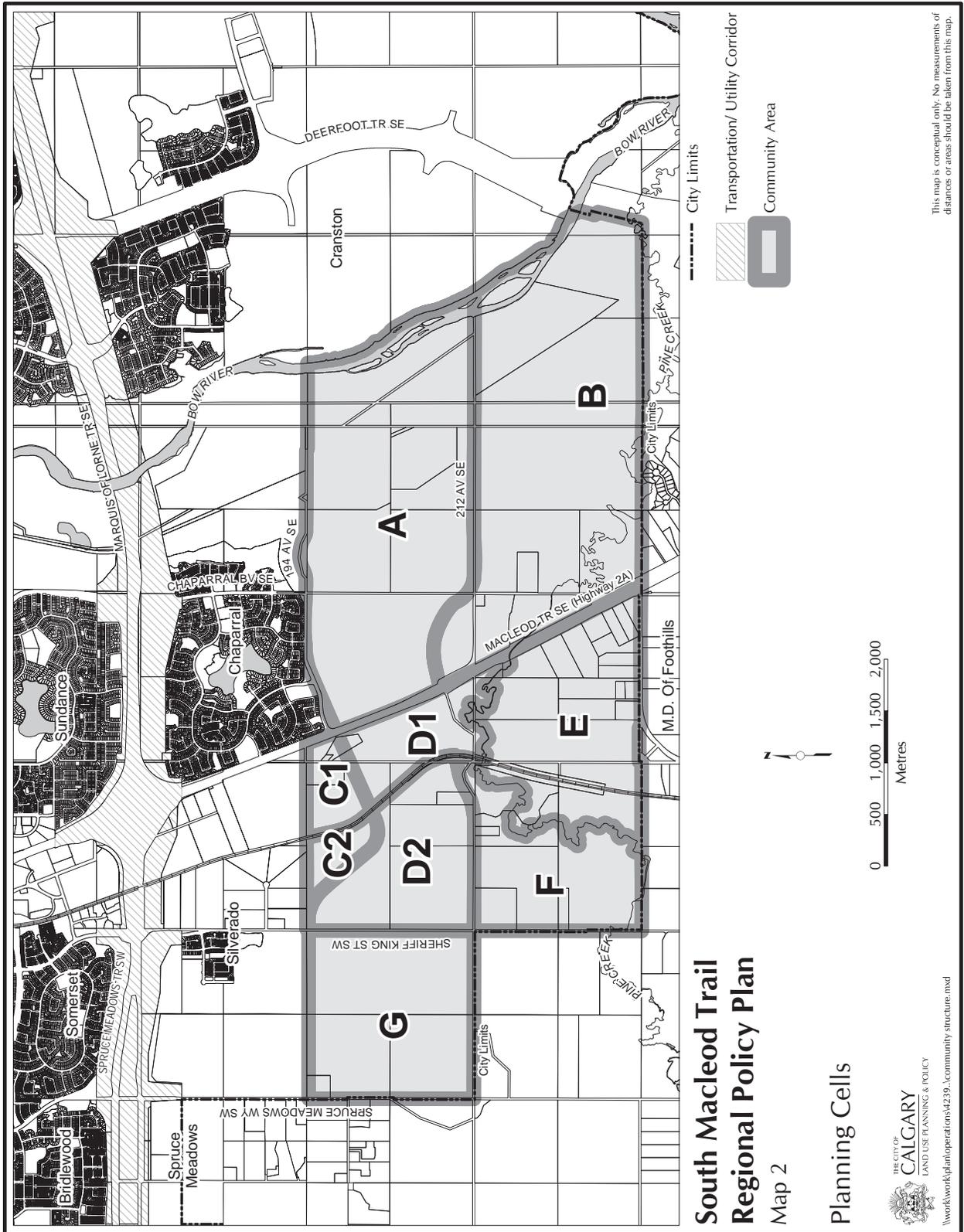
4.1 Definition of Future Planning Areas

The Plan Area is divided into future planning areas as shown on the Future Planning Areas Map (Map 2). The future planning areas are defined by the regional road network (freeways, expressways and major roads), CPR line and Pine Creek valley. The labelling of the future planning areas are for reference purposes only and do not imply a planning sequence for the purpose of future planning.

4.2 Description of Future Planning Areas

A general description of the function, size and population of each of the future planning areas is provided in Part 2, Supporting Information. Policies relating to the method and timing of future planning for the future planning areas is contained in the next section.

Map 2: Future Planning Area



This map is conceptual only. No measurements of distances or areas should be taken from this map.

5.0 FUTURE PLANNING PROCESS

5.1 Application of Future Plans

5.1.1 Overview

Each of the future planning areas shown on the Planning Areas Map (Map 2) will be the subject of an Area Structure Plan (ASP) prepared in accordance with the requirements of the *Municipal Government Act*. Until such time as an ASP is approved for a future planning area, approval of a Land Use Amendment application, Outline Plan application, Subdivision application or Development Permit application submitted within the planning area will be considered premature. Exceptions to this may be made for low-intensity or temporary uses that will not compromise future urban growth.

5.1.2 Policies

(1) Plan Preparation

- (a) All future planning areas as shown on the Planning Areas Map (Map 2) shall be subject of an Area Structure Plan (ASP).
- (b) An ASP may apply to one or more future planning areas.

(2) Premature Development

- (a) Until such time as an ASP has been approved for a future planning area, approval of a Land Use Amendment application, Outline Plan application, Subdivision application or Development Permit application shall not be granted on lands within the future planning area on the basis that the approval will be premature unless it is proven that a proposed development is of beneficial and strategic value to The City and does not in any way compromise future urban development.
- (b) Notwithstanding subsection (2)(a), a site specific Subdivision or Development Permit application to facilitate an adjustment to ownership boundaries, accommodate an agricultural related use or a temporary non-agricultural use, may be allowed prior to approval of an ASP where it is determined that the proposal would not in any way compromise future planning or urban growth within the area.

5.2 Timing of Area Structure Plans

5.2.1 Overview

The timing of an Area Structure Plan within the Plan Area will determine the pattern of urban growth through subsequent Land Use, Outline Plan, Subdivision and Development Permit Approval processes. As such, it is important that the sequencing of an ASP involve a consideration of such factors as land supply and servicing efficiency, as well as other strategic objectives of The City. Since an ASP is considered to be the primary mechanism for controlling the location and extent of new suburban growth in the city, a comprehensive evaluation of the timing of each ASP will need to be carried out in accordance with the criteria and process established by Council.

5.2.2 Policies

(1) Timing of Plan Preparation

The timing for the preparation of an ASP shall be determined by Council in accordance with established criteria, which include, but are not limited to

- (a) planned land supply;
- (b) efficient utility servicing;
- (c) suitable transportation capacity;
- (d) strategic planning objectives; and
- (e) landowner interests.

6.0 LAND USE CONCEPT

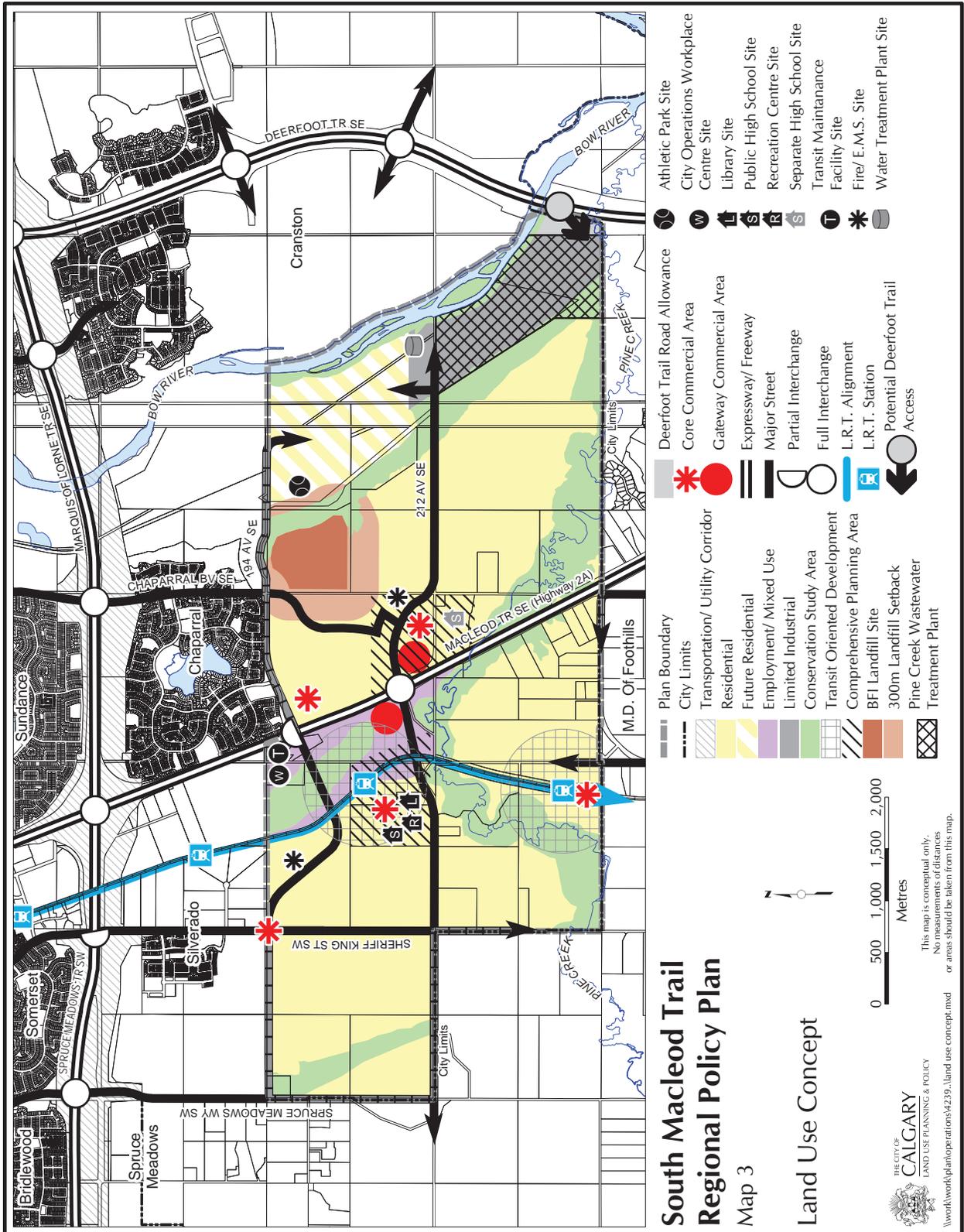
6.1 Land Use Concept Map

The Land Use Concept for the Plan Area is shown on the Land Use Concept Map (Map 3). This concept consists of a series of areas and symbols that define the broad future land use, transportation and other key regional components for the Plan Area. The Plan contains policies that are applicable to these areas and symbols.

6.2 Amending the Map

It is intended that as part of the preparation of each Area Structure Plan, the location of the various land use, transportation and other components shown on the Land Use Concept Map may be re-evaluated. The re-evaluation process may, in turn, result in revisions to the map in order to ensure that the map and any subsequent Area Structure Plan remain consistent.

Map 3: Land Use Concept





7.0 TRANSPORTATION NETWORK

7.1 Road Network

7.1.1 Overview

The Land Use Concept Map (Map 3) identifies the regional road network for the Plan Area. Regional roads include Freeways, Expressways and Major Streets bordering and intersecting the Plan Area that accommodate through traffic, local traffic, and bus transit service in the Plan Area or to Collector Streets within the future planning sub-areas. The internal Collector Streets network serving the future planning sub-areas will be developed at the Area Structure Plan (ASP) stage.

7.1.2 Policies

(1) Road Network Alignment

- (a) The regional road network and related interchanges shall be aligned generally as shown on the Land Use Concept Map (Map 3).
- (b) The internal road system comprising Major and Collector Streets shall be generally identified within each subsequent ASP.

(2) Transportation Analysis

Additional Transportation Analysis may be required at the ASP preparation stage if the network deviates significantly from the network shown in Map 3 or if the level of proposed development warrants the need to re-evaluate the adequacy of the regional road network.

(3) Road Network Design

The Regional Road Network should be designed to:

- (a) accommodate efficient and safe traffic flows, including safe pedestrian and bicycle circulation;
- (b) provide for appropriate truck route connections;
- (c) provide for appropriate transit service;
- (d) create a logical community structure; and
- (e) avoid, where feasible, lands of higher environmental significance.

Transportation Network

(4) Interchange Function and Design

- (a) Based upon the approved transportation planning studies, the interchange at Macleod Trail S and 212 Avenue S shall function as a fully directional interchange, and the interchange at Macleod Trail S and 194 Avenue S shall function as a half interchange with access to and from the north only at Macleod Trail S.
- (b) Notwithstanding (a), the feasibility of shifting the Macleod Trail S and 212 Avenue S interchange alignment should be reviewed between the City and the Province, and in consultation with the impacted landowners.
- (c) In conjunction with the detailed design of the interchange at Macleod Trail S and 212 Avenue S, the access to adjacent properties shall be reviewed in consultation with the impacted landowners.
- (d) As part of the Regional Plan exercise, Transportation Planning committed to review alternative functional designs for the Macleod Trail S - 212 Avenue S interchange and the Macleod Trail S - 194 Avenue S interchange provided by consultants representing area stakeholders. Should The City initiate a formal revision to the functional design for the Macleod Trail S - 194 Avenue S interchange, The City will undertake consultation with adjacent landowners including those adjacent to the Macleod Trail S - 212 Avenue S interchange, in accordance with The City of Calgary's engagement policy for stakeholder engagement.

(5) Deerfoot Trail SE (Highway 2) Access

Pursuant to Council policy with respect to minimum densities and the principles of Smart Growth, the future residential and non-residential densities may require a Deerfoot Trail (Highway 2) interchange connection south of the Bow River to access the Plan Area. The Intermunicipal Agreement on Annexation dated 2004 April 01 between the City of Calgary and the Municipal District of Foothills No. 31 states that "Neither Foothills nor the City of Calgary will request any access to Deerfoot Trail from the Annexation Territory without first consulting with the other municipality and the general public, specifically the adjacent landowners". Should provision of an additional connection to Deerfoot Trail SE be warranted in the future, the following steps shall be required:

- (a) consultation with the Province, MD of Foothills and the general public (specifically with adjacent landowners), on the feasibility and warrant for this connection;
- (b) approval from the appropriate authorities on the location, design and method of implementation for this connection; and

- (c) establishment of an agreement for cost sharing of implementation costs.

(6) 194 Avenue S and 212 Avenue S

- (a) Serving as key entrance roads into future planning areas, 194 Avenue S and 212 Avenue S shall be classified as Major Streets characterized by:
 - (i) sidewalks on both sides of the road (a regional pathway may be constructed in place of a sidewalk on one side);
 - (ii) appropriate curb lanes for on-street cycling;
 - (iii) tree-lined boulevards and medians;
 - (iv) uniform fencing and entrance signage;
 - (v) bus transit routes;
 - (vi) ornamental street furniture, transit facilities and clearly delineated pedestrian crossings through the application of upgraded materials; and
 - (vii) such other amenities determined appropriate to reinforce the unique function of these roads as transportation corridors serving the Plan Area.
- (b) A Collector Street shall be required to be shown as part of the ASP conceptual road network connecting the east ends of 194 Avenue S and 212 Avenue S, in the Bow River valley.

(7) 194 Avenue S Alignment

The feasibility of shifting the alignment of 194 Avenue S west of Macleod Trail S, across the Priddis Slough may, if appropriate, be reviewed in consultation with the City, and impacted landowners and if confirmed to be acceptable in design and operation, provision for the same may be made. The review may occur at the time of preparation of an ASP or at other stages of planning as required.

(8) Macleod Trail S

Serving as the primary north-south corridor in the Plan Area, Macleod Trail S (Highway 2A) shall be classified as an Expressway/Freeway.

Transportation Network

(9) Sarcee Trail SW

A potential southern extension of Sarcee Trail SW (classified as an Expressway/Freeway), west of the Plan Area should provide additional access points for the lands west of Macleod Trail S.

(10) Truck Routes

All Major Streets in the Plan Area shall serve as truck routes.

(11) Intermunicipal and Regional Jurisdiction

The alignment of regional roads and associated interchanges and intersections, where those roadways cross jurisdictional boundaries, shall be co-ordinated with the Municipal District of Foothills and the Province of Alberta.

7.2 Transit Service

7.2.1 Overview

Transit service in the Plan Area will be provided in the form of Light Rail Transit (LRT), feeder bus and crosstown bus service. The south LRT line will extend from the north along the existing CPR alignment west of Macleod Trail. There is a potential for two (2) LRT stations and associated park'n'ride facilities, and transit oriented development (TOD). There is a further potential for transit nodes within the Plan Area that will act as transfer points with enhanced passenger waiting areas.

Transit service will be refined in more detail at the ASP stage.

7.2.2 Policies

(1) Light Rail Transit (LRT) Alignment

- (a) The LRT alignment, together with the location of associated LRT stations and park'n'ride facilities, as generally identified on the Land Use Concept Map (Map 3), shall be refined through the ASP process.
- (b) The LRT line and facilities shall ultimately require a functional design study to determine the final alignment and facility requirements.

(2) Feeder Bus Transit Service

Feeder bus routes with in-community transit stops connecting the communities to the LRT line shall be provided, with the alignment of these routes to be determined in conjunction with the planning for the internal road network for a community.

(3) Crosstown Transit Bus Service

Crosstown routes connecting the Plan Area to major employment destinations within the Plan Area and the City shall be provided with the alignment of these routes to be determined in conjunction with the planning for the internal road network for a community.

(4) Transit Facilities

- (a) Transit facilities including transfer points and park'n'ride lots should be provided.
- (b) Opportunities for joint use or shared parking should be encouraged between privately-owned developments, transit nodes and parking lots in order to minimize the amount of land devoted to parking, and to maximize opportunities for transit oriented development (TOD).

(5) Pedestrian Connections

Direct, efficient and well-designed pedestrian connections between transit stops, particularly transit nodes, and adjacent land areas should be provided.

(6) Transit Oriented Development (TOD)

Development adjacent to transit stations and within TOD nodes shall be subject to the requirements of the Transit Oriented Development Guidelines and the Transit Friendly Design Guidelines.

7.3 Regional Pathway and Bikeway System

7.3.1 Overview

A system of regional pathways and bikeways will be extended throughout the Plan Area providing connections to key destination points within and outside of the Plan Area. Regional pathways will be located in the open space network and/or roadway network; bikeways will be located on the road network and integrated with the regional pathway network. The general location, alignment and design of regional pathways and bikeways will be determined through the ASP preparation process and refined at the Outline Plan / Land Use Amendment stage.

7.3.2 Policies

(1) Regional Pathway and Bikeway Alignment

- (a) An integrated system of regional pathways and bikeways shall extend throughout the Plan Area creating connections from residential areas to the transit stops, schools, recreational facilities, employment and commercial areas, the Pine Creek and Bow River valleys, other parks and environmentally significant areas and the bordering communities.
- (b) The conceptual location, alignment and design of regional pathways and bikeways shall be determined through the ASP preparation process.

8.0 LAND USE AREAS

The Land Use Areas are generally shown on the Land Use Concept Map (Map 3).

8.1 Residential Area

8.1.1 Overview

All forms of residential uses will be encouraged in the Residential Area. Compatible and complementary uses will also be encouraged, such as institutional, recreational and commercial. The more detailed layout of the Residential Area will be refined during the ASP and Outline Plan/Land Use Amendment processes.

8.1.2 Policies

(1) Composition of Residential Area

- (a) The Residential Area shall be generally located as shown on the Land Use Concept Map (Map 3).
- (b) The predominant use of land in the Residential Area shall be residential uses.
- (c) A diversity of housing shall be provided within each residential community in the Residential Area.
- (d) Recreational, institutional, public, local commercial and accessory uses may be allowed within the Residential Area where determined to be compatible and complementary to residential development.

(2) Density of Residential Area

- (a) The density of the Residential Area shall be in accordance with the density requirements as contained in the Municipal Development Plan.
- (b) The density strategy for each community within the Plan Area shall be refined at the ASP stage.
- (c) Higher densities shall be oriented towards:
 - (i) Core Commercial Areas;
 - (ii) TOD Areas; and
 - (iii) Employment/ Mixed Use Area.

Land Use Areas

- (d) Lower Densities shall be oriented toward the Municipal District of Foothills boundary, as a means to providing a suitable interface between the municipalities.

8.2 Employment/Mixed-Use Area

8.2.1 Overview

The Employment/Mixed-Use Area is intended to fulfil the long-term objective of creating an improved job to housing balance in the suburbs. The Employment/Mixed-Use Area also functions as a transit-oriented, mixed-use and high density residential node comprising business, residential, recreational and public uses. The Employment/Mixed-Use Area will create local and regional job opportunities. The exact size, composition and location of the Employment/Mixed-Use Area will be determined through the ASP preparation process.

