TOWN OF COCHRANE

BYLAW NUMBER 17/2011

Being a Bylaw of the Town of Cochrane, in the Province of Alberta to adopt the River Heights Area Structure Plan

Whereas: pursuant to Section 633 of the *Municipal Government Act* (herein after called the "Act"), RSA 2000, Chapter M-26, and amendments hereto, the Council of the Town of Cochrane in the Province of Alberta (herein after called the "Council") may provide a framework for subsequent subdivision and development of an area of land, by bylaw to adopt an area structure plan;

and Whereas: pursuant to Section 633 of the *Act*, an area structure plan shall describe the sequence of development proposed for the area, the land uses proposed for the area, the density of population proposed for the area, the general location of major transportation routes and public utilities, and any other matter deemed necessary;

and Whereas: Council, in a duly assembled meeting did adopt Bylaw 07/2008, being the Town of Cochrane Municipal Development Plan, which contains a requirement for a new area structure plan to be adopted for the subject lands prior to redesignation;

and Whereas: an area structure plan has been prepared for Council approval;

Now Therefore Council, duly assembled, hereby enacts, as follows:

1. That this Bylaw may be cited as the "River Heights Area Structure Plan Bylaw";

2. That the River Heights Area Structure Plan, as attached and forming part of this Bylaw, is hereby formally adopted, and;

3. That this Bylaw comes into full force and effect on the date of third and final reading.

Read a first time August 8, 2011
Read a second time October 24, 2011
Read a third time October 24, 2011

Mayor

Manager, Legislative Services

AREA STRUCTURE PLAN

river heights

cochrane
HOW THE WEST IS NOW

COCHRANE, ALBERTA

OCTOBER 2011

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introduction

As a gateway to the west, the Town of Cochrane is located approximately 40 km west of both downtown Calgary and the Calgary International Airport, and only an hour's drive east of the Rocky Mountains. It is located at the intersection of two major highways west of Calgary; Highway 1A (Bow Valley Trail) which runs east-west and provides access to Banff National Park from Calgary, and Highway 22 (Cowboy Trail) which runs north-south through the Kananaskis Country.

The Town's desirable location has resulted in rapid residential growth in recent years. In response, the Town annexed the land south of the Bow River, effective January 1, 2004, from Rocky View County (formerly the Municipal District of Rocky View No. 44). To properly plan this next growth area and to fulfill the terms of the annexation agreement, the Town is preparing the River Heights Area Structure Plan. The contextual location of the Plan area is shown in Figure 1.

The River Heights Area Structure Plan will provide the long term development direction for the Plan area with a vision for a complete community, which adheres to the principles of the Cochrane Sustainability Plan and the Town of Cochrane Municipal Development Plan.

1.1 PLAN AREA

The River Heights Area Structure Plan applies to those lands shown in Figure 1, an area of approximately 414 hectares (or 1,022 acres), bounded by the Bow River and South Ridge Area Structure Plan area to the north, Highway 22 to the west, and the Town boundary with Rocky View County to the south and east.

1.2 CURRENT LAND USE AND OWNERSHIP

The Plan area is currently used for a combination of agricultural operations, residential acreages, St. Mary's Parish, an adult living complex, a car dealership, and a campground for the Girl Guides of Canada (Camp Jubilee).

The current land use districts within the Plan area are Urban Reserve (UR), Residential-Urban Reserve (UR-R), Highway Commercial (C-HWY), and Public Service (PS). St. Mary's Parish and the adult living complex are legal, non-conforming uses in the Public Service (PS) district under the Town of Cochrane Land Use Bylaw.

As of August 1, 2011, ownership within the Plan area remained fragmented into multiple groups and interests, as shown on Figure 2. The breakdown of the districts in the Land Use Bylaw that apply to the parcels within the plan area at the time of ASP adoption is shown in Figure 3.

1.3 ADJACENT LAND USES

The lands to the north of the Plan area fall under the South Ridge Area Structure Plan and comprise of the residential development of Riversong, Bow Valley High School, and a gravel extraction site. The area west of Highway 22 is currently transitioning from acreage development into the new community of Fireside as part of the Westridge Area Structure Plan.

2

background information

The preparation of the River Heights Area Structure Plan involved a comprehensive review of various municipal, intermunicipal and provincial policy documents and studies in order to provide the planning context. The Town of Cochrane made a summary report of these documents available for public review on the Town's website during the development of this Plan. In addition, many background studies, such as the geotechnical investigation and biophysical impact assessment, are either appended to this Plan, or available from the Town of Cochrane on request. The following section describes how this Area Structure Plan responds to the background information investigated as part of this planning process.

2.1 POLICY CONTEXT

2.1.1 MUNICIPAL GOVERNMENT ACT

Section 633 of the *