8.2.2 Policies

(1) Composition of Employment/Mixed-Use Area

- (a) The Employment/Mixed-Use Area shall be generally located as shown on the Land Use Concept Map.
- (b) The predominant uses in the Employment/Mixed-Use Area shall be offices, business and high density residential uses.
- (c) Recreational, Institutional, Local Commercial and accessory uses may be allowed within the Employment/Mixed-Use Area where determined to be compatible and complementary.
- (d) Gateway Commercial Areas should only be allowed on the periphery of an Employment/Mixed-Use Area.

(2) Future Planning Analysis

At the ASP preparation stage, the following analysis may be required to determine the composition of the Employment/Mixed-Use Area:

- (a) a market demand study that identifies the demand for employment oriented uses;
- (b) a transportation impact analysis that addresses the internal road network; and
- (c) a design concept that addresses the special relationship between the different uses within the area.

(3) Comprehensive Planning

An ASP should contain

- (a) policies to achieve comprehensive planning of the Employment/Mixed Use Area;
- (b) guidelines addressing the design of the Employment/Mixed Use Area; and
- (c) standards that address the form and density of development within the Employment/Mixed-Use Area.

(4) Design Considerations

When preparing an ASP, design considerations should include, but not be limited to

- (a) a pedestrian-friendly road network that encourages walking and transit use;
- (b) an efficient and accessible transit system;
- (c) amenities that enhance and promote social interaction and recreational pursuits; and
- (d) public facilities that complement the function of the area.

8.3 Commercial Areas

8.3.1 Overview

The commercial pattern for the Plan Area is hierarchical and designed to accommodate much of the local demand as well as some retail trade generated from outside the area.

Gateway Commercial Areas represent larger scale, peripherally located developments that are intended to provide retail goods and services to the local and regional markets. Gateway Commercial Areas are generally located along roads providing suitable access and exposure. They are vehicle oriented but pedestrian friendly commercial areas. They are designed so as not to compromise or detract from the function of the Core Commercial Centre.

Core Commercial Areas represent centrally located, pedestrian-oriented commercial and mixed use developments that are intended to serve as a shopping, living and

Land Use Areas

working core for one or more communities. Core Commercial Areas provide an important sense of place and community identity and, in addition to shopping facilities, host a mixture of local services and recreational facilities. Complementary features include attractive pedestrian-oriented, transit and bicycle-friendly, mixed-use areas that feature amenities most important to the surrounding neighbourhoods.

The Comprehensive Planning Area represents the area containing and surrounding two Core Commercial Areas that will require the preparation of an overall comprehensive Concept Plan as part of the approval process. The Concept Plan is required to ensure the co-ordination of development and design components and integration of the Core Commercial Area with the surrounding area.

Lower order neighbourhood commercial areas are not identified in the Plan but will be addresses through policy at the Area Structure Plan and/or Outline Plan/Land Use stage.

8.3.2 Policies

(1) Location of Commercial Areas

- (a) Commercial Areas shall be generally located as shown on the Land Use Concept Map (Map 3).
- (b) Gateway Commercial Areas should be located at the periphery of one or more communities with good access and exposure.
- (c) Core Commercial Areas should be located centrally to one or more communities with strong pedestrian access to the communities they serve. Innovative and functional mixed-use design is encouraged with a strong viable commercial focus.

(2) Function, Scale and Design of Gateway Commercial Areas

- (a) Gateway Commercial Areas shall be comprised of
 - (i) predominantly larger format commercial uses and business related uses that complement the commercial function of the area; and
 - (ii) industrial uses that support Gateway Commercial uses.
- (b) The location, scale and design of commercial development within Gateway Commercial Areas shall be determined as part of the ASP preparation stage, and /or Outline Plan/Land Use Amendment application stage.

(3) Function, Scale and Design of Core Commercial Areas

- (a) Core Commercial Areas shall
 - (i) largely comprise of small and medium format retail, service and office uses;
 - (ii) promote higher density residential uses and mixed-use buildings;
 - (iii) be pedestrian-oriented and bike-friendly in design;
 - (iv) provide a level of transit service suitable to meet the needs of the Plan Area residents;
 - (v) encourage innovative design and land use mix in an appropriate and integrated manner; and
 - (vi) allow for a strong integrated residential-commercial land use mix and encourage schemes such as “living over the shop” and “live-work residences”.
- (b) The location, scale and design of commercial development within Core Commercial Areas shall be determined as part of the ASP preparation stage, and /or Outline Plan/Land Use Amendment application stage.

(4) Commercial Land Requirements

The projected range of retail floorspace and net developable commercial land is found in Part 2, Supporting Information. Given the base and optimal demand forecasts identified in this table

- (a) the minimum amount of commercial development allocated within each individual ASP should be sufficient to ensure that the projected base demand for the entire Plan Area is met, and
- (b) the maximum amount of commercial development allocated within the Plan Area should be consistent with the projected optimal demand for the area.

(5) Comprehensive Planning Area

- (a) The Comprehensive Planning Area is generally defined on the Land Use Concept Map (Map 3).
- (b) Policies shall be developed at the ASP stage to more precisely delineate the Comprehensive Planning Area to ensure the co-ordination, integration and design of the Core Commercial Area with the surrounding area.

8.4 Limited Industrial Area

8.4.1 Overview

The Limited Industrial Area consists of the area occupied by the City's Pine Creek Wastewater Treatment Plant and lands immediately to the north that may contain a future City Water Treatment Plant, an asphalt plant, a concrete plant and other compatible uses. The layout and design of the Limited Industrial Area will be further refined during both the Area Structure Plan and Outline Plan/Land Use Amendment processes.

8.4.2 Policies

(1) **Composition of Limited Industrial Area**

The predominant use of land within the Limited Industrial Area shall be a City Wastewater Treatment Plant, City Water Treatment Plant, Asphalt Plant, Concrete Plant and other compatible uses, where appropriate.

(2) **Development of Limited Industrial Area**

- (a) The general categories of uses shall be identified through the Area Structure Plan process.
- (b) The layout and design of the Industrial Area shall be identified through the Outline Plan/Land Use Amendment process.

8.5 Conservation Study Area

8.5.1 Overview

The Conservation Study Area identifies lands within the Bow River and Pine Creek valleys and other natural systems that may be environmentally significant. These areas form part of an integral natural open space system that has regional significance and importance within the Plan Area and the City overall. The Bow River valley comprises the escarpment, floodway and floodplain lands associated with the Bow River. The Pine Creek valley functions as a strong linkage between the foothills and the Bow River providing both habitat and wildlife movement functions. The highest value wildlife habitats in the Plan Area are found in the Pine Creek valley. The wetland systems (Priddis Slough and Radio Tower Creek) also have a relatively high wildlife value.

The Conservation Study Area is generally identified on the Land Use Concept Map (Map 3) and will be subject to further analysis at the ASP and Outline Plan/Land Use Amendment stages to determine which lands ultimately should be protected.

Subject to this analysis, and where appropriate, the environmentally significant lands identified for protection will be dedicated at the Outline Plan stage as reserve land or otherwise acquired or protected. The wetlands will be subject to the provisions of the City of Calgary *Wetland Conservation Plan*.

8.5.2 Policies

(1) Conservation of Environmentally Significant Lands

- (a) The approach applied to conserving environmentally significant lands shall be further refined through the ASP preparation process and at the Outline Plan/Land Use Amendment application stage. The main components of this approach include:
 - (i) further analysis and refinement of environmentally significant lands and where required, the submission of a Biophysical Impact Analysis (BIA);
 - (ii) the dedication of Environmental Reserve (ER); and
 - (iii) alternative methods of protecting environmentally significant lands such as, but not limited to, MR dedication, provision of conservation easements, density bonusing and/or land acquisition/purchase.
- (b) Further to (a), the protection of wetlands shall be subject to the requirements of the *Wetland Conservation Plan*.
- (c) Lands in the Conservation Study Area that do not qualify as ER or are not acquired for open space purposes through other means shall be deemed to be developable and shall revert to the major surrounding land use policy, e.g. Residential, or Employment/Mixed Use, without the requirement for an amendment to this Plan.
- (d) An Area Structure Plan should provide policy that:
 - (i) identifies lands that are to be dedicated, acquired or otherwise protected within the Plan Area, and
 - (ii) establishes measures and a process for the dedication, acquisition and/or protection of those wetlands in accordance with the *Wetland Conservation Plan*.

Land Use Areas

(2) Protection of Bow River Valley

Where appropriate, portions of the Bow River valley including the floodway and riparian zone as well as the escarpment shall be conserved and protected as a natural open space system and appropriately integrated with urban development in recognition of its significance and importance within the Plan Area and the city. Where appropriate the recommendations of the *Urban Parks Master Plan* shall be implemented.

(3) Protection of Pine Creek Valley

Where appropriate, the Pine Creek valley shall be conserved and protected as an Environmentally Significant Area and appropriately integrated with urban development in recognition of its significance and importance within the Plan Area and the city.

(4) Protection of Natural Wetlands

- (a) Where appropriate, the natural wetlands shall be conserved and protected in accordance with the *Wetland Conservation Plan* and appropriately integrated with urban development in the Plan Area.
- (b) Where appropriate, natural wetlands should be incorporated into the stormwater management system in order for the wetland to remain viable and sustainable over the long term.

(5) Protection of Wildlife Corridors

Where appropriate, wildlife corridors shall be conserved and protected and appropriately integrated with urban development in the Plan Area.

8.6 Transit Oriented Development (TOD)

8.6.1 Overview

TOD creates a high density, pedestrian-oriented, mixed-use environment, in close proximity to LRT stations that is integrated with the surrounding community. Two LRT stations are provided in the Plan Area on the west of Macleod Trail S., with the northerly TOD node providing opportunities for the integration of a Core Commercial Centre, Employment Centre, high density residential development and other community facilities. A framework for TOD will be developed at the ASP stage in accordance with The City's Transit Oriented Development Policy Guidelines.

8.6.2 Policies

(1) Composition of TOD

- (a) TOD shall be developed in accordance with the City of Calgary Transit Oriented Development Policy Guidelines, as amended (December 2005).
- (b) TOD shall include, but not be limited to, high density residential, employment intensive, mixed-use commercial or a combination thereof, and pedestrian oriented design.
- (c) Minimum density requirements for TOD shall be determined at the ASP preparation stage.
- (d) The allocation of residential density within a TOD node should accommodate innovation and allow for flexibility in recognition that different design solutions do exist to meet TOD objectives.

9.0 REGIONAL FACILITIES & SERVICES

9.1 Overview

The Regional Facilities and Services required in the Plan Area are generally identified on the Land Use Concept Map (Map 3). These facilities and services include operational, recreational, institutional, educational and cultural uses that are public or quasi-public in nature that provide a service to the surrounding area. These facilities are required to optimally serve their catchment areas, recognizing that there is flexibility to adjust their location through the ASP preparation process.

9.2 Policies

(1) Regional Facilities & Services Sites

The following Regional Facilities and Services are required in the Plan Area.

- Fire/EMS Station site (2 sites)
- Library site
- Regional Recreation Centre site
- Senior High School site (Public)
- Senior High School site (Separate)
- Athletic Park site
- City Transit Maintenance and Storage site
- City Operations Workplace Centre site
- Water Treatment Plant site
- LRT Station and associated park and ride (2 sites)

(2) Regional Facilities Planning

- (a) The Regional Facilities and Services sites should be generally located as shown on the Land Use Concept Map (Map 3).
- (b) Part 2, Supporting Information, provides an overview of the site requirements and locational criteria for these facilities and services.
- (c) In conjunction with the preparation of an ASP, a regional services analysis should be undertaken for each regional facility to determine its optimal location and size within the Plan Area.
- (d) The location and size of Regional Facilities shall be refined through the preparation of each subsequent ASP.
- (e) The responsibility for final site acquisition to implement these facilities rests with the applicable land acquisition authorities.

10.0 LAND USE CONSTRAINTS

10.1 Overview

Land use constraints consist of prescribed setbacks and use restrictions within these setbacks for the BFI Landfill site and the Pine Creek Wastewater Treatment Plant; potential nuisance impacts from the Inland Aggregate operation and associated uses (asphalt and concrete plant); and development restrictions associated with the Bow River Floodway.

10.2 Policies

(1) Landfill Protection

- (a) The mandatory setback area for the BFI Landfill site as required by the Subdivision and Development Regulation is generally shown on the Land Use Concept Map (Map 3). As part of the ASP process, the boundary and uses for the BFI Landfill setback area shall be refined pursuant to the Subdivision and Development Regulation.
- (b) Additional assessment may be required at the ASP stage to determine the appropriateness of uses within and adjacent to the setback area.

(2) Wastewater Treatment Plant Protection

- (a) The mandatory setback area for Pine Creek Wastewater Treatment Plant as required by the Subdivision and Development Regulation is generally shown on the Land Use Constraints Map in Part 2, Supporting Information. As part of the ASP process, the boundary and uses for the Pine Creek Wastewater Treatment Plant setback area shall be refined pursuant to the Subdivision and Development Regulation.
- (b) Additional assessment may be required at the ASP stage to determine the appropriateness of uses within and adjacent to the setback area.

(3) Aggregate Resource Protection

- (a) This Plan acknowledges the on-going aggregate resource extraction operation and associated uses (asphalt plant and concrete plant) located on the Lehigh Inland aggregate operations site in the Bow River valley.
- (b) The associated asphalt plant and concrete plant shall be relocated to the Limited Industrial Area prior to the termination of the aggregate resource extraction operation.

Land Use Constraints

- (c) At the ASP preparation stage, policies shall be considered that address the impact and interface between the on-going resource extraction operation and adjacent residential development.

(4) Floodway Protection

- (a) At the ASP preparation stage, policies shall be developed that address the development restrictions within the Bow River floodway.
- (b) Lands within the floodway shall be incorporated as part of the public open space and natural corridor system.

(5) Archaeological Resource Protection

Archaeological sites within the Plan Area shall require further assessment and evaluation at the Land Use Redesignation stage to determine their significance for protection.

11.0 UTILITY SERVICES

11.1 Overview

The Plan Area will be serviced with water and sewer infrastructure and stormwater management facilities to facilitate development. Shallow utilities will be provided by the shallow utility providers. Trunk sewer lines will be extended from the Pine Creek Wastewater Treatment Plant to service the Plan Area. Water feeder mains will be extended south from Midnapore into the Plan Area. The draft Pine Creek Drainage Study (2006) has suggested new sustainable initiatives for stormwater management in the Plan Area. These initiatives are expected to be incorporated as subsequent ASP policy and/or stormwater management strategies at the Outline Plan/Land Use Amendment stage.

11.2 Policies

(1) Utility Servicing

A servicing analysis to determine the type, alignment and capacity of the municipal utilities required to support urban development for the Plan Area shall be undertaken through the ASP preparation process.

(2) Stormwater Management

- (a) Stormwater servicing, and the potential use of wetlands as a stormwater management tool, will be analyzed in further detail at the ASP preparation process, including the identification, and manner of use, of specific wetlands for stormwater retention.
- (b) The consideration of source control Best Management Practices (BMP) and Low Impact Development (LID) measures shall be applied in developing innovative storm water management solutions.
- (c) Stormwater servicing should be resolved in consultation with the affected landowners of the area at such time as the appropriate studies necessary to formulate a comprehensive approach to stormwater management (Master Drainage Plan) is completed.

12.0 DEFINITIONS

Approving Authority means the Subdivision Authority, Development Authority or Subdivision and Development Appeal Board of The City of Calgary, as the case may be.

Bikeway means a signed on-street bicycle route.

Calgary Planning Commission means the Calgary Municipal Planning Commission constituted pursuant to the Municipal Planning Commission Bylaw.

Community means a logical physical and social planning area, which is predominantly residential in character, defined by significant natural or man-made features and containing an adequate population base to support schools, parks and community facilities necessary to serve the residents.

Comprehensive Planning Area means an area surrounding the Core Commercial Area that will require the preparation of an overall comprehensive Concept Plan as part of the approval process. The Comprehensive Planning Area addresses the land use pattern, road network, servicing system, open space allocation, design concepts and other matters considered necessary to the development of a Core Commercial area.

Core Commercial Area means a neighbourhood or sector commercial centre that functions as an integrated shopping, working and living area for the community. It is characterized by a convenient location, a retail area developed in conjunction with multi-dwelling residential uses, a pedestrian-oriented component forming an integral part of its overall design, strong pedestrian connections to the balance of the community, transit service provided to serve the development and, if appropriate, institutional, recreational, community and other complementary uses.

Council means the Council of The City of Calgary.

Employment/Mixed-Use Area means a comprehensively planned, mixed-use development that is anchored by a strong employment base, consisting of offices and other businesses with a high job to floorspace ratio, and includes:

- (i) A pedestrian-oriented road network that promotes walking and transit use;
- (ii) A concentration of residential development;
- (iii) Efficient and accessible rapid transit service;
- (iv) Amenities that enhance and promote social interaction and recreational pursuits; and
- (v) Public facilities that complement the function of the centre.

Environmentally Significant Area means a natural area which, because of its features or characteristics, is significant from an environmental perspective to Calgary, and has the potential to remain viable within an urban environment.

Gateway Commercial Area means a sector or regional-scale centre that is located on the periphery of the community that complements and does not compromise, compete or detract from the function of a Core Commercial Area.

Gross Developable Area means the total area of a specific parcel that is being subdivided and includes public roads, creditable reserve land and public utility lots, but excludes land purchase areas for interchanges or other municipal projects, commercial sites exceeding 4.0 hectares in size, environmental reserve land, and any other lands normally excluded from the gross developable area calculation at the subdivision approval stage.

Net Developable Area means the total area of a specific parcel that is being developed.

Regional Roads means freeway, expressway and major roads bordering and intersecting the Plan Area, that accommodate through traffic flows and includes Highway 22x (Spruce Meadows Way SW), Macleod Trail South, 194th Avenue South, and 212th Avenue South.

Transit Oriented Development (TOD) means a walkable, mixed-use form of development typically focused within a 600m radius of a Transit Station. Successful TOD provides a mix of land uses and densities that create a convenient, interesting and vibrant community for local residents and visitors alike.



Part 2

Supporting Information



South Macleod Trail Regional Policy Plan



PART 2
SOUTH MACLEOD TRAIL
REGIONAL POLICY PLAN
SUPPORTING INFORMATION

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1.0 PLAN AREA

1.1 Location

The South Macleod Trail Planning Area is located in the south sector of the city and comprises approximately 2,289 hectares (5,656 acres) of land (Map A). The area is situated south of the communities of Silverado and Chaparral and is bounded by 194 Avenue on the north, Spruce Meadows Way and the city limit on the west, the Bow River on the east, and the city limit on the south. The lands within the planning area are contained in Township 22, Range 1, West of the 5th Meridian comprising all or portions of Sections 10, 11, 12, 13, 14, 15, 16 and 24; and Township 22, Range 29, West of the 4th Meridian comprising all or portions of Sections 7, 8, 9, 17 and 18.

1.2 Historical Context

The South Macleod Trail Planning Area was annexed to the City from the Municipal District of Foothills in 2005 by way of Order In Council 52/2005.

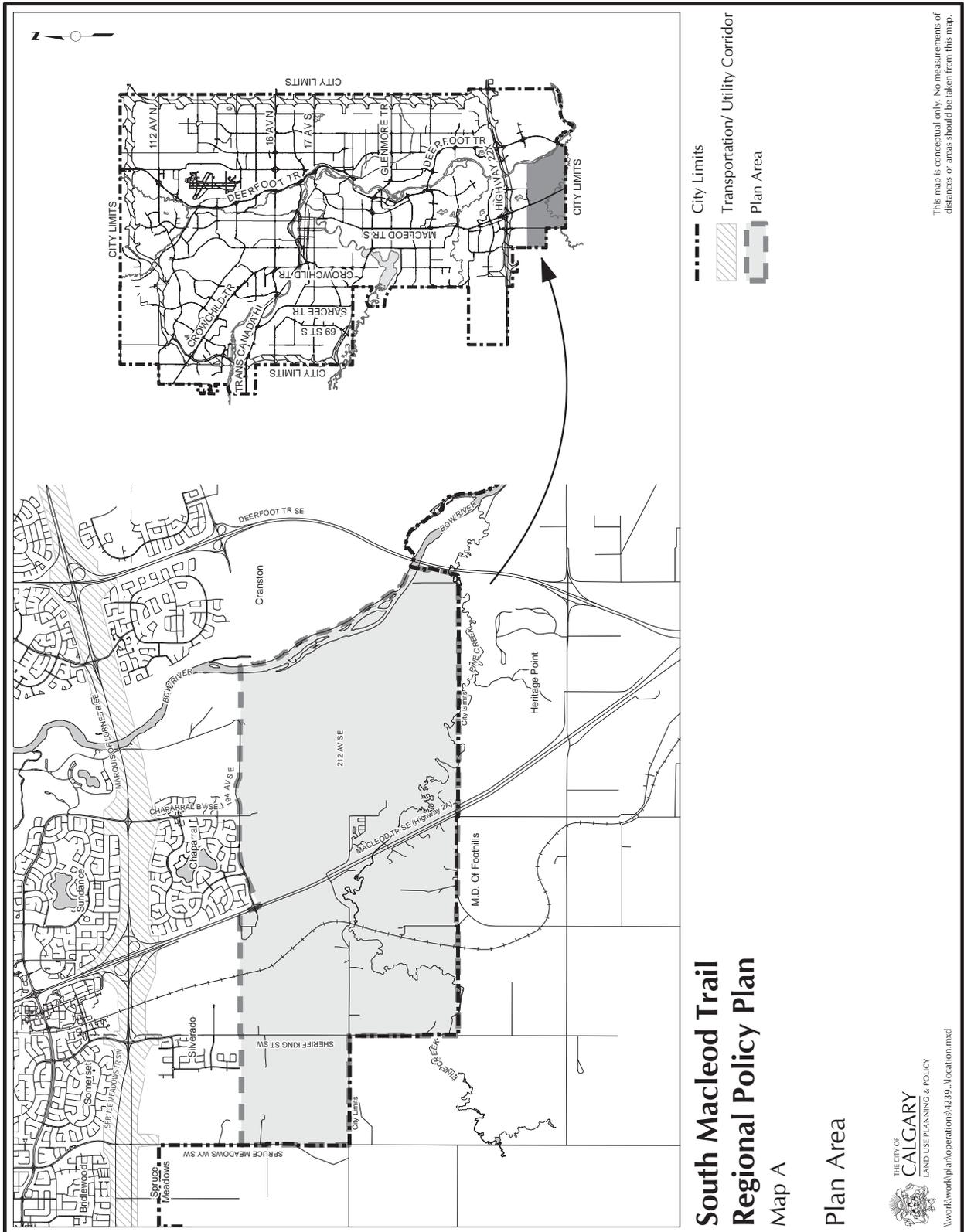
1.3 Existing Land Uses

The predominant land use in the South Macleod Planning Area is agriculture. Other land uses include the BFI Landfill site and inland gravel mining operation in the northeast, the future Pine Creek Wastewater Treatment Plant in the south east, a municipally owned cemetery, a municipal maintenance yard on the west side of Macleod Trail, a private campground and a country residential area in the south on the west side of Macleod Trail. Land within the Planning Area is designated Urban Reserve (UR) under Land Use Bylaw No. 2P80, with the exception of the Pine Creek Wastewater Treatment Plant site which is designated Public Service District (PS) and the Inland Concrete site which is designated Direct Control (DC).

1.4 Adjacent Land Uses

Lands to the north and east are in the City of Calgary. The residential communities of Silverado and Chaparral, a privately owned golf course and Fish Creek Park are located immediately north of the Planning Area. Lands to the east include the residential community of Cranston and the Deerfoot Trail (Highway 2) extension. Lands to the south and west are in the M.D. of Foothills and include a combination of agricultural and country residential uses. The country residential communities of Heritage Pointe and Pine Creek Ranch are located immediately south of the Plan Area on the east side of Macleod Trail (Highway 2). A privately owned golf course is located to the south west and Spruce Meadows is located to the northwest.

Map A: Plan Area



2.0 POLICY FRAMEWORK

2.1 Policy Considerations

In undertaking research for the South Macleod Trail Regional Plan, a wide range of existing plans and policies have been reviewed and considered.

The City's Triple Bottom Line Policy Framework Update, published in April, 2006, speaks to the importance and viability of Economic, Environmental, Social and Integrated Policies. In undertaking this recent study, a number of policies were reviewed. These are listed herewith:

- Access Design Guidelines. 2002.
- Acquisition of Affordable Housing Lands for Municipal Purposes Policy. 2005.*
- Affordable Housing Implementation Plan. 2003.
- Affordable Housing Strategy. 2002.
- Asset Management Strategy. 2003.*
- Calgary Municipal Development Plan (Calgary Plan). 1998.
- Calgary Sister Cities (Selection and Evaluation Processes). 1995.
- Calgary Transportation Plan. 1995.
- Civic Arts Policy. 2004.*
- Civic Partnerships, Guide to Policy & Administration. 2002.
- Civic Sport Policy. 2005.*
- Community Association Policy Framework. 2003.
- Corporate Accessibility Policy. 2005.
- Corporate Workplace Framework. 2003.*
- Employment Centre Strategy. 1998.
- Engage! Policy. 2003.
- Environmental Development Review Policy. 2006.*
- Environmental Policy. 2001.
- FCSS Funding Policy for Community Resource Centres. 2004.*
- General Planning Criteria for Special Care Facilities in Residential Areas.
- Industrial Land Strategy. 2004.*
- Integrated Risk Management Policy. 2004.*
- Open Space Plan. 2002.
- Parks & Recreation Policies and Priorities Manual.
- Pathway and Bikeway Plan. 2000.
- Performance Measures Framework. 2005.*
- Policy for Utility Extensions Beyond The City's Boundaries. 1992.*

- Public Art Policy. 2004.*
 - A Summary of the Report of the Royal Commission on Aboriginal Peoples. 1999.
 - Stormwater Management Strategy. 2006.*
 - Sustainable Building Policy. 2004.
 - Sustainable Suburbs Study. 1995.
 - Traffic Calming Policy. 2003.
 - Transit Friendly Design Guidelines. 1996.
 - Transit-Oriented Development Policy Guidelines. 2004.*
 - Triple Bottom Line Policy. 2005.*
 - Urban Parks Master Plan. 1994.
 - Waste and Recycling Services – Calgary’s Journey: Past, Present and Future. 2003.
 - Water Efficiency Plan. 2006.*
 - Wetlands Conservation Plan. 2003.
- * Policies reviewed for the 2006 update.

The recognition of the City-wide policy directives in these documents establishes a context for the Plan. In writing the Policy Direction, these policies and plans are incorporated through the Triple Bottom Line Policy Framework Update and through the identification of key policy documents. At this level of planning, i.e. regional planning, special attention has been given to those over-arching documents that are all-encompassing, or particularly relevant to this study area, specifically, those documents listed below, as well as “The Mayor’s Perspective on Effectively Positioning Calgary to be a Sustainable Community in a Sustainable Region, dated 21 March 2006” and “Council’s Sustainable Principles” approved in January 2007:

- Calgary Municipal Development Plan (Calgary Plan). 1998.
- Intermunicipal Development Plan. 1998.
- Triple Bottom Line Policy. 2005.
- Sustainable Suburbs Study. 1995.
- Transit-Oriented Development Policy Guidelines. 2004.
- Transit Friendly Design Guidelines. 1996.
- Employment Centre Strategy. 1998.
- Calgary Transportation Plan. 1995.
- Urban Parks Master Plan. 1994.
- Wetlands Conservation Plan. 2003.
- imagineCALGARY. 2006.
- Council’s Sustainability Principles. 2007.

2.2 Municipal Development Plan (The Calgary Plan)

The Municipal Development Plan sets out a direction and strategy to guide future growth and development within The City of Calgary. It provides a broad framework that facilitates the coordination of more detailed plans and policies, as well as programs and capital investments designed to meet many of the obligations of local government. The Municipal Development Plan is the cornerstone of Calgary’s long term sustainable growth strategy.

The Municipal Development Plan identifies the Plan Area as “Under Policy Review”. The South Macleod Trail Regional Policy Plan will provide the basis for an amendment to the Municipal Development Plan to identify a general land use framework for the Plan Area.

Some of the major objectives of the MDP, which this Regional Policy Plan incorporates, are:

- To integrate social, economic and environmental objectives into a coordinated decision making process;
- To ensure that principles of sustainable development and environmental sensitivity are embodied in all planning decisions;
- To protect regional watersheds and environmentally significant areas;
- To provide opportunities for locating housing development closer to where jobs are located and to support alternative travel modes and shorter vehicle trips between home and work;
- To accommodate a mix of compatible land uses in new residential suburbs within comfortable walking distance of each other;
- To design new residential communities to support and encourage more journeys by walking, transit or cycling;
- To encourage the design of pedestrian and transit-friendly community and neighbourhood centres in new suburbs.

2.3 Intermunicipal Development Plan

The Municipal District of Foothills and City of Calgary jointly adopted an Intermunicipal Development Plan, which provides policies on areas of mutual interest. The South Macleod Plan Area is identified as a Primary Urban Growth Corridor in the Intermunicipal Development Plan. With the recent annexation of a portion of the Urban Growth Corridor into the City, the Intermunicipal Development Plan will be amended to recognize this area as part of the City’s Urban Development Area.

2.4 Triple Bottom Line and Sustainable Development

The Triple Bottom Line (TBL) is an approach to decision making that addresses economic, environmental and social issues in a comprehensive and integrated manner. Calgary's Triple Bottom Line Policy directs that The City will use TBL to incorporate sustainable development principles and consider the environmental, social, economic and smart growth impacts of all its decisions with regard to planning, policy strategies, services, operations, approvals and all other City business. As such, the goals of the Plan have been formulated to reflect these TBL and smart growth directives. Council has stated that an over arching principle of the Council Priorities planning process is to "emphasise that taking a Triple Bottom Line (TBL) approach underlies two strategies and actions" (January 2005). The TBL policy applies, among others, to the decisions The City makes that affect the public and public policy, including land use planning and approvals and budgeting/fiscal policy.

Relating to:

- (a) Economic Policies, Council will encourage and promote economic development activities that contribute to Calgary's long-term prosperity.
- (b) Environmental Policies, Council will provide the leadership to conserve, protect, improve and sustain Calgary's environment for the benefit of all citizens of this region, now and in the future.
- (c) Social Policies, Council will work toward a safe, inclusive community for all Calgarians, one that responds to the needs of its vulnerable and disadvantaged citizens, and where diversity is embraced and valued as a community asset.
- (d) Smart Growth Policies, Council will respond to Calgarians' desire for accessible, affordable, and appealing communities that have a mix of housing, jobs, shops, parks, and open spaces, connected by a well-planned, integrated transportation system.

The idea of "Smart Growth" is used to help describe the integrated policies, as the main objective of Smart Growth is to develop communities that are more sustainable. This means communities that use fewer resources like land and energy, are less dependent on the automobile and are more affordable because they require less infrastructure.

This Plan aims to uphold these Council commitments for their approval.

2.5 Sustainable Suburbs Study

The Sustainable Suburbs Study provides policy direction and guidelines for creating communities that are characterized by economically, socially and environmentally sustainable development.

These strategies will be incorporated into each individual community as part of the more detailed planning processes, including ASPs and Outline Plans. The major sustainable community elements to be considered in the Plan include:

- Protecting natural areas;
- Creating distinct community identities;
- Providing a wide choice of housing types and price ranges;
- Creating safe pedestrian- and cycle-friendly streets;
- Including a mix of residential, public and commercial uses;
- Locating community and local retail uses within walking distance of homes;
- Providing a range of employment opportunities;
- Providing a public transit system that provides a viable option to the car, particularly for the journey to work;
- Integrating the regional pathway system with open space and activity centres.

2.6 Transit Oriented Development Guidelines

The extension of the Southwest LRT line into the Plan Area provides the opportunity to integrate two LRT stations into ASP policies. While details will be worked out at the individual ASP and/or Outline Plan stages, broad policy direction has been provided in the Plan with respect to the six objectives of the Transit Oriented Development Guidelines. These objectives listed below will be considered for lands lying within 600 metres of the two new LRT stations:

- Ensuring transit supportive land uses;
- Increasing density around transit stations;
- Creating pedestrian-oriented design;
- Making each station area a “place”;
- Managing parking, bus and vehicular traffic;
- Planning in the context of local communities.

2.7 Transit Friendly Design Guidelines

These guidelines acknowledge that effective transit is one of the major components of a successful community. The following principles summarize techniques that contribute to transit friendly development and that are incorporated into the Plan:

- Provide appropriate community densities;
- Minimize walking distance;
- Provide mixed land uses;
- Organise density, land use and buildings to benefit from transit;
- Create a pedestrian friendly environment;
- Route transit into the community;
- Reduce transit travel time;
- Build quality, user friendly transit facilities.

2.8 Employment Centre Strategy

The principles and policies of the Employment Centre Strategy are applicable to this study area, as a potential employment centre has been identified. The City's involvement in supporting employment centres has three possible levels of implementation:

- laying the ground work for action – through planning and policy initiatives;
- supporting market initiatives – working with landowners;
- proactive city initiatives – leveraging city assets to ensure employment centres remain a viable option in the long term.

2.9 Calgary Transportation Plan

Public input on values important to transportation were used to develop the goals of the Transportation Plan. The goals identified the Plan include the follow:

- Facilitate Calgarians' need for travel in a safe and secure manner;
- Provide a transportation system which offers a choice between various modes of travel;
- Ensure reasonable accessibility to all areas of the city for all citizens;
- Facilitate the movement of goods and services throughout Calgary;
- Develop and manage the transportation system through a comprehensive process of consultation;
- Make compatible decisions about land use and transportation systems;
- Provide transportation services which enhance the quality of our living environment and natural amenities;
- Provide transportation services in an effective, affordable and efficient manner;
- Manage transportation services in a manner that promotes user pay concepts;
- Provide transportation services on the basis of the collective interests of all Calgarians, while being conscious of the interests of individuals.

These goals have been considered and incorporated in the regional planning document.

2.10 Urban Parks Master Plan

The primary goal of the Urban Parks Master Plan is to establish open space systems to ensure that urban populations have easy access to natural environments and the development of these areas enable their sustained and unimpaired use for outdoor recreation. The key objectives of the Plan include the following:

- To provide for a variety of outdoor recreation opportunities;
- To allow people of all incomes to participate in these opportunities;
- To have easy accessibility to surrounding urban areas;
- To preserve natural landscape features and provide recreational facilities in harmony with these features.

2.11 imagineCALGARY

imagineCALGARY is a City led, community owned initiative to create a long range vision for a sustainable Calgary and 30 year targets and strategies toward the vision that included 18,000 respondents. With this number of responses, imagineCALGARY has achieved one of the largest scale citizen involvements in a visioning process to occur in any city, anywhere in the world. This Plan intends to incorporate this collaborative visions and targets insofar as possible. The principles and goals of imagineCALGARY have been addressed through the policies of this Plan, in particular through the targets outlined and published on the website in June 2006.

“The Mayor’s Perspective on Effectively Positioning Calgary to be a Sustainable Community in a Sustainable Region, dated 21 March 2006” directs the Administration to work with the Mayor’s Office to develop a communications plan to convey Council’s 5 Point Action Plan, as follows, within the context of Council’s Priorities for 2006-2008 and Council’s emerging Intergovernmental Affairs Strategy:

- Re-align policies to imagineCALGARY;
- Promote greater intensification;
- Remain competitive for development;
- Update pricing policies for external customers; and
- Support sustainable regional development.

As the first bullet above indicates, policies are to be re-aligned to imagineCALGARY. Council has also endorsed the Melbourne Principles as a set of sustainability principles for cities, and they are foundational to the imagineCALGARY process.

2.12 Sustainability Principles

In January 2007, Calgary City Council approved the following Sustainability Principles to provide direction and create a “made-in-Calgary” approach to the broadly recognized Smart Growth principles. These principles have been included in the Plan and create the basis for the vision, goals and policy direction for South Macleod.

Principle 1: Create a range of housing opportunities and choices

Provide a mix of housing types and ownerships, in the same neighbourhood, to allow residents to live affordably in the same community throughout their lives. A mix of housing creates a more adaptable and resilient community fabric as it is able to respond to demographic changes such as aging populations, empty nesters and smaller households.

Principle 2: Create walkable environments

Create pedestrian-friendly environments with an interconnected street network to ensure walkable access to commercial and public services and amenities. Streets and arterials are designed for walking, cycling, transit access and cars. Neighbourhoods are sufficiently compact with mixed uses to provide sustained transit service.

Principle 3: Foster distinctive, attractive communities with a strong sense of place

Create distinctive, high quality communities designed with architectural and natural elements that reflect local conditions and the values of the residents.

Principle 4: Provide a variety of transportation options

Couple a multi-modal approach to transportation with supportive development patterns to create a variety of transportation options. This includes; increasing the availability of high quality transit service, creating resiliency and connectivity within the road networks and ensuring connectivity between pedestrian, bike, transit and road facilities.

Principle 5: Preserve open space, agricultural land, natural beauty and critical environmental areas

Maintain and restore ecosystem functions. Respect the natural functions of the landscape, particularly working agricultural land, watersheds and aquatic habitats. Design communities to integrate natural systems with human activities, placing high value on community access to natural systems and parks.

Principle 6: Mix land uses

Mix land use by having homes, businesses, schools and recreational opportunities in closer proximity. This will provide the opportunity for alternatives to driving such as walking and biking while increasing transit viability. This can also enhance the vitality and perceived security of an area by increasing the number of people on the street. Mixed land use is key to achieving more complete communities.

Principle 7: Strategically direct and manage redevelopment opportunities within existing areas

Direct redevelopment towards and within existing areas to create and enhance places in existing communities, while preserving stable areas and valuing existing community context. Strategic intensification makes more efficient use of existing infrastructure and increases transit efficiency.

Principle 8: Support compact development

Compact development supports transit viability and modes of travel other than the automobile. It also allows for the preservation of open space and more efficient use of infrastructure.

Principle 9: Connect people, goods and services locally, regionally and globally

Connectivity of all modes of transportation locally, regionally and globally, ensures a more effective and efficient transportation system for people, goods and services.

Principle 10: Provide transportation services in a safe, effective, affordable and efficient manner that ensures reasonable accessibility to all areas of the city for all citizens

Transportation services and infrastructure should be delivered in a cost-effective and energy efficient manner. The transportation system should provide citizens with safe, barrier-free access to services that supply reasonable access to all areas of the city. Optimally designed and operated transportation systems help to improve the quality of life for citizens, support economic development and protect environmental health.

Principle 11: Utilize green infrastructure and buildings

Utilizing the ecological services provided by the environment will reduce community and environmental impacts as well as private, public, and taxpayer costs of development and infrastructure. Green infrastructure can include energy solutions such as co-generation or renewable energy and water solutions such as stormwater retention and recharge. Green buildings including but not limited to externally certified standards such as LEED (Leading in Energy and Environmental Design), BOMA Go Green for commercial buildings and Built Green™ for residential applications.

Land Ownership

3.0 LAND OWNERSHIP

3.1 Ownership Pattern

The land ownership pattern within the Plan Area is illustrated on Map B and described within Table 1.

Table 1: Ownership By Area

OWNER	AREA (Ha*)	AREA (Ac*)	% OF TOTAL
Private	590.96	1460.28	28.4
Lehigh Cement Ltd.	204.26	504.80	9.8
West Pine Creek Dev. Ltd.	371.03	916.83	17.8
1124294 Alberta Ltd.	225.71	557.73	10.9
MacLeod Farming and Ranching	129.29	319.49	6.2
City of Calgary	134.92	333.39	6.5
B.F.I. Canada Inc.	95.70	236.47	4.6
Bow Riverside Dev. Ltd.	62.88	155.39	3.0
IKO Sales Ltd.	51.69	127.72	2.5
E.T. Equities Inc.	48.56	119.99	2.3
P. Burns Resources Ltd.	11.60	28.67	0.6
Halls Feed and Grain Ltd.	37.55	92.79	1.8
1199274 Alberta Ltd.	11.82	29.19	0.6
Kirkell Holdings	3.48	8.6	0.2
H.R.H. The Queen	11.20	27.67	0.5
1204248 Alberta Ltd.	8.40	20.75	0.4
1207541 Alberta Ltd.	9.44	23.32	0.5
376101 Alberta Ltd.	3.84	9.50	0.2
Calgary and Edmonton Railway Company	1.24	3.06	0.06
C.P.R	0.32	0.78	0.02
Lin-El Enterprises Ltd.	45.31	111.96	2.2
M.D. of Foothills	0.96	2.38	0.1
Untitled Parcel	16.07	39.71	0.8
Canadian conference of the Mennonite Brethren Church of North America	4.81	11.88	0.2
TOTAL	2081.04	5142.36	100%

Note: *areas are approximate only

4.0 LAND FORM AND NATURAL AREAS

4.1 Topography

The terrain slopes downward from west to east from a ridge in the western part of the Plan Area (Map C). The Bow River valley is the dominant topographic feature east of Macleod Trail (Highway 2), with a parallel escarpment averaging about 40 metres in height. The Pine Creek valley is a deep ravine system that meanders through the south part of the Plan Area, connecting to the Bow River just southeast of the Plan Area. Two shallow valleys bisecting the area in a northwest direction with connections to the Pine Creek valley contain wetlands.

4.2 Climate

The Plan Area falls within the Foothills Fescue subregion of the Grasslands Natural Region (Alberta Sustainable Resources Development 2005) and is strongly influenced by warm Chinook winds.

The mean annual precipitation in the Calgary area averages about 500mm. Precipitation levels are generally the lowest in late summer and early fall. Typically the greater snow fall occurs in late winter and early spring. The mean annual temperature is 3 degrees Celsius and the mean May-September temperature ranges from 11 to 13 degrees.

4.3 Hydrology

Drainage in the Plan Area consists of Pine Creek and several unnamed tributaries, Radio Tower Creek and the Priddis Slough. Radio Tower Creek and the Priddis Slough drain into Pine Creek which in turn drains into the Bow River to the east of the Plan Area (Jacques Whitford, 2005)¹. The Priddis Slough is a permanent prairie wetland that is subject to a recurring cycle of wet and dry states. Radio Tower Creek Wetland is a semi-permanent wetland (Class IV) that is subject to a recurring cycle of wet and dry states (City of Calgary 2004).

Map C: Aerial Photo



4.4 Geology

The Plan Area is underlain by bedrock of the Tertiary Porcupine Hills Formation and the Tertiary-Cretaceous Paskapoo Formation (Borneuf, 1980 in Whitford, 2005). The Porcupine Hills Formation consists of non-marine pale grey, thick-bedded, cherty calcareous sandstone and non-marine pale grey calcareous mudstone. The Paskapoo Formation consists of non-marine, thick-bedded, calcareous cherty sandstone, siltstone, and mudstone, with minor layers of conglomerate, limestone, coal and tuft beds (Whitford, 2005).

The bedrock topographic configuration is very similar to, although lower than, the ground topography for the area of the Priddis Hills district. There are three bedrock valleys indicated. One extends from west to east under Priddis Slough. An additional bedrock valley occurs in the area of Priddis Hills district under Pine Creek.

Within the Lower Bow Valley district, the surficial geology consists largely of silt and sand in some areas, as identified through the Jacques Whitford study (2005). See Table 2 below:

Table 2: Geology

AREA*	DISTRICT	OVERLYING	UNDERLYING
1	Lower Bow Valley	Silt	Gravel and Minor Sand
2	Lower Bow Valley	Sand and Silt	Pebble Loam (till)
3	Lloyd Lake	Pebble Loam of the Blazac Drift	Sandstone and Siltstone (bedrock)
4	<i>Area 4 is west of RPP Study Area</i>		
5	Pine Creek and Priddis Slough	Comprises silt, sand, clay and organic sediment	
Note: * As defined in the Jacques Whitford (2005) study			

Anthropogenic (human induced) landforms include significantly disturbed areas such as roadways, railways, industrial and commercial properties and gravel extraction operations. Fluvial landforms are the result of erosional and depositional processes by rivers and creeks. In this case, fluvial forms were largely characterized by ravine slopes and banks, and fluvial channel deposits.

Glaciofluvial landforms were created by stream down-cutting during late glacial and post-glacial times and re-working of sediments by glacial streams. The deposits are generally coarse textured and include gravel, sandy gravel, sand and sandy loam. Within the Plan Area, four categories of glaciofluvial landforms were recognized:

- Glaciofluvial Terrace and Bank Deposits;
- Glaciofluvial Veneer Deposits Overlying Moraine;
- Glaciofluvial Blanket Deposits Overlying Moraine;
- Glaciofluvial Outwash and Ice-Contact Deposits.

Glaciolacustrine sediments were deposited mainly in proglacial lakes that formed where meltwater was trapped between the margins of retreating glaciers and the regional slope. Within the Plan Area, such deposits were found in the upper Pine Creek area and east of Lloyd Lake.

Morainal, or till deposits, occur in the western and central portions of the Plan Area. Till deposits within the Plan Area are derived from glaciers that advanced from several different source areas. The western portion of the Plan Area, west of Radio Tower Creek, is dominated by rolling to inclined till blanketed bedrock highs, surrounded by gently sloping ground moraine. The area east of Radio Tower Creek is commonly overlined by a fine silty, strongly calcareous Aeolian veneer.

A number of small ponds, remnant river channels and ephemeral and permanent wetlands occur sporadically throughout the plan Area. The two most predominant wetlands in the Plan Area are Radio Tower Creek and Priddis Slough. In addition, a number of small ephemeral wetlands occur throughout the area, most of which are significantly impacted by cultivated or livestock grazing.

4.5 Soils

Upland soils in the Plan Area are primarily classified as Orthic Black Chernozems, while lowland soils in, and adjacent to, wetlands are classified as Rego Humic Gleysols (carbonate phase). Orthic Black Chernozemic soils are further described as generally well drained, black grassland soils formed on strongly calcareous tills and glaciofluvial outwash gravels. Gleysolic soils are poorly drained, calcareous, depressional soils formed on recent slough deposits and overlying till and glaciofluvial deposits (ibid.).

4.6 Hydrogeology

Borneuff (1980) states that two sets of water levels exist for the region, one set for the drift and one set for the bedrock. The drift wells have shallow water levels and the bedrock wells have deeper water levels. This suggests that a downward gradient exists from the drift to the bedrock. Borneuff also states that the drift and bedrock sediments have water level trends that show the influence of surface topography, with groundwater movement towards the streams and rivers.

4.7 Natural Habitat

Natural areas east of Macleod Trail including Pine Creek valley and the south facing grassland slopes contain rare plants and deer movement routes and are significant natural features. Additional natural features include a remnant patch of aspen forest (17 ha) located southeast of the Pine Creek Campground and a shrub dominated escarpment west of the Bow River, which receives frequent use by a variety of wildlife species.

4.7.1 Vegetation

A large proportion of the Plan Area comprises grassland dominated vegetation (46%). Within these areas, a small proportion supports undisturbed native grassland communities. The majority of non-cultivate grassland is utilized as pasture land and comprises “mixed grassland” because of the high proportion of non-native species.

Following grassland, cover types classified as anthropogenic are rather dominant in the Plan Area, largely comprised of agricultural and also country residential/ rural development. The remainder of the Plan Area proportionately comprises tree dominated land, shrub dominated land, wetlands and water, respectively.

4.7.2 Wildlife

Higher quality wildlife habitats exist in remnant patches distributed along the Pine Creek valley and adjacent hillsides where there are fewer disturbances. Pine Creek is the primary wildlife corridor with the Pine Creek valley holding the highest value wildlife habitats within the Plan Area. According to the Jacques Whitford report (October 2005), the Pine Creek valley should be designated as an Environmentally Significant Area (ESA). Pine Creek and its tributaries, functioning as the linear corridors serve several functions:

- maintaining local and regional connectivity by maintaining the integrity of the Pine Creek valley, connecting the foothills and the Bow River;
- providing habitat and wildlife movement corridors.

Radio Tower Creek and Priddis Slough also hold relatively high wildlife values, particularly for fall-staging waterfowl and should be represented in a regional network of wildlife reserves or ESA.

The wetlands may not function as a major seasonal travel corridor due to the effective cul-de-sac at 22X. However there is evidence of some northward movement at this point. Seasonal wildlife movement seems to be primarily through the Pine Creek valley. Wildlife mortality data suggests a wildlife underpass or overpass should be considered to reduce cumulative effects on deer movement patterns. A wildlife crossing structure situated between the proposed 212th Avenue interchange and where the Pine Creek crosses Macleod Trail (Hwy 2A) would help maintain deer movement between the foothills and the Bow River. Further, wildlife crossing structures should be considered where the proposed Sarcee Trail crosses Radio Tower Creek and Pine Creek, to maintain wildlife movement patterns. The Priddis Slough valley and Pine Creek valley are expected to become more important wildlife movement corridors as the surrounding uplands are developed.

5.0 ENVIRONMENTALLY SIGNIFICANT AREAS

5.1 Evaluation of Environmentally Significant Areas

An Environmentally Significant Area (ESA) is defined as a natural area which, due to its features or characteristics, is considered to be significant from an environmental or habitat perspective and has the potential to remain viable within an urban environment. A site is considered to be Environmentally Significant on the basis of meeting one or all of the following criteria (as indicated in Appendix C: *Open Space Plan*):

1. *Quality of biotic community*: The plant or animal community exhibits high quality (in the sense of minimal disturbance) and/or relatively high species diversity for that habitat type.
2. *Ecological Function-Natural*: The area is important for the healthy maintenance of a natural system beyond its boundaries by helping to maintain diversity and/or act as a staging area or corridor for wildlife within the system.
3. *Distinctive or unusual landform*: The area has distinct and/or unique land forms that are unique or uncommon in the region.
4. *Uniqueness*: The habitat or ecosystem component has limited representation within the municipality and/or provides representative habitat for wildlife of recognized importance.

These criteria were initially used to rate each ecosite (vegetation) polygon according to its environmental significance within the Plan Area, for the Jacques Whitford (2005) study. Where appropriate, these initial ratings were adjusted to account for existing land uses (e.g. grazing), proximity to existing human disturbances (e.g. roads, campgrounds) and polygon size to produce a final ESA rating.

Overall, the assessment indicated that most of the areas rated as high environmental significance occur within Radio Tower Creek and the Priddis Slough as well as portions of the Pine Creek watershed. These areas typically contain vegetation communities or landform features that are considered relatively rare (e.g. escarpments, patches of native grassland) and/or have high wildlife values in the region (cattail marsh, coniferous forests). Other areas rated as moderate had some unique features relative to the immediate surrounding landscape such as remnant patches of forest. The Jacques-Whitford study (2005) noted that although remnant patches of trees, particularly those identified on IKO/Genstar and West Pine Creek properties may be considered for retention, they are not included as part of the open space plan due to their isolation from the core areas of wildlife activity (i.e. Pine Creek valley).

5.2 Identification of Environmentally Significant Areas (ESA)

Calgary Parks has conducted a preliminary ESA assessment of the Plan Area, including an inventory of wetlands, shown on Map D. At the Area Structure Plan (ASP) preparation stage a refined ESA assessment will be prepared for each ASP area.



The Jacques Whitford study (2005) identifies the Plan Area as containing linear corridors and remnant habitat patches. The three main areas of interest include Radio Tower Creek, Priddis Slough valley and Pine Creek and its tributaries.

5.2.1 Wetlands

Wetlands within the Plan Area were classified² based on their vegetation communities. Vegetation classification systems are based on dominant and characteristic plant species' composition and structure. The two most prominent wetland areas in the study are the Radio Tower Creek wetland and Priddis Slough. There are a total of 31 wetlands representing 124.2 hectares in the study area. As a semi-permanent pond or lake, Radio Tower Creek is a Class IV wetland. As a permanent pond or lake, the northern portion of Priddis slough is a Class V wetland and the southern portion is made up of Class II and Class III wetlands (temporary ponds and seasonal ponds and lakes). The vegetation in all the wetlands comprises largely of poorly drained graminoids. Cattail Marsh occurs only in Radio Tower Creek.

(i) Class I - Ephemeral Ponds: Wetland-low-prairie zone.

In certain types of basin wetlands, low-prairie vegetation may occupy the central area of a pond. Occasionally, in deeper ponds and lakes with other zones, a narrow border of surrounding low prairie is inundated during unusually high water. Because of the porous condition of the soil in this vegetational zone, the rate of bottom seepage is very rapid. As a result, surface water ordinarily is maintained for only a brief period in the early spring before the bottom ice seal disappears. Measurements of specific conductance (micromhos/cm³) of surface water in low-prairie plant associations in central areas of pond basins indicate that these species are characteristic of fresh water.

In natural untilled low-prairie zones, a normal emergent phase, with low-prairie plants, occurs regularly. Occasionally in the early spring, when water levels rise above the tops of low-prairie plants, an open-water phase without submerged aquatic plants develops. Under agricultural use, the cropland tillage phase nearly always persists as dry tilled soil, with or without weedy plant growth or crops. Tilled low-prairie zones may also appear briefly in the open-water phase during extremely high water conditions.

Environmentally Significant Areas

(ii) Class II - Temporary Ponds: Wet-meadow zone.

Wet-meadow vegetation occupies the central areas of many of the shallower pond basins and commonly occurs as a peripheral band in most of the deeper ponds and lakes. Water loss from bottom seepage is fairly rapid in this zone, so that surface water usually is maintained for only a few weeks after the spring snowmelt and occasionally for several days after heavy rainstorms in late spring, summer and fall. Wetland phases in untilled wet-meadow zones include a normal emergent phase with typical wet-meadow plants occurring as emergents, and an open-water phase that develops only when water levels rise above the tops of wet-meadow plants. Most of the more numerous plant species in the normal emergent phase are fine-textured grasses, rushes, and sedges of relatively low stature. Under cultivation a wet-meadow zone in early spring normally has an open-water phase without submerged aquatic plants; this is soon replaced by a drawdown bare-soil phase unless old-growth plants from previous years are present. Shortly afterwards, typical species of the cropland drawdown phase appear. A similar sequence of phases may take place later in the season, particularly when surface water is temporarily replenished or when there is repeated cultivation. Cultivation of dry bottom soils results in the appearance of the cropland tillage phase.

Wet-meadow zones in the central areas of shallow pond basins are restricted to fresh or slightly brackish wetlands, while peripheral bands of wet-meadow zone frequently occur in deeper, more permanent ponds or lakes with salinity ranging from fresh to subsaline. Characteristic species of plant associations in the normal emergent phase and cropland drawdown phase differ markedly, and major differences in species composition within the normal emergent phase may be correlated with variations in salinity.

(iii) Class III - Seasonal Ponds and Lakes: Shallow-marsh zone.

Shallow-marsh vegetation dominates the central areas of pond basins that normally maintain surface water for an extended period in spring and early summer but frequently are dry during late summer and fall. In the deeper, more permanent ponds and lakes, this zone often occurs as a concentric band between wet-meadow and deep-marsh zones; in shallow alkali ponds and lakes it may occur as a band between wet-meadow and intermittent-alkali zones.

Under natural untilled conditions, this zone is represented by four wetland phases: a normal emergent phase of regular occurrence; an open-water phase, often with submerged aquatic plants, occurring during high water; and a natural drawdown emergent phase, occasionally preceded by a drawdown bare-soil phase that develops during periods of low precipitation. Typical dominant species in the normal emergent phase are grasses or grass-like plants that are intermediate in height in comparison with emergent plants in the normal emergent phase of wet-meadow and deep-marsh zones.

Wetland phases occurring when this zone is tilled include the following: an open-water phase, with or without submerged aquatic plants, which is generally present during the spring and occasionally present after heavy rainstorms in summer and fall; a drawdown bare-soil phase, developing as open surface water disappears; a cropland drawdown phase that becomes established on exposed mud flats, particularly during late summer and fall; and a cropland tillage phase immediately following cultivation. Whenever surface water is maintained for a considerable period in late spring and summer, a distinctive normal emergent phase characteristic of the tilled shallow-marsh zone occurs. This phase is composed of pioneering shallow-marsh species that also appear, although less commonly, in the normal emergent phase of natural untilled shallow-marsh zones.

Shallow-marsh zones occurring in central areas of pond basins are largely restricted to fresh, slightly brackish, or moderately brackish ponds or lakes. In the deeper, more permanent ponds and lakes, the concentric bands of shallow marsh adjoining the more centrally located deep-marsh zones are of regular occurrence throughout the range of salinity, from fresh to subsaline. Tillage of shallow-marsh zones ordinarily occurs only in fresh, slightly brackish, and moderately brackish ponds. Outer bands of shallow marsh in strongly saline alkali lakes are subsaline, in contrast to the greater salinity of the central open areas. Surface water in brackish and subsaline shallow marsh tends to be shallower and less permanent than surface water in shallow-marsh zones of the fresher ponds and lakes. Nevertheless, the spatial relation of shallow-marsh to wet-meadow and deep-marsh remains the same, regardless of salinity.

Differences in species composition are quite pronounced between shallow-marsh plant associations characteristic of untilled and tilled conditions, and among emergent, open-water, natural drawdown, and cropland drawdown phases of this zone. More subtle differences within each phase may be represented as a continuum of overlapping species that is correlated with differences in salinity.

Environmentally Significant Areas

(iv) Class IV - Semi-permanent Ponds and Lakes: Deep-marsh zone.

Deep-marsh vegetation dominates the central areas of pond basins that ordinarily maintain surface water throughout the spring and summer and frequently maintain surface water into fall and winter. Deep-marsh zones usually occur also as marginal bands that adjoin the deep permanent-open-water zones of permanent ponds and lakes.

Four wetland phases are represented in this zone: a normal emergent and an open-water phase, both of regular occurrence, and a drawdown bare-soil (nonvegetated) phase and a natural drawdown emergent phase, both of which develop only during drought. In the deeper ponds, an alternation of the normal emergent phase and the open-water phase is common because of annual and seasonal changes in water depth. The normal emergent phase is generally present in the shallower areas of this zone, while the open-water phase occupies the deeper areas. In permanent lakes, marginal bands of deep marsh are usually represented by the normal emergent phase in the outer, shallower portions, while the open-water phase is typical of the deeper portions that adjoin the permanent-open-water zone. Submerged or floating plants are often found throughout this zone; certain species of these plants occur as subdominants in the normal emergent phase, while many other species are characteristic of the open-water phase. Dominant plant species in the normal emergent phase are in general coarser and taller than corresponding species in shallow-marsh zones.

Deep-marsh zones are nearly always present in the deeper ponds and lakes in which salinity ranges from slightly brackish to subsaline. During high water this zone may also be found locally in some of the deep fresh-water ponds. Species composition of plant associations differs noticeably in the three vegetational phases of deep marsh and under different ranges of salinity within each phase.

(v) **Class V - Permanent Ponds and Lakes: Permanent-open-water zone.**

This deep-water zone, of local occurrence in a few ponds and lakes that maintain fairly stable water levels, is represented only by the open-water phase. Measurements of specific conductance (micromhos/cm³) indicated that water in this zone may be classified as slightly brackish, moderately brackish, brackish, or subsaline. Only two species of vascular plants were found in this zone (see under Class V). Western widgeongrass (*Ruppia occidentalis*) is quite regular in occurrence, and occasionally it is associated with big-sheath pondweed (*Potamogeton vaginatus*). In some lakes the deeper portions of this zone are completely devoid of submerged vegetation. Because of stability of water levels and greater water depth, emergent plants do not develop in this zone. Toward shore this zone is frequently bordered by a band of open water representing the open-water phase of the deep-marsh zone. Although superficially similar in appearance, this shallow open-water band differs in species composition of submerged plants.

(vi) **Class VI - Alkali Ponds and Lakes: Intermittent-alkali zone.**

This zone is characterized by highly saline shallow water that frequently alternates with exposed glistening-white alkali saltflats. The principal salts represented are sulphates and chlorides of sodium and magnesium, which are termed alkali salts by common usage throughout the Great Plains. Under dry conditions this zone is frequently subject to wind erosion. On windy days it is not unusual for great clouds of white alkali dust to form.

Emergent plants do not develop in this zone, apparently because of the high salt content, but one submerged aquatic species, saltwater widgeongrass (*Ruppia maritima*), is frequently abundant whenever surface water is maintained for a few weeks during the summer.

5.2.2 Priddis Slough

The Priddis Slough is one of Calgary's largest and most important wetlands. It is one of the largest remaining marsh/sedge wetlands in the city. The wetland is a mix of open water, cattail marsh and extensive sedge and rush meadows on the edges. It is located within a broad valley that links to the Pine Creek valley in the south. The surrounding uplands are a mix of native prairie, upland aspen and shrub communities and agricultural lands. The wetland is fed in part by extensive groundwater seepages along the slope edges. It has a mix of plant community types, generally occurring along a gradient of water depth, ranging from open water in the deeper zones to wet meadow communities along the margins. Dominant species include cattail (*Typha latifolia*), beaked sedge (*Carex utriculata*), water sedge (*C. aquatilis*), awned sedge (*C. atherodes*), wire rush (*Juncus balticus*), marsh reedgrass (*Calamagrostis canadensis*) and foxtail barley (*Hordeum jubatum*).

Priddis Slough is classified as a Stewart & Kantrud Class V Permanent wetland and therefore subject to the Calgary Wetland Conservation Plan. Like all wetlands in the region, it is subject to a long-term recurring cycle of wetting and drying, exhibiting natural water fluctuations of up to 2 metres.

Upland habitat surrounding the slough is a diverse mix of upland mixed native grassland/pasture, low shrub/mixed grassland, aspen/willow and disturbed habitat types. Mixed grassland communities are characterized by native grass species and varying amounts of non-native pasture species, reflecting a long-term use as grazing lands.

Low shrub/mixed grassland communities are dominated by non-native and native grass species with a significant component of native low shrub species such as snowberry (*Symphoricarpos occidentalis*), prickly rose (*Rosa acicularis*), wolfwillow (*Eleagnus commutata*), shrubby cinquefoil (*Potentilla fruticosa*) and chokecherry (*Prunus virginiana*).

Aspen/willow communities occur along the margins of the wetland and are supported in part by groundwater seepage occurring along the slope edges. The slough is used extensively by deer and coyote (Jacques-Whitford, 2005) and appears to be important local habitat. Other large mammal species recorded for the area include American badger and moose. The slough is in proximity to the Pine Creek valley and would provide for some movement between Pine Creek, the Priddis Slough and to a limited extent lands to the north. It is expected that this will become more important local habitat as the surrounding lands are developed.

The Priddis Slough is important stopover habitat for migratory waterfowl and has some local significance for breeding. As many as 2500 waterfowl were observed in one day during the fall migration (Jacques-Whitford, 2005).

5.2.3 Species at Risk

The Plan Area contains wildlife species common to Alberta. Incidental wildlife observations detected less common species such as the trumpeter swan, double-crested cormorant, pileated woodpecker and American badger. The waterfowl surveys confirm the local and regional importance of Priddis and Radio Tower Creek wetlands as important fall staging areas.

Radio Tower Creek is also important as a potential breeding habitat for waterfowl due to the suitable interspersion of emergent vegetation and open water. The Priddis wetland has less suitable interspersion of water and vegetation compared to Radio Tower Creek. Currently Priddis Slough has less capacity to provide high densities of waterfowl. Many of the wildlife habitats, particularly in grasslands of Priddis Slough were degraded due to past as well as existing land use activities (e.g. agriculture).

5.2.4 Rare Plants

Numerous species were identified as potentially occurring in the two sub-regions represented in the Plan Area and 3 species were identified as having been confirmed in the south of Calgary, nearby but outside the Plan Area: Western False Gromwell; Pale Blue-eyed Grass, and; Prairie Wedge Grass. Rare plant surveys may be required at a later stage of planning to confirm the presence of species at risk.

5.2.5 Wildlife

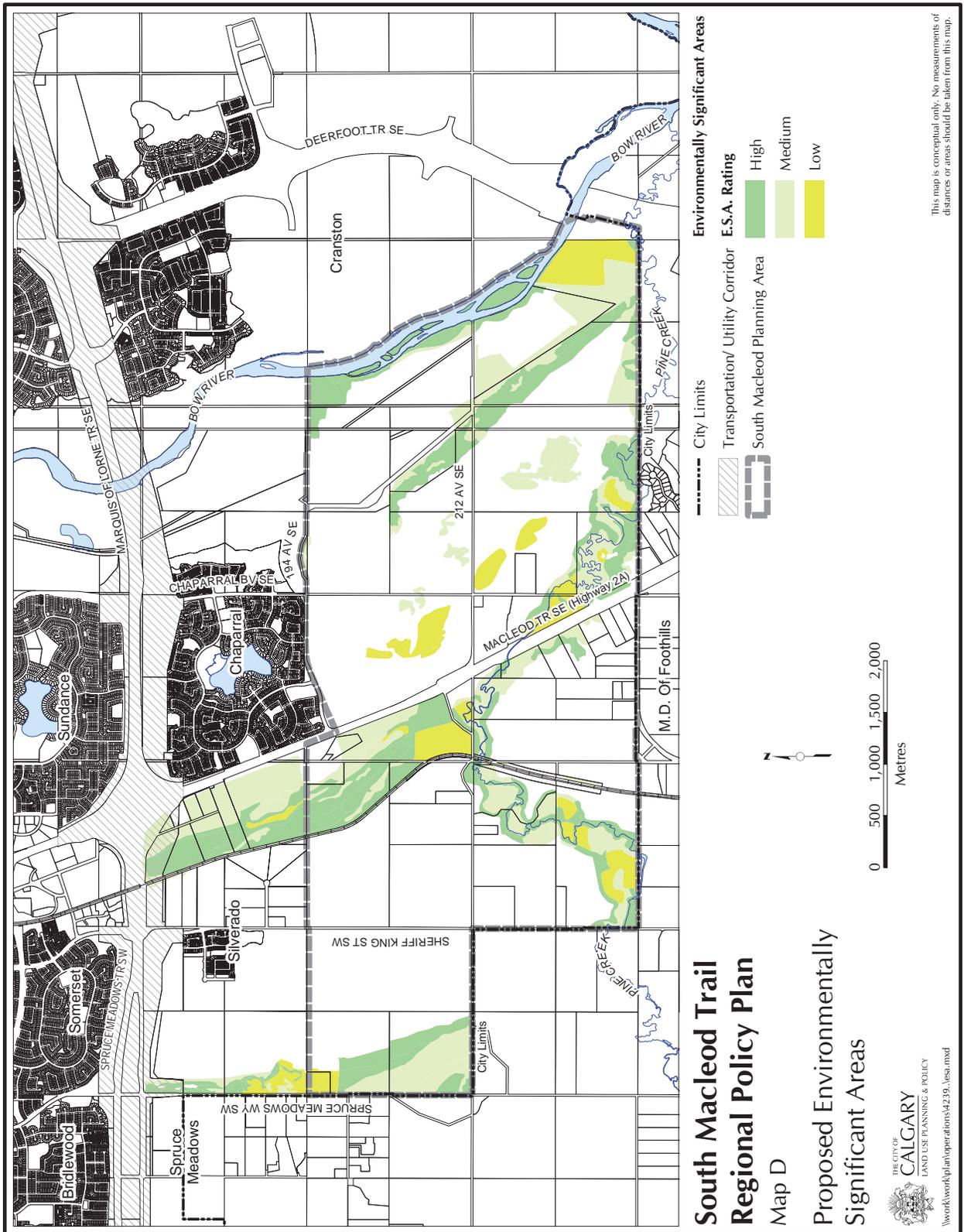
The wildlife habitat suitability mapping conducted as part of the Jacques Whitford study indicates that the proposed development scenario would result in the loss of wildlife habitat in certain areas. Due to the many of the valuable wildlife habitats, however, that occur within Priddis Slough, Radio Tower Creek and the Pine Creek valley, the magnitude of effects is predicted to be relatively low. The proposed development will affect Class II and Class III wetland classes as well as upland areas that provide habitat for deer, raptors as well as small mammals. Although the potential habitat lost is not considered critical, the loss of Class III wetland habitat may require some degree of mitigation and/or compensation. The most significant portion of Priddis Slough, which contains the Class V wetland, will remain intact and continue to provide significant staging habitat for waterfowl.

Although Radio Tower Creek and Priddis Slough also hold relatively high wildlife values, due to heavy livestock grazing, the wetland is rather disturbed. Restoration and enhancement of the northern portion of Priddis Slough could be considered to increase its wetland functional values.

5.3 Protection of Environmentally Significant Areas

Areas identified as ESAs are not automatically acquired and/or protected from urban development but rather subjected to review and decision-making at the Outline Plan and Land Use Amendment stage. The Municipal Government Act provides for the dedication of Environmental Reserve under specific conditions. Where appropriate, ESA lands may be dedicated as Environmental Reserve or Municipal Reserve, purchased by The City, donated to the Parks Foundation, or regulated through development controls or subdivision restrictions. The Natural Area Management Plan identifies policy for the protection, maintenance and/or reclamation of significant natural habitat and their relevant ecological associations.

Map D: Environmentally Significant Areas



6.0 TRANSPORTATION NETWORK

6.1 Regional Road Network

The Plan Area is largely defined by the regional road network comprising 194 Avenue S on the north, Spruce Meadows Way SW and Sheriff King Street SW on the west, Highway 552 on the south and Deerfoot Trail SE (Highway 2) on the east. Macleod Trail S (Highway 2A) is a north-south expressway/freeway which bisects the Plan Area into two distinct components. The overall road network and associated interchanges have been confirmed to provide sufficient capacity to support the projected residential and non-residential densities. The internal major road network divides the Plan Area into communities and/or neighbourhoods. The regional road network is illustrated on Map E.

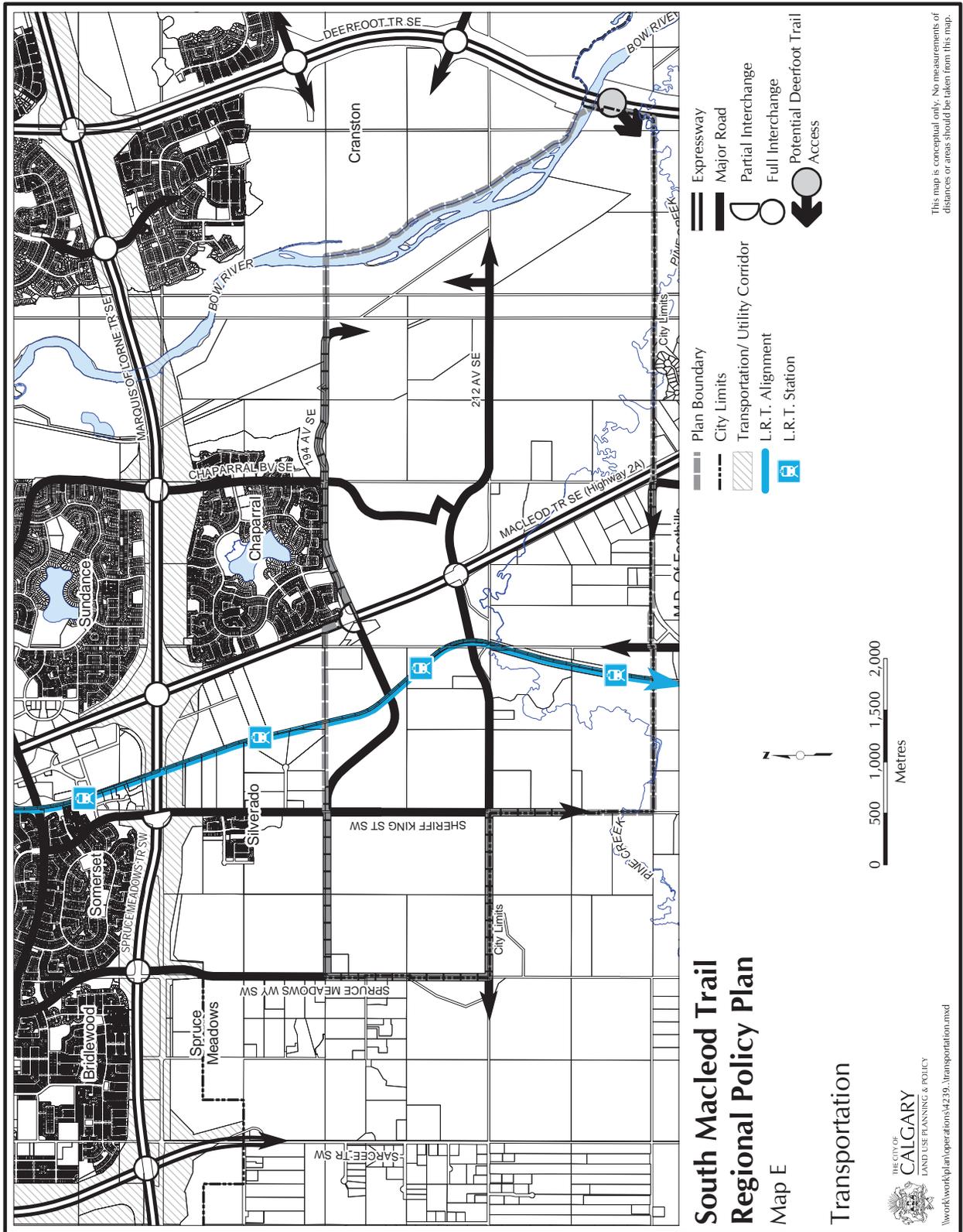
6.1.1 Macleod Trail S (Highway 2A)

The primary north-south transportation link for the Plan Area is Macleod Trail S (Highway 2A). Macleod Trail S is classified as a 6-lane expressway/freeway between Marquis of Lorne Trail SE / Spruce Meadows Trail SW (Highway 22X) and the City's southerly limits. The Plan Area can be accessed from Macleod Trail S via future grade-separated interchanges at 194 Avenue S and 212 Avenue S. A future systems interchange will be constructed at Macleod Trail S and Marquis of Lorne Trail SE / Spruce Meadows Trail SW (Highway 22X). Macleod Trail S must meet the standards as set out in the Penetration Agreement between the City and the Province.

6.1.2 194 Avenue S

The future 194 Avenue S is classified as a Major Street and crosses the Plan Area east-west. The east end of 194 Avenue S will terminate. A collector road will connect southerly from 194 Avenue S to 212 Avenue S to facilitate development in the Bow River valley. An at-grade intersection at Macleod Trail S currently exists, with a grade separated interchange being constructed in the future. The grade separated interchange is currently planned as a partial interchange only (access to and from the north). The feasibility of providing a fully directional interchange at this location may be reviewed in consultation with the City, Province and impacted landowners and if confirmed to be acceptable in design and operation, provision for same may be made. Any redesign of the 194 Avenue interchange must meet the standards set out in the Penetration Agreement between the City and Province, and the Province should be consulted. At-grade intersections will be constructed at 194 Avenue S at Spruce Meadows Way, Sheriff King Street and Chaparral Boulevard.

Map E: Transportation Network



6.1.3 212 Avenue S

The future 212 Avenue S is classified as a Major Street and crosses the Plan Area east-west, approximately one kilometre south of 194 Avenue S. The east end of 212 Avenue S will terminate. A collector road will connect northerly from 212 Avenue S to 194 Avenue S to facilitate development in the Bow River valley. A grade separated interchange will be constructed at Macleod Trail S and 212 Avenue S. At-grade intersections will be constructed at 212 Avenue S at Spruce Meadows Way SW, Sheriff King Street SW and Chaparral Boulevard SE.

6.1.4 Spruce Meadows Way SW

Spruce Meadows Way SW is classified as a Major Street and crosses the Plan Area north-south. A grade separated interchange will be constructed to the north of the Plan Area at Spruce Meadows Way SW and Spruce Meadows Trail SW (Highway 22X). At-grade intersections will be constructed at Spruce Meadows Way SW at 194 Avenue SW and 212 Avenue SW.

6.1.5 Sheriff King Street SW

Sheriff King Street SW is classified as a Major Street and crosses the Plan Area north-south. A grade separated partial interchange will be constructed north of the Plan Area at Sheriff King Street SW and Spruce Meadows Trail SW (access west only). At-grade intersections will be constructed at Sheriff King Street SW at 194 Avenue SW and 212 Avenue SW.

6.1.6 Chaparral Boulevard SE

Chaparral Boulevard SE is classified as a Major/Local Major Street and crosses the Plan Area north-south. A grade separated interchange will be constructed at Chaparral Boulevard SE and Marquis of Lorne Trail SE (Highway 22X). At-grade intersections will be constructed at Chaparral Boulevard SE and 194 Avenue S and 212 Avenue S.

6.1.7 Highway 552

Highway 552 is a Provincial Secondary Highway bordering the south limits of the Plan Area and provides access to the southerly portion of the Plan Area located on the west side of Macleod Trail S (Highway 2A), south of Pine Creek. Access from highway 552 to Macleod Trail S is currently a right in/ right out only and will ultimately be closed when an interchange is constructed further south of Macleod Trail S (Highway 2A) and Dunbow Road.

6.1.8 Deerfoot Trail (Highway 2)

Deerfoot Trail (Highway 2) is a freeway bordering the east limits of the Plan Area. Pursuant to Council policy with respect to minimum densities and the principles of Smart Growth, the future residential and non-residential densities may require a Deerfoot Trail (Highway 2) interchange connection south of the Bow River to access the Plan Area. The intermunicipal Agreement on Annexation dated 2004 April 01 between the City of Calgary and the Municipal District of Foothills No. 31 states that “Neither Foothills nor the city of Calgary will request any access to Deerfoot Trail from the Annexation Territory without first consulting with the other municipality and the general public, specifically the adjacent landowners”. Should provision of an additional connection to Deerfoot Trail SE be warranted in the future, the following steps will be required:

- (a) consultation with the Province, MD of Foothills and the general public (specifically with adjacent landowners), on the feasibility and warrant for this connection;
- (b) approval from the appropriate authorities on the location, design and method of implementation for this connection; and
- (c) establishment of an agreement for cost sharing of implementation costs.

Alberta infrastructure and Transportation was consulted on this matter but has not indicated any support for, nor has it identified the feasibility for implementing this request.

6.1.9 Sarcee Trail SW

A potential for the extension southerly of Sarcee Trail SW exists, west of the Plan Area. While no decision has been made on alignment and implementation of this expressway/freeway, it is anticipated to provide additional access points in the future for the lands in the Plan Area, west of Macleod Trail S.

6.2 Transportation Analysis

6.2.1 Regional Transportation Model

In support of the development of the South Macleod Regional Policy Plan, transportation modelling was conducted using the City of Calgary's Regional Transportation Model (RTM). The RTM is a state-of-the-art modelling tool that can account for variations in personal travel behaviour in response to land use patterns, available transportation infrastructure (i.e. the availability of travel alternatives and network capacities), and economic factors.

A future RTM scenario was developed that incorporated full development of the South Macleod Regional Policy Plan Area at densities consistent with current City policies (i.e. 7 units per acre for residential development). The scenario also assumed full build-out of the Southwest Regional Policy Plan Area (also known as 'Providence') and the Southeast Regional Policy Area.

The RTM scenario assumed that improvements to the transportation system would be implemented in accordance with the capital infrastructure programs of the City of Calgary and the Province of Alberta. Projects assumed to be completed included:

- the 'Ring Road' around Calgary, including the extension of Sarcee Trail from Glenmore Trail through Tsuu T'ina lands to Spruce Meadows Trail and the East Freeway;
- grade-separated interchanges (as opposed to signalized intersections) at all junctions of the Ring Road and the City's Major Street network;
- grade-separated interchanges at all junctions of Macleod Trail and the Major Street network south of Fish Creek.

Initial modelling results indicated that, for the South Macleod Regional Policy Plan Area, significant AM and PM peak hour roadway congestion would occur at interchange ramps at the following locations as a result of traffic demand exceeding the maximum physical capacity of the ramps themselves:

- Lake Chaparral Boulevard at Marquis of Lorne Trail;
- 194 Avenue S at Macleod Trail;
- 212 Avenue S at Macleod Trail.

The severity of the roadway congestion projected by the RTM scenario indicated that changes to the initial land use and transportation assumptions would be necessary in order to approach the minimum targets for peak hour mobility above traffic jam

conditions as identified by the Calgary Transportation Plan (CTP). As such, the following changes to the scenario were made:

- concentrations of residential and employment densities were incorporated into the land use concept, situated along both the future extension of the South LRT and the 212 Avenue corridor east of Macleod Trail, based on Transit Oriented Development (TOD) guidelines;
- one lane interchange ramps were enlarged to two lane ramps where feasible, based on a review of functional plans for the 194 Avenue, 212 Avenue and Lake Chaparral interchanges;
- residential development assumptions for the Inland site were refined based on newer information;
- transit service assumptions were reviewed and refined.

These changes resulted in a reduction of projected roadway congestion at the critical ramp locations to levels at or below the physical capacity of the ramps themselves; no additional improvement in peak hour mobility results was anticipated to be achieved without a reduction in residential density in the Plan Area. As provision is made in the Calgary Transportation Plan recognizing that “within certain areas of the city, high levels of mobility at all times, under all conditions may not be feasible or desirable” the results were deemed by Transportation Planning to represent an achievement of transportation policy objectives in support of the proposed land use concept for the South Macleod RPP area.

6.3 Transit Service

6.3.1 Light Rail Transit

Light Rail Transit (LRT) will serve the Plan Area, extending from the north, and will be located within the existing CPR right-of-way. There is the potential for two (2) LRT stations with associated park and ride within the Plan Area. As planning through the Area Structure Plans process proceeds, the specific station locations should be further refined to identify land requirements at the Outline Plan/Land Use Amendment Stage.

Due to the development constraints of the Priddis Slough, the opportunity to pull the LRT line further west from the CPR right-of-way was considered. The objective would be to maximize the potential for TOD adjacent to the LRT station. This consideration was abandoned due to cost effectiveness of the long standing lease agreement with CPR, and due to the development constraints associated with the residual land area that would be created between the LRT tracks and the CPR tracks.

Transportation Network

6.3.2 Local Feeder Bus Service

A local feeder bus network will provide service from the communities to the South LRT. As the South LRT is extended into the Plan Area, the local feeder routes will be routed to the closest station. Staging of this service will be in accordance with the approved policies addressing these matters.

6.3.3 Crosstown Bus Service

Crosstown bus service will provide service from the Plan Area to major employment destinations within South Calgary that cannot be easily served by the South LRT. Staging of this service will be in accordance with the approved policies addressing these matters.

6.3.4 Transit Nodes

There is the potential for transit nodes to be developed within the Plan Area that will incorporate both Transit Oriented Development and Transit Friendly Design. These transit nodes will function as transfer points for feeder buses and crosstown routes, and will have enhanced passenger waiting areas. Development within the transit nodes will have higher density residential, commercial and employment uses, making the nodes a community destination.

6.4 Regional Pathway and Bikeway System

6.4.1 Overview

The regional pathway and bikeway system will be extended throughout the South Macleod Planning Area. The pathway/bikeway will be located within the rights-of-way for the major roads within the South Macleod Planning Area and will connect to the Bow River Valley, Pine Creek Valley and other open spaces. The final alignment design details will be determined in conjunction with the LRT alignment and at the Outline Plan/Land Use Amendment stage.

6.4.2 Rationale

Various City of Calgary documents and policies support and require the provision of facilities for non-motorized transportation and recreation. These include:

- (a) *Municipal Development Plan* (Approved by Council in 1998)

Encourage the provision of pedestrian facilities that are safe, direct, continuous and barrier free for all existing, expanded and new developments regardless of the type of land use or intensity of development.

- (b) *Calgary Transportation Plan (Approved by Council in 1995)*
- New suburbs will be designed to encourage people to make more of their journeys by walking, transit or bicycle.
 - Cycling is recognized as a component of the city's transportation system.
 - Cycling will be promoted through education, provision of facilities and enforcement of safety rules.
 - To encourage walking, the pedestrian environment will be a design element in all land uses and plans for roads, LRT and transit facilities.
 - The transit system will offer Calgarians a reasonable alternative to auto travel by integrating transit with other modes of travel.
 - The City of Calgary will facilitate mobility for the transportation-disabled and low-income persons by continuing to improve the pedestrian environment, accessibility to transit service, public facilities and community services.
- (c) *Council Priority 2.1 for 2006-2008: Encourage alternate forms of transportation.*
- (d) *Calgary Cycle Plan Policy Statement (Approved by Council in 1996)*
- “That the City of Calgary recognize cycling as healthy, low cost, environmentally friendly transportation and recreation, and promote cycling through education, encouragement, good engineering design, enforcement, economic and environmental programs, policies and initiatives”.*
- (e) *Calgary Pathways & Bikeways Plan (Approved by Council in 2000).*

This plan is a comprehensive set of guiding principles for the planning, design and management of Calgary's pathway and on-street cycling route systems. These guiding principles form the basis for a comprehensive and integrated pathway and bikeway plan. The Plan consists of a policy-based Report and a Technical Report.

Calgary Pathways & Bikeways Plan Vision Statement:

The City of Calgary is committed to being a healthy place to work and live. It recognizes the importance of walking, running, cycling, wheelchair use, skateboarding, inline skating and all other non-motorized modes of movement as positive contributions to the urban fabric. These non-polluting modes have inherent value as viable, efficient and environmentally friendly means of both transportation and recreation. They facilitate healthy and active living, and contribute to overall community vitality. The vision for Calgary is:

“...a city of neighbourhoods which are interconnected by a friendly street and pathway network. The network is available to all Calgarians, regardless of age, gender, ability, income or culture. The pathway and bikeway network offers a convenient alternative to the automobile, and provides year-round ability to enjoy recreational opportunities.”

A guiding principle of the Pathways & Bikeways Plan Report:

Major and primary collector roads should be designed for both motor vehicles and bicycles.

- (f) *Calgary Pathways & Bikeways Implementation Plan (Plan for south half of Calgary approved by Council in 2000; Plan for north half of Calgary approved by Council in 2001)*

This is a long-range plan for an active modes network: it indicates existing, planned and proposed regional pathway and on-street cycling route systems in Calgary. The Implementation Plan is a compilation of the north and south plans, the Pathway & Bikeway Plan Technical Report and the policies contained in the Pathway & Bikeway Plan Report. It is the result of the work of over sixty stakeholder groups.

- (i) Regional pathways

For the South Macleod Planning Area, the Implementation Plan proposes a regional pathway along the Bow River, an east-west regional pathway at approximately 212 Avenue within the Planning area and crossing the Bow River, and a north-south regional pathway in line with the CPR right-of-way and future LRT alignment.

The regional pathway network will be further outlined for the Plan Area by referring to the Calgary Pathway & Bikeway Plan Report, particularly Exhibit 2.2, “Pathways: Proposed Routes – Evaluation Criteria.” Functional and location criteria shall be considered, including recreation potential, connectivity to other pathways, serving a variety of destinations and routing so as to avoid the creation of the need for a pedestrian/cycle overpass or underpass. In general, pathways should be planned to provide two routes bisecting a community, and to cross the surrounding barriers to all neighbouring communities. Where possible, pathways should be built parallel to new LRT routes.

A further regional pathway is required along 212 Avenue from the west boundary of the Planning Area to the Bow River Valley at the east boundary of the Planning Area. A potential regional pathway crossing of the Bow River at Deerfoot Trail and potential regional pathway connections to the community south of the South Macleod area should be considered.

(ii) Bikeways

For the South Macleod Plan Area, the Implementation Plan recommends a bicycle lane (1.5 m extra pavement width) or a future wide curb lane (4.3 m right-hand lane) for on-street cycling on the following major roads: Sheriff King Street, Spruce Meadows Way, and the major road continuing south from Chaparral Boulevard. Bicycle lanes or wide curb lanes for on-street cycling shall be built on all major roads in the South Macleod area.

Further bikeway connections and potential bikeway treatments will be determined in conjunction with the collector and local road network at the ASP and Outline Plan stages, by referring to the Calgary Pathway & Bikeway Plan Report, particularly Exhibit 2.3 “On-Street Bicycle Routes: Selection Criteria.” Functional, roadway and general criteria will be considered, including continuity, directness, connectivity to the regional pathway system, spacing of 1.0-1.5 km between bikeways, serving a variety of destinations, and adjacent land use. Bikeway routes should afford operational comfort, safety and security for cyclists and be operational 24 hours a day throughout the year. Where a pathway cannot exist, a bikeway should be provided.

7.0 PLANNING CELLS AND POPULATION PROJECTIONS

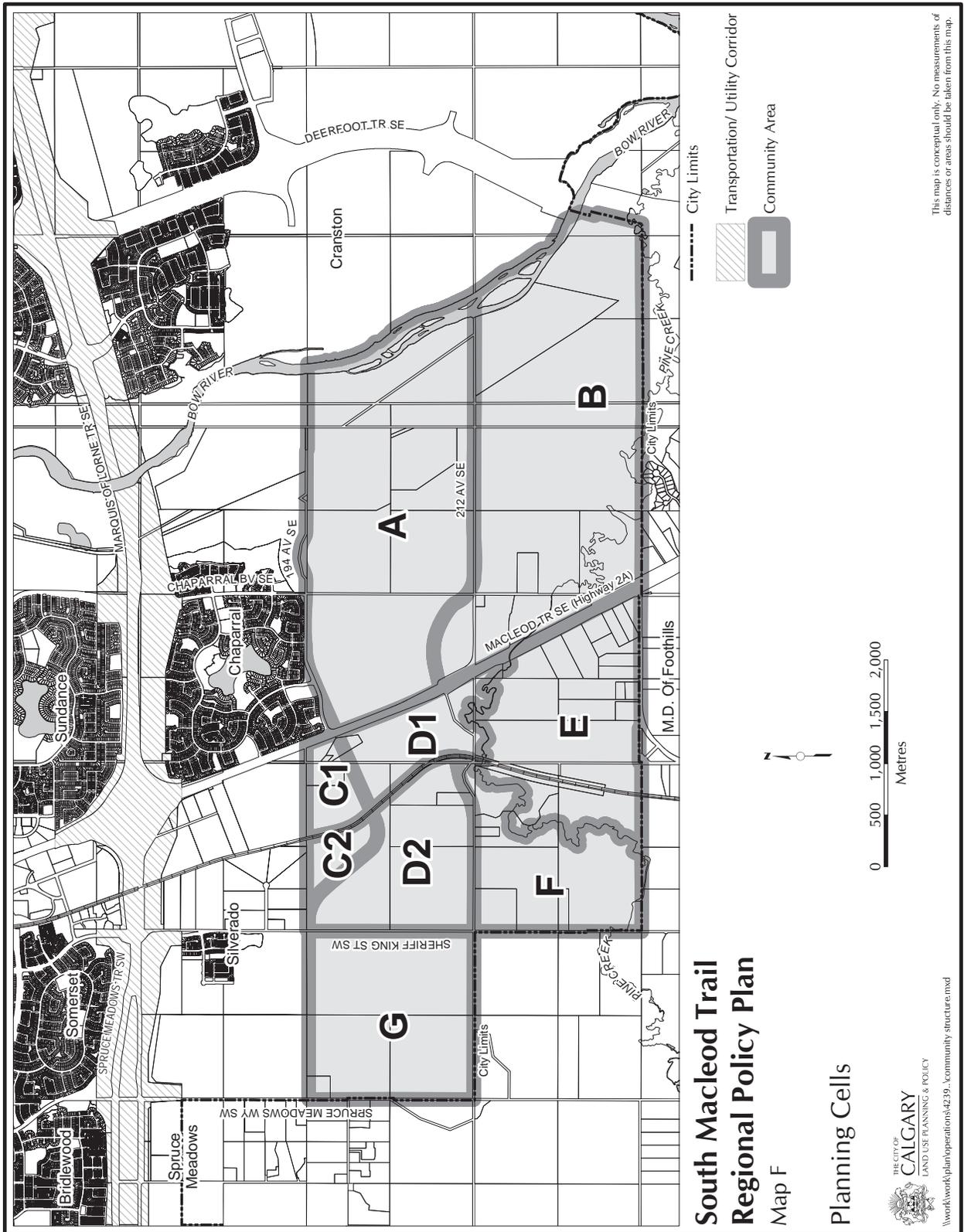
7.1 Delineation of Planning Cells

The Plan Area is divided into nine distinct cells as identified on Map F. These cells are defined by the regional road network, existing community boundaries, city limits, Bow River, Pine Creek, and CPR line and form the basis for defining future community planning areas. The area of each cell is shown in the following table:

Table 3: Area of Planning Cells

Cells	Gross Area Hectares (Acres)	Gross Developable Area Hectares (Acres)
A	555 (1373)	340 (840)
B	635 (1570)	250 (619)
C1 & C2	74 (184)	30 (76)
D1 & D2	278 (687)	202 (500)
E	283 (701)	194 (480)
F	181 (448)	115 (284)
G	259 (642)	219 (543)
TOTAL	2,265 (5,605)	1,350 (3,342)
<p>Notes:</p> <ol style="list-style-type: none"> <i>Gross area is based on total area of cell.</i> <i>Gross developable area is defined in the glossary.</i> <i>The figures in this table are approximate projections only and are subject to refinement at the ASP preparation stage.</i> 		

Map F: Planning Cells



7.2 Population and Dwelling Unit Projections

Table 4: Population and Dwelling Unit Projections

Cells	Projected Population (Projected Dwelling Units) at 7 upa	Projected Population (Projected Dwelling Units) at 8 upa
A	17,052 (5,880)	19,488 (6,720)
B	12,565 (4,333)	14,360 (4,952)
C1 & C2	1,542 (532)	1,763 (608)
D1 & D2	10,150 (3,500)	11,600 (4,000)
E	9,744 (3,360)	11,136 (3,840)
F	5,765 (1,988)	6,588 (2,272)
G	11,022 (3,801)	12,597 (4,344)
TOTAL	67,840 (23,394)	77,532 (26,736)
<p>Notes:</p> <ol style="list-style-type: none"> 1. Area calculations for each cell taken from gross developable area in Table 3. 2. Based on an occupancy rate of 2.9 persons for dwelling unit for suburban communities. 3. Projections are estimates only and may change as a result of ASP preparation. 		

8.0 EMPLOYMENT/MIXED-USE STRATEGY

8.1 Employment Centre Strategy

The City's Employment Centre Strategy (1999) and Municipal Development Plan identifies the area on the west side of Macleod Trail S, immediately north of the Plan Area as an employment centre/concentration. Providing areas for employment concentrations are seen as an effective means of providing opportunities for new jobs outside of the downtown, near or adjacent to the communities where potential employees live. The Employment/Mixed-Use Area in South Macleod forms a logical extension of this employment corridor and is strategically located to providing good access to LRT, the regional road network and adjacent communities.

8.2 Employment/Mixed-Use Area Location and Function

The employment strategy for the South Macleod Trail Regional Plan Area provides opportunities for the integration of office, service, commercial and other mixed uses that generate employment for the area as well as higher density residential uses. The area is located adjacent to an environmentally significant wetland and is in close proximity to LRT, public and commercial facilities. The location of the Employment/Mixed-Use Area is generally identified on the Land Use Concept Map (Map 3) in Part 1 of the Plan.

More detailed design and composition of the Employment/Mixed-Use Area will be developed through the ASP preparation process, with a strong focus on integration of uses, protection of the adjacent wetlands, and design of the public realm and pedestrian environments.

Approximately 200 acres of potentially developable land should be available in this area to accommodate a mix of business, service and higher density residential uses.

9.0 COMMERCIAL DEVELOPMENT

9.1 Location of Commercial Areas

The location and distribution of commercial areas for the Plan Area are generally identified on the Land Use Concept Map (Map 3) in Part 1 of the Plan. The location and distribution is based on a commercial hierarchy as follows:

- Gateway Commercial Areas;
- Core Commercial Areas.

9.2 Commercial Land Requirements

Table 5 identifies the projected range of retail floorspace and net developable commercial land required within the Plan Area.

Table 5: Projected Range of Retail Floorspace and Net Developable Commercial Land

Demand	Gross Floor Area	Net Developable Land
Optimal Demand	213,396 sq. m. (2,297,050 sq. ft.)	80 ha. (198 ac.)
Base Demand	152,831 sq. m. (1,645,116 sq. ft.)	61 ha. (151 ac.)
<p><i>Note:</i></p> <ol style="list-style-type: none"> 1. <i>Retail Demand Projection (Optimal Demand) provided by Hudema Consulting Group Limited, South Regional Policy Plan Area, October 2005. This projection is based on a market share analysis, and for the purpose of formulating policy, the retail floorspace and commercial land projection is considered to be the maximum or optimal amount required for the South Macleod Trail Regional Policy Plan area. This figure will be reviewed in further detail, and will be revised as required.</i> 2. <i>Retail Demand Projection (Base Demand) provided by Land Use Planning & Policy, The City of Calgary, January 2006. This projection is based on a per capita shared analysis and for the purpose of formulating policy is considered to represent the minimum or base amount of retail floorspace or commercial land required within the South Macleod Trail Regional Plan area. The projection is derived assuming a population of 76,517 (at a density of 7 units per acre and 2.8 persons per unit) and an average of 21.5 square feet of retail floorspace per person.</i> 3. <i>The conversion of retail floorspace to net developable land assumes a floor area ratio on a commercial site of 0.25.</i> 		

9.3 Gateway Commercial Centres

Gateway Commercial Centres comprise sector and regional scale commercial uses that are located on the periphery or edge of a community with good transportation accessibility. Gateway Commercial Centres are intended to serve predominantly a broader trade area extending outside the community and therefore have a regional oriented retail focus. Gateway Centres complement and do not compromise, compete or detract from the function of a Core Commercial Centre. Gateway Commercial Centres are characterized by

- serving a regional commercial market that emphasizes larger format retail uses;
- narrower function that focuses primarily on retail uses, supports light industrial and/or business park uses, where deemed compatible and appropriate, as opposed to residential, institutional and recreational uses; and
- non-retail uses or retail formats that improve and compliment the role and marketability of the Gateway Commercial Centre.

9.4 Core Commercial Centres

Core Commercial Centres are a central focus for communities and provide small to medium format retail opportunities. They can be integrated with employment, recreational, institutional and higher density housing forms. Core Commercial Centres are extremely important in achieving a more sustainable and walkable community. They should provide services to ensure that local needs are met locally in the spirit of an urban village. Core Commercial Centres may include a main street retail area, and accessory commercial uses as deemed compatible and complimentary to the area. Core Commercial Centres are characterized by

- pedestrian oriented design that is integrated with and integral to the Centre;
- multi-dwelling residential development that supports the Centre;
- strong and efficient public transit that serves the Centre;
- well defined pedestrian connections that link the Centre to the balance of the community;
- recreational amenities that enhance the social environment of the Centre;
- public buildings and facilities that reinforce the function of the Centre;
- office uses that strengthen the employment base of the Centre; and
- retail uses that improve and compliment the role and marketability of the Centre.

The core areas should provide a diversity of uses and local employment. If designed appropriately, they should help reduce energy consumption and pollution from vehicles and provide opportunities for alternative transportation and shorter vehicle trips.

9.5 Commercial Development Principles

The approach to be taken in formulating commercial policies within an Area Structure Plan are embodied within the following principles:

- The South Macleod Trail Regional Policy Plan Area should contain a comprehensively planned retail hierarchy to complement and support the function of the Plan Area.
- The amount of commercial development may be reviewed and amended at the ASP preparation stage, and /or Outline Plan/Land Use Amendment application stage.
- The viability of Core Commercial Areas is a priority, and their viability should be retained and not compromised by Gateway Commercial Areas. Policies to reinforce this principle should be incorporated into the ASP policies and Outline Plan/Land Use Amendment conditions.
- The location of future commercial areas, excluding local commercial centres, should be identified symbolically on a concept map within the Area Structure Plan, and the minimum size required for that centre identified through policy statements in the specific Area Structure Plan.

9.6 Analysis

The development of proposed Gateway Commercial Areas and/or Core Commercial Areas should be based on:

- Market Demand Analysis – to identify the need for the commercial area;
- Market Impact Analysis – to identify the appropriate timing and phasing of the commercial area in relation to the trade area (population) being served;
- Transportation (Demand) Modelling Analysis – to ensure that the ultimate transportation network can provide mobility to accommodate the ultimate planned land use pattern;
- Transportation Staging Analysis – to identify the staging of major downstream infrastructure improvements required in relation to the phasing of commercial development;
- Transportation Impact Analysis – to identify the access and localized road network improvements required to serve the site;
- Financial Analysis – to identify those transportation infrastructure improvements that area directly related to the commercial area (not the background traffic), the timing of the infrastructure improvements, the responsibility (City or developer) and the financing mechanism required to ensure they are constructed in concert with commercial development;
- Servicing Analysis – to identify the method of servicing the commercial development with sewer, stormwater and water utilities;
- Design Analysis – to identify any unique design requirements that need to be applied to the commercial area through the land use controls.

9.7 Adjudication

In the case where commercial areas compete for limited market demand or transportation capacity, this competition may be adjudicated by the Approving Authority or Council in the following ways, depending on the circumstances:

- Submission Timing – preference may be given to the first completed application submitted or the first application to resolve its outstanding issues;
- Strategic Planning – preference may be given to a commercial application for strategic planning reasons where the commercial centre demonstrates advantages in terms of jurisdictional competition or trade area served;
- Controlled Staging – preference will be given in an equitable but staged manner in which each commercial centre is allowed to develop on a staged basis with each stage evaluated before another stage is approved.

10.0 DEVELOPMENT CONSIDERATIONS

10.1 Environmental Site Assessment

A recent screening level environmental site assessment of the South Macleod Planning Area indicates that the historical land use was primarily agricultural. Potential areas of concern identified by the independent consultant include:

- Potential localized surficial petroleum hydrocarbon contamination associated with fuel storage on farmyards;
- Potential chemical and/or biological contamination associated with a former poultry farm located in the SE quarter of Section 11;
- Potential petroleum hydrocarbon contamination associated with commercial fuel storage tanks from industrial operations (Inland Aggregates Ltd – Sections 13 and 18; BFI landfill – Section 13; and, City of Calgary highway yard – Section 15);
- Potential contamination associated with current or former oil and gas operations;
- Potential for buried debris in localized areas of Sections 12, 13 and 14 (in areas of former gravel pits) to impact surrounding soils;
- Potential impacts from landfill operations in Section 13.

10.2 Bow River Floodway and Floodplain

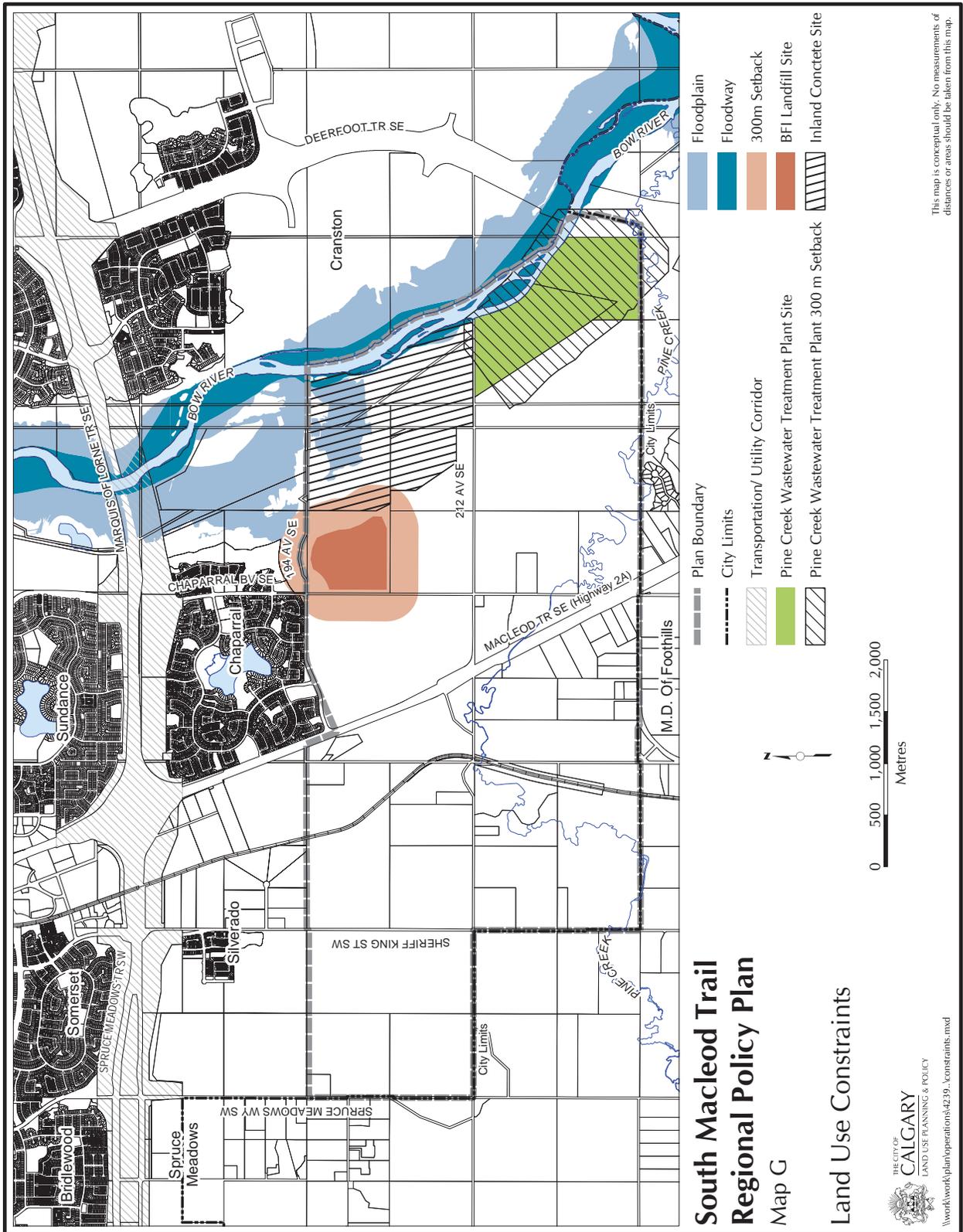
The Bow River is susceptible to periodic flooding. Serious flooding of the Bow River occurred in 2005. Prior to this, the last serious flooding occurred in 1932.

Floodway / floodplain mapping is the responsibility of the Province. Floodway / floodplain mapping exists for the Bow River. There is no floodway / floodplain mapping for Pine Creek.

The floodway is the river channel and adjoining lands that would provide a pathway for flood waters in the event of a flood of a magnitude likely to occur once in one hundred years. The floodplain is the land abutting the floodway that would be inundated by floodwaters of a magnitude likely to occur once in one hundred years.

Because lands in the floodway / floodplain are susceptible to periodic flooding, they are subject to the Floodway, Floodplain and Overland Flow Area Special Regulations contained in Land Use Bylaw 2P80. These Regulations prohibit development in the floodway and permit development in the floodplain subject to the Regulation.

Map G: Development Considerations



10.3 Gravel Mining and Deposits

Gravel deposits are situated adjacent to the Bow River in the eastern portion of the Plan Area. Provincial land use policies encourage municipalities to establish land use patterns that accommodate natural resource extraction and processing, while minimizing potential conflict with nearby land uses and any negative environmental impacts.

The Inland Gravel operation, established in the early 1970's, is located on approximately 215 hectares (530 acres) of these lands just south of 194 Avenue. Inland Gravel operation consists of the following components:

- Gravel Extractions;
- Gravel Processing;
- Asphalt Plant;
- Concrete Plant.

Gravel extraction is complete for the northerly portion of the Inland site. The active mining area has moved south closer to the Pine Creek Sewage Treatment Plant. The projected lifespan of the operation is at least 10 years with completion of mining operations anticipated as early as 2015. Inland would like to retain their concrete and asphalt plants beyond 2015 to serve the future development needs in the Plan Area. Provincial land use policies encourage municipalities to establish land use patterns that accommodate natural resource extraction and processing, while minimizing potential conflict with nearby land uses and any negative environmental impact. Municipalities are to “identify, in consultation with the appropriate provincial land management agency and the Alberta Geological Survey, areas where the extraction of surface minerals (e.g. gravel and sand) should be a primary land use.”³

Current access to the operation is from 194 Avenue and Macleod Trail. An access easement from 194 Avenue to the Pine Creek Wastewater Treatment Plant has recently been negotiated through the Inland site. This easement is intended to be used for construction of the wastewater treatment plant and potentially to provide access once the plant is operational. Permanent access through this area will be required to facilitate the ultimate development.

Policy is included in the Regional Plan that addresses the continuation of resource extraction and associated uses at this location and the transition of the site to its ultimate land use. Compatibility with surrounding land uses is also addressed through policy.

10.4 Inland Aggregates Ltd.

The City considers gravel extraction to be an interim land use. At present, there is no municipal policy regarding the interface between residential and industrial gravel mining uses. The consideration of gravel operation impact relative to other development is generally left to the Development Permit stage with conditions set out by the Development Officer. Generally, a phased development that accommodates the life span and reclamation of the gravel pit is the preferred approach.

10.5 Unstable Slopes

The Calgary Plan has established policy on setback zones from the top of an escarpment. Some steep slopes or escarpments in the Plan Area may be unstable and prone to erosion, landslides or subsidence, and therefore unsuitable for development. The Municipal Government Act identifies criteria to determine whether slopes are developable.

Particular caution is necessary during the design of any stormwater systems, overland drainage, parks, or roads which would impact the lands within the instability setback limits.

10.6 Historical Sites & Resources

In Alberta, historical resources are protected under the Alberta Historical Resources Act (1980, RSA 2000), and are defined as precontact, historic, palaeontological sites and their contents. Cultural landscapes and traditional use sites are also encompassed within historical resources.

Part 5 of the Historical Resources Overview of the southwest Regional Policy Plan Residential Subdivisions (ARESCO Ltd, September 2005), recommends that “all quarter sections in the study area should be subjected to historical resources impact assessments (HRIAs)”, primarily for two reasons:

- the terrain to be found in each quarter lends itself to the occurrence of prehistoric sites;
- settlement occurred relatively early in the study area (in the 1880s) leading to the possibility of early historic activities and sites.

Development Considerations

A Historical Resources Impact Assessment (HRIA) was prepared by FMA Heritage Resources Consultants Inc. in October 2003, for Inland Aggregates Ltd. For the purposes of the assessment, eleven precontact sites were revisited, three new precontact sites were identified, and one new site was identified. Of these sites, according to the HRIA, four sites were deemed to have moderate to high historical resource value. Should these sites be proposed for impact, the recommendation is for further work on each one in the form of staged mitigation (excavation). The assessment recommends that if no impact occurs within a 50m buffer zone, Historical Resources Clearance is granted for the development with respect to the Inland Aggregates Dawes Gravel Operation.

Table 6: Summary of Identified Sites That Require Further Investigation*

DESCRIPTION	BORDEN NUMBER			
	EfPI 8	EfPI 249	EfPI 250	EfPI 251
Site Type	Precontact Stone Feature (10 stone circles)	Precontact Stone Feature (4 Stone Circles), Campsite	Precontact Stone Feature (1 stone circle)	Precontact Stone Feature (1 stone circle)
Site Visibility	Surface	Surface	Surface	Surface
Geographical Setting	Floodplain, West Side of Bow River	Floodplain, West Side of Bow River	Floodplain, West Side of Bow River	Floodplain, West Side of Bow River
NTS Map Reference	82 I/13	82 I/13	82 I/13	82 I/13
Legal Description	6-17-22-29-W4M	3-17-22-29-W4M	3-17-22-29-W4M	5-17-22-29-W4M
Relationship to Development	The original (1971) reported location of this site places the site in Section 6, outside of the Inland Aggregates development area. However a recent (03-046) investigation has moved the location of the site to 5-17-22-29-W4M. This places the site within the development area.	The site is located in an area that has not yet been subject to mining; the site is located within the proposed development area.	The site is located in an area that has not yet been subject to mining; the site is located within the proposed development area.	The site is located in an area that has not yet been subject to mining; the site is located within the proposed development area.
Recommendations	The site is located within areas scheduled for development. Further investigation is recommended for this site in the form of staged mitigation.	The site is located within areas scheduled for development. Further investigation is recommended for this site in the form of staged mitigation.	The site is located within areas scheduled for development. Further investigation is recommended for this site in the form of staged mitigation.	The site is located within areas scheduled for development. Further investigation is recommended for this site in the form of staged mitigation.
<p>*Source: Extract from Table 2, "Summary of Identified Sites", Historical Resources Impact Assessment, prepared for Inland Aggregates Ltd, prepared by FMA Heritage Resources Consultants Inc. October 2003.</p>				

10.7 BFI Landfill

The BFI Calgary Landfill is located at NW ¼ 13-22-1-W5M, south of 194 Avenue SW and east of Highway 2 (Macleod Trail). The site covers an area of over 150 acres, 102 acres of which are designated as the landfill footprint. In the early 1970s, the site was used as an uncontrolled private dump site. Since 1985, the landfill has been operated by BFI and regulated by Alberta Environment. The landfill, permitted to accept municipal solid waste and non-hazardous industrial waste, has an estimated operational life to about 2008. The post-closure care period will be a minimum period of 25 years (see Standards for Landfills in Alberta, dated May 2004 by Alberta Environment).

After completion of landfill operations, BFI intends to incorporate the site into The City's park system. A portion of the site may be developed as a golf course.

BFI will be required to apply for a Reclamation Permit and Certificate from Alberta Environment prior to establishing the future use of the site.

The Provincial Subdivision and Development Regulation imposes a permanent 300 metre setback from the edge of the existing and future working area of the BFI Landfill and a temporary 450 metre setback from the current active working area of the landfill.

The Municipal Government Act, Development Regulations Section 13(3), AR43-2002, has development restrictions for landfills and nearby sites. Selected land uses are not allowed within 450 metres of the active area of a landfill and within 300 metres of the boundary of an inactive landfill. For sites located in the vicinity of a landfill, there is potential for migration to and/or collection within enclosed spaces of methane gas on the site. Given this potential risk, The City of Calgary advises that appropriate measures, including a vapour management system, should be considered. Under the Regulations, a school, hospital, food establishment or residence is not allowed to locate within these setbacks. It is the responsibility of the applicant to determine what measures may be appropriate. Policy will be included in the Regional Plan to address the setback regulation as well as the future use of the property.

10.8 Pine Creek Wastewater Treatment Plant

The City of Calgary currently operates two state-of-the-art wastewater treatment plants, Bonnybrook and Fish Creek. These facilities treat the wastewater produced by the City's residential, commercial and industrial activities, producing a clean effluent which exceeds Alberta Environment standards. Due to the City's rapid population growth, these plants are rapidly becoming overloaded. Currently, the wastewater produced in the Fish Creek catchment exceeds the plants capacity, and during severe wet weather events, Bonnybrook also reaches or exceeds its design capacity. Under these conditions, the quality of the discharged effluent and the Bow River may be compromised. As the City's population continues to grow, the existing wastewater treatment facilities will no longer be able to handle City's wastewater loads. A new wastewater treatment plant is required to ensure that the City continues to meet Alberta Environment effluent discharge criteria and protect the Bow River.

The Pine Creek Wastewater Treatment Plant is located along the west bank of the Bow River, approximately two kilometres north of its confluence with Pine Creek. This site was chosen because of the current industrial activities surrounding the project site, and its separation from established residential areas. Residential development currently exists to the south of the site in Heritage Pointe, to the north in Chaparral, across the River to the east in Cranston and is expected to the west in West Creek. The Heritage Pointe golf course exists immediately to the south of the site.

All existing and the majority of the proposed development will be located above the Bow River Valley and some will have direct site lines to the plant. The new bridge crossing of the Bow River for the Deerfoot Trail Extension (Highway 22X) is approximately 300 metres downstream from the extreme south end of the site and approximately five metres in elevation above the site. This will provide additional views of the plant by the traveling public. A minimum set back of 300 metres is required between the Pine Creek WWTP and sensitive land uses, including residential development, recreational areas, and transportation corridors. This setback distance is necessary to ensure that the plant can be fully developed with minimal interference from adjacent land owners/users.

Pine Creek WWTP is currently under construction and the target date for the plant to be commissioned, fully operational and meeting its effluent criteria is the end of 2008. The new plant, with an initial capacity of 100 ML/d, will treat wastewater generated in the City's southern catchments including the catchment of the Fish Creek WWTP. The project will therefore include a pipeline which enables wastewater flows from the Fish Creek catchment to be transferred by gravity to the new Pine Creek WWTP for treatment. It is anticipated that continued growth in the City will require that the Pine Creek facility to ultimately be expanded to 700 ML/d. The 300m setback distance surrounding Pine Creek has been established using the fully developed plant layout.

In addition to the wastewater treatment plant at Pine Creek, the site will also house various other environmental initiatives. A tree nursery is currently in operation at the south east of the project site. In addition, the University of Calgary plans to develop a research center and laboratory at the north end of the site, just south of the 210 Ave ROW. There may also be a future Enmax sub-station and a First Nation's ceremonial area located on the south west portion of the Pine Creek site.

11.0 REGIONAL AND COMMUNITY SERVICE SITES

The Plan includes a number of regional public facilities and infrastructure components that will be centrally located to serve the Plan Area residents. These facilities include two public high schools (one separate and one public), a public library, a recreational centre, an athletic park, two emergency services sites (Fire, EMS), an operations workplace centre site, a transit maintenance facility, and a future water treatment plant, as generally identified on Map H. Some of these facilities will be located near the Employment/Mixed Use Area and the TOD area, creating a centrally located mixed use centre with good pedestrian and transit access. The detailed locational criteria and other considerations for these public facilities will be developed during the ASP preparation process. The following subsections describe these regional uses and their general site requirements.

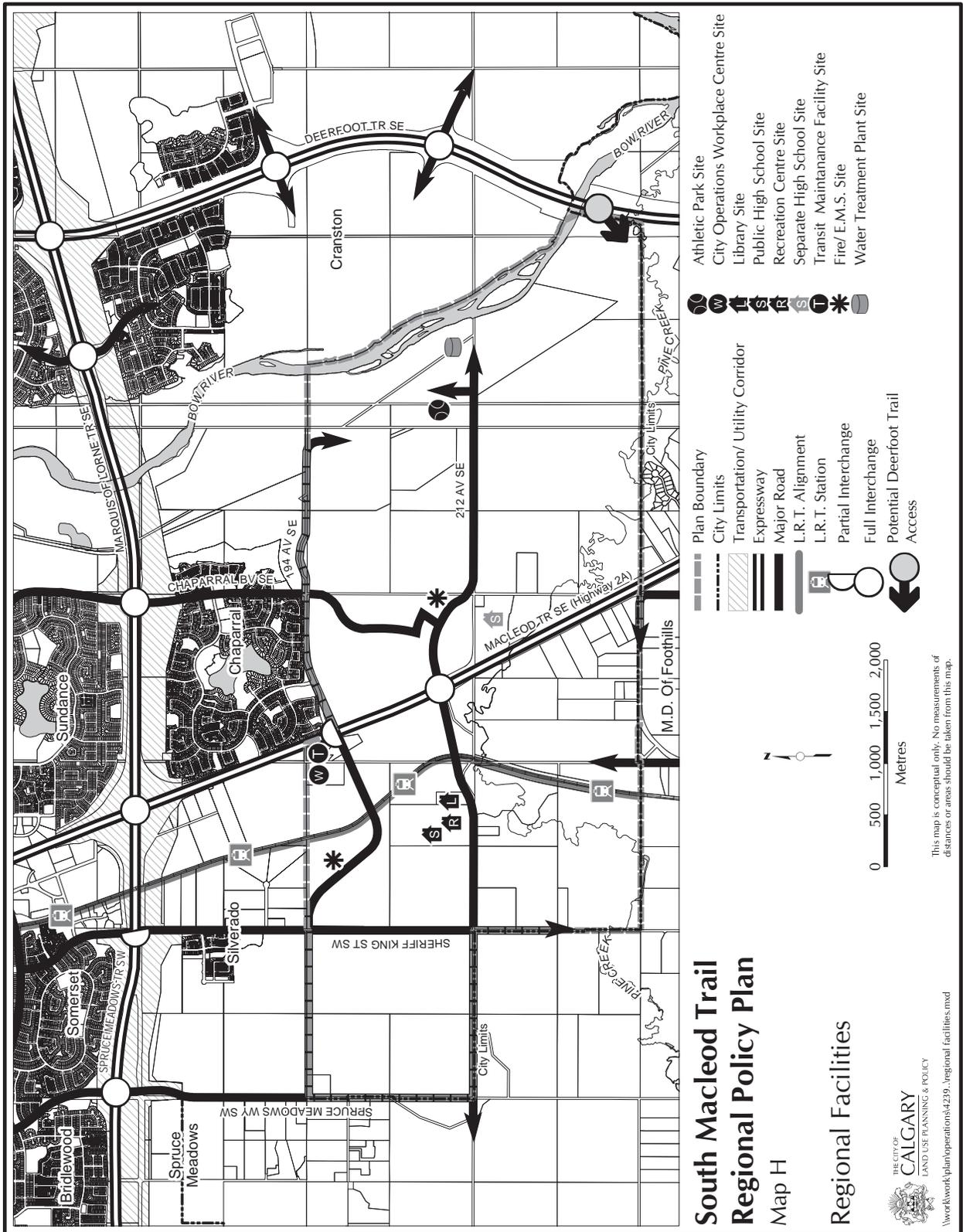
11.1 Fire Station Site

Typically, fire stations are located to ensure maximum response times of 5 to 7 minutes. The two fire station sites will be located generally as shown on the Regional and Community Services Map (Map H). The specific location of these sites will be refined through the ASP preparation process. The fire station sites will require approximately 2 hectares (5 ac.) of land and both sites are planned as part of a dual service facility for Fire and EMS. Table 7 outlines some of the site selection criteria for a Fire Station / Multi-service Facility.

Table 7: Fire Station Facility Information

Criteria	Single Use Facility	Multi-service Facility	Comments
Site	Minimum size – 0.8 ha. (2 ac.)	Minimum size – 2 ha. (5 ac.)	Requires a 1,300 sq.m. (total) building for single use, or 4,645 sq.m. (total) for multi-service facility.
Response Time	5 to 7 minutes	5 to 7 minutes	Quickest response time to all areas within service area.
Access	Critically Important	Critically Important	Location should be close to, or have direct access to, major roadways; preferably a corner lot.

Map H: Regional and Community Services



11.2 Emergency Medical Services (EMS) Site

Two Emergency Medical Services (EMS) sites are planned as part of a dual service facility with the Fire Department. The EMS facilities will be located generally as shown on the Regional and Community Services Map (Map H). The specific location of these sites will be addressed in further detail through the ASP preparation process. Some of the site criteria for an EMS site are outlined in Table 8.

Table 8: EMS Facility Information

Criteria	Details	Comments
Site	278 sq. m. (3,000 sq. ft.) building and parking bays on a 0.1 ha. (0.3 ac.) site.	Can be housed as a separate facility but typically is in partnership with planned dual service facilities.
Service Area	8 minutes	Based on the areas that can be reached within 8 minutes. This depends on the road types and network that surround each station.

11.3 Library Service Site

The Calgary Public Library is responsible for planning and delivering a comprehensive program of library services that are responsive to community needs and readily accessible to all residents. The planning model for new libraries is based on population and distance from existing facilities. The target is for all city residents to live within an average travel distance of 3.5 kilometres from a public library, with a minimum population base of 40,000 people in the projected service area. The Calgary Public Library requires a site for a community sized library in the Plan Area, to be located west of Macleod Trail S in the Comprehensive Planning Area. The Library will seek partnerships in a shared use facility such as a recreation centre. The approximate timing of a library facility is within the 2020 to 2025 timeframe and funding will need to be aligned with that of other potential partners. The library will require approximately 2 hectares of land and its specific location will be addressed in further detail through the ASP preparation process. Some of the site criteria for a public library facility are included in Table 9.



Table 9: Library Facility Information

Criteria	Details	Comments
Site	1,400 to 1,850 sq. m. (15,000 - 20,000 sq. ft.) building envelope for a community library.	Requires a convenient and highly visible location adjacent to a major community focal point and public transit.
Catchment Distance	3.5 km. for a community library.	Long range planning for community and regional area libraries consider population and the distance to existing libraries.
Population Threshold	40,000 to 60,000 for a community library.	
Access	Highly important, including transit and pedestrian access.	Functional traffic pattern for convenient vehicular access. 30 to 60 parking stalls required, potential opportunities to share stalls with other users.

11.4 Recreation Centre

The City has identified the need for a recreation centre within the Plan Area, to be located west of Macleod Trail S. The primary catchment area for the recreation centre will be the residents of the Plan Area, but it will also be available for use by surrounding communities and members of the general public. Although typical community based recreation centres include amenities such as aquatic facilities, gymnasia and community facility space, the specific amenities of the centre will be determined through a needs and preference survey of residents.

The recreation centre will function as a key community component of the Comprehensive Planning Area. As a result, The City will pursue partnerships with other community service providers in order to develop a shared-use facility that meets the diverse health, leisure, educational and social needs and interests of the residential area. The facility will be located to ensure pedestrian access to transit, and other community services. The specific location of the recreation centre site will be addressed in further detail through the ASP preparation process. Some of the site criteria for a community recreation centre are included in Table 10.

Table 10: Recreation Centre Facility Information

Criteria	Details	Comments
Site	3 - 4 ha. (8 - 10 ac.)	Located within the Employment Centre
Service Level Population	40,000 – 80,000 for a Level 2 community recreation centre	Potential partnerships within surrounding communities may influence the size, design and available amenities of the centre.
Access	10 – 30 minutes via walking, biking or public transit	In order to support access by a range of travel modes, facilities should be located on major transit routes and must connect geographic hubs and other recreation and community facilities by natural and hard surface pathways, including the regional pathway system.

11.5 Athletic Park

Athletic parks are intended to provide general recreation space within the city and to meet a number of regional recreational needs. The City has identified the need for an athletic park within the Plan Area, to be located in the Bow River valley, north of the Pine Creek Wastewater Treatment Plant, as identified on the Land Use Concept Map. The park will be approximately 16 ha. (40 ac.), with the specific location of the athletic park site to be addressed in further detail through the ASP preparation process. Table 11 outlines the major site criteria for a regional park.

Table 11: Athletic Park Site Information

Criteria	Details	Comments
Site	16 ha. (40 ac.)	Will be located in the Bow River valley.
Access	Highly Important	Collector or arterial road access.
Connectivity	Highly Important	Connections to the regional pathway system, and transit, to provide access to non-vehicular users are very important.

11.6 High School Sites

The Calgary Board of Education (CBE) and the Calgary Catholic School District (CCSD) have indicated that they each require one (1) senior high school site within the Plan Area, requiring approximately 9 ha. (23 ac.) of land each. The sites are to be located on the east and west sides of Macleod Trail S in the Comprehensive Planning Areas. The specific location of the high school sites will be addressed in further detail through the ASP preparation process, with the sites sized and designed to meet the needs of the Calgary Board of Education and Calgary Catholic School District. The high school sites should be located in close proximity to transit service, have excellent pedestrian connectivity, and be well integrated with the rest of the community. Table 12 outlines the major site criteria for the high school sites.

Table 12: Senior High School Site Information

Criteria	Calgary Board of Education	Calgary Catholic School Board
Population Base	50,000 to 60,000	90,000 to 120,000
Students per School	1,500	1,000 to 1,200
Employee Base	n/a	n/a
Site Size (Acres)	9 ha. (23 ac.)	9 ha. (23 ac.)
Synergies	No single model exists, although it is preferable to locate adjacent to an LRT/ Transit facility. Other possible uses near a high school could include one or a combination of the following: a recreation centre, library, skating rink, swimming pool, retail and/or community hall. Transportation impacts need to be considered when locating such facilities close to one another.	No single model exists, although it is preferable to locate adjacent to an LRT/ Transit facility. Other possible uses near a high school could include one or a combination of the following: a recreation centre, library, skating rink, swimming pool, retail and/or community hall. Transportation impacts need to be considered when locating such facilities close to one another.

11.7 Transit Maintenance Facility

Calgary Transit has identified an immediate need for a Bus Maintenance and Storage Facility in south Calgary, to be located in the Plan Area. The Regional and Community Services Map (Map H) indicates the general location for this facility, which may include a dual service facility combined with the Operations Workplace Centre to achieve improved efficiencies of service. The Transit Maintenance Facility will require a rectangular shaped parcel, approximately 12 hectares (30 ac.) in size.

The facility will accommodate transit service growth in South Calgary and provide capacity that will be displaced when the Victoria Park facility is redeveloped. Direct and quick access onto Macleod Trail S is also preferred.

11.8 Operations Workplace Centre

An Operations Workplace Centre will be located on the north side of 194 Avenue S, west of Macleod Trail S as generally shown on the Regional and Community Services Map (Map H). The Operations Workplace Centre will require a site of approximately 10 to 12 hectares (25 to 30 ac.). It will facilitate such services as roads maintenance, parks, as well as fleet, water resources and water services, and will provide additional employment opportunities within the Plan Area. A dual service facility combined with the Transit Maintenance Facility may be considered to achieve improved efficiencies of service.

11.9 Water Treatment Plant

Water Resources requires allowance for a potable water treatment-plant included within the Plan Area. This plant would not likely be required to be operational before 2020. The proposed plant would be located just north of the Pine Creek Wastewater Treatment Plant and east of the escarpment, assuming suitable grades following the cessation of the gravel mining operations. The location of the plant is constrained by requirements to be in close proximity to the Bow River and the proposed feedermain along the 210 Avenue Road alignment and will require a site approximately 16 hectares (40 acres).

12.0 UTILITY SERVICES

12.1 Water Servicing

The Plan Area spans four pressure zones defined by specific geodetic elevation ranges; the Westview zone (1108 m to 1146 m), the Lower Sarcee zone (1055 m to 1108 m), the Midnapore zone (1028 m to 1055 m) and the Pine Creek zone (1028 m to 995 m) as identified on Map I.

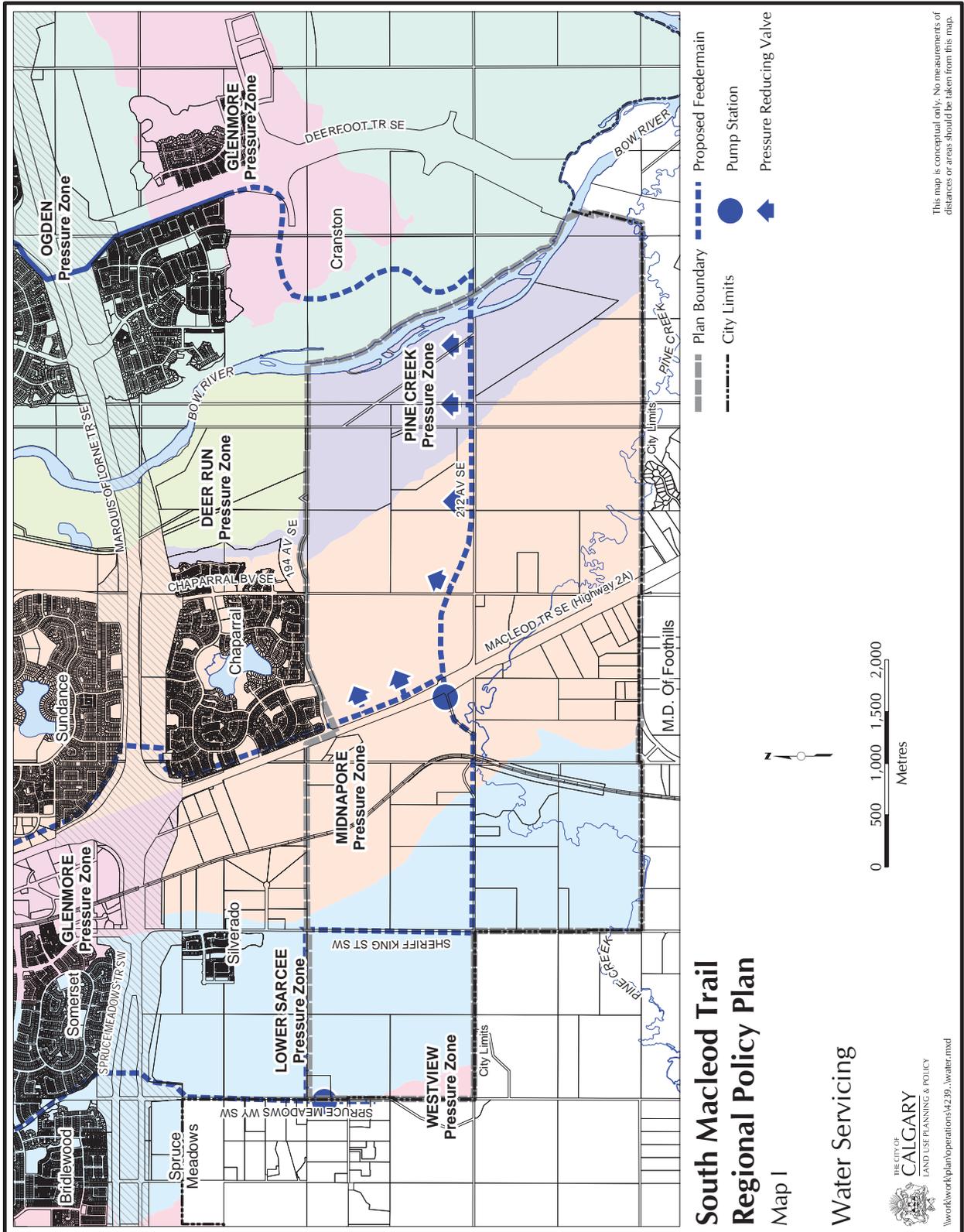
The eastern side of the Plan Area, encompassing the Midnapore and Pine Creek pressure zones, will be supplied with water from the Greater Glenmore pressure zone, which operates at a static hydraulic grade of 1116 m. A proposed 1200 mm Glenmore zone feedermain will be extended south from an existing feedermain on Sun Valley Boulevard, running adjacent to Macleod Trail, turning east on the 210 Avenue alignment. This feedermain will reinforce the Midnapore and Pine Creek pressure zones via pressure reducing valves spaced approximately every half mile and then crosses the Bow River. The completed loop through Cranston to an existing feedermain on Deerfoot Trail will support development in the communities of Chaparral, Cranston, Auburn Bay, Seton, Mackenzie Towne, New Brighton and the future easterly communities of the South Macleod Trail Regional Policy Plan Area.

The 210 Avenue loop is also an important main for support of development overall in southwest Calgary. This feedermain will supply a southerly Lower Sarcee zone pump station to be located at 210 Avenue, providing a solid base for further development of the western portion of the Plan Area and the remaining area within the city limit, south of the Transportation Utility Corridor and west of Macleod Trail.

Presently, the 210 Avenue right of way is owned by the City of Calgary. It is recommended that the feedermain alignment along 210 Avenue be retained or an alternate alignment be obtained prior to the closure of the 210 Avenue right of way, in order for Water Resources to maintain control of the installation schedule for this feedermain.

The western side of the Plan Area, encompassing the Lower Sarcee and Westview pressure zones, will be supplied with water from the Lower Sarcee pressure zone, which operates at a static hydraulic grade of 1138 m. A proposed 1050 mm feedermain will be extended from an existing feedermain on James McKeivitt Road at 162 Avenue SW. This feedermain will follow major roads through the Plan Area, tying to the proposed 1200 mm feedermain adjacent to Macleod Trail, previously referred to above. A proposed pump station will lift the water from the Glenmore pressure zone into the Lower Sarcee pressure zone at the junction point. The closed loop through the Lower Sarcee pressure zone will support development in Silverado and the future westerly communities of the South Macleod Trail Regional Policy Plan Area.

Map I: Water Servicing



A short feedermain and pump station on Spruce Meadows Way SW will be required to service the Westview pressure zone. This pump station will lift water from the Lower Sarcee pressure zone to serve this relatively small local zone on the western edge of the plan.

12.2 Sanitary Servicing

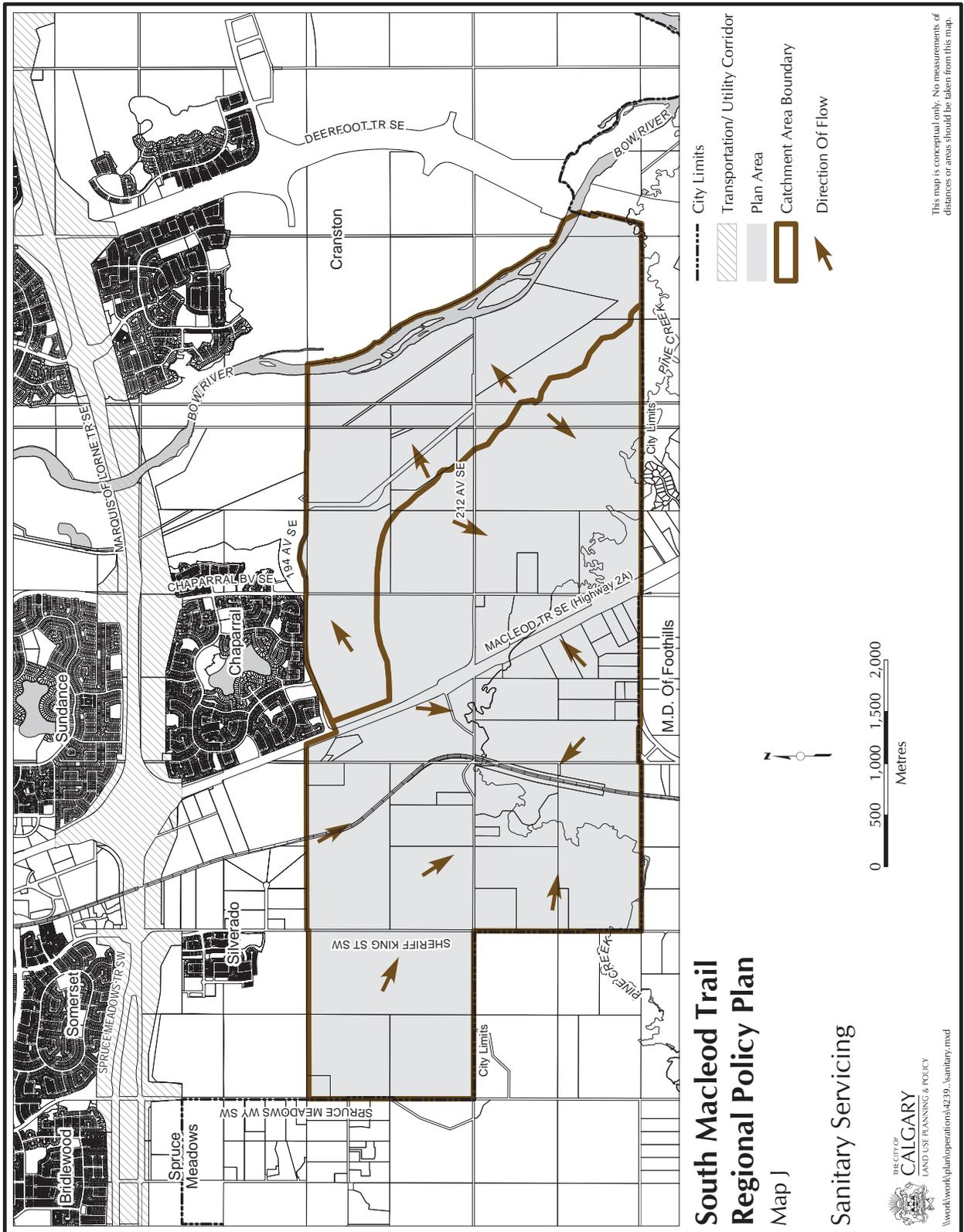
The Plan Area can be divided into two distinct catchments. About 86 ha of land NE of the Plan Area drains northeast to the new Pine Creek Trunk and the remainder area will be serviced by a new sanitary trunk that drains east to the Pine Creek Wastewater Treatment Plant (WWTP).

Aside from the Pine Creek Trunk Catchment, the remainder area generally slopes from west to east. A gravity trunk would need to be extended from the WWTP, west along 212 Avenue, north along Macleod Trail S and west along 194 Avenue. This trunk sewer will also need to be sized to accommodate the future South West Regional Policy Plan Area which is located north of Highway 22X and west of 37 Street. The catchment is significant in size, therefore, the trunk configuration could be a multiple-pipe system. A schematic is depicted on Map J. A master servicing plan is required before approval of ASP in the area to ensure the system design meets the future needs.

Funding for a portion of this trunk is available with Water Resources. A Sanitary Servicing and Financing Agreement will need to be in place between City Water Resources and the Developers to construct this trunk.

It must be noted that the Pine Creek Wastewater Treatment Plant is scheduled for completion in December 2008. The timing of the sanitary trunk construction should be in accordance to this schedule.

Map J: Sanitary Servicing



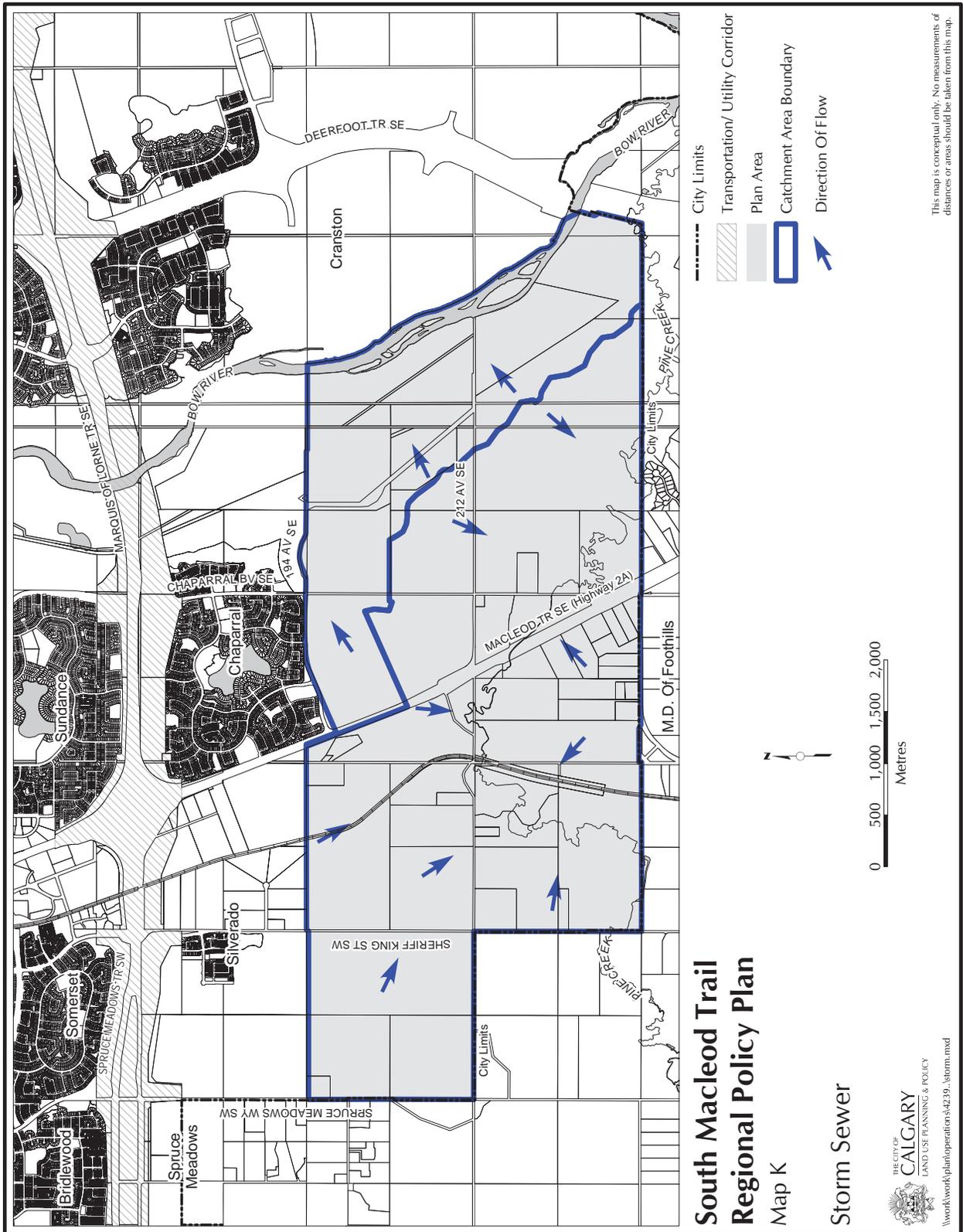
12.3 Stormwater Management

Most of the Plan Area is part of the Pine Creek Watershed except for about 900 m of border land west of the Bow River. In general the border land slopes east, therefore the storm outlets would naturally be connected to the Bow River.

As for the area within the Pine Creek Watershed, although Pine Creek is the receiving stream for the area, the draft Pine Creek Drainage Study (2006) concluded that there is a need to control the post development runoff volume and release rate to the creek in order to sustain the integrity of the creek and minimize the impact to its ecosystem. Source control Best Management Practice (BMP) measures such as rainwater re-use, bio-retention, etc, or other Low Impact Development (LID) measures should be applied to achieve the volume control objective. Nevertheless, detention facilities will still be required to control the 1:100 year storms and overland flow routes be dedicated for more severe storm events.

A Master Drainage Plan will be required to ensure the proposed development follows the aforementioned objectives before approval of any ASP in the area. The drainage concept must incorporate the identified environmentally significant areas and the requirement of water quality improvement.

Map K: Stormwater Servicing



**South Macleod Trail
Regional Policy Plan**

Map K

Storm Sewer



12.4 Shallow Utilities

12.4.1 Natural Gas

ATCO Gas will provide the natural gas distribution for all customers who are connected to City water and sewer systems within the Plan Area. ATCO Gas provision will be located generally as indicated on Map L. Large diameter feeder mains will follow the arterial and collector roadway alignments, and generally will be located within their rights-of-way. Distribution mains will follow collector and residential street alignments and be within easements adjacent to their rights-of-way. A high pressure to intermediate pressure gate station, requiring a 30 m x 30 m parcel of land, will be required as noted by a triangle on Map L. Further planning and design of natural gas services will occur at both the ASP and Outline Plan/Land Use Amendment stage.

12.4.2 Electricity

Enmax will be the electrical utility provider to the Plan Area and will distribute electricity to all industrial, commercial, and residential customers and design the electric distribution system. Further planning and design of electrical services will occur through both the ASP and Outline Plan/Land Use Amendment stages.

The City of Calgary will be responsible for the design, or approval of the design, for street lighting, transit access and park lighting. Enmax may be contracted by the City to do this work, but is not ultimately responsible for it.

12.4.3 Telecommunications

TELUS Communications Inc. will provide services for residential and business customers in the Plan Area. These services will be provided generally as indicated on Map K. The location of required easements and/or direct buried shallow facilities, and their relationship to roads and lanes, will be determined at either the ASP or Outline Plan/Land Use Amendment stage.

Map L: Shallow Utilities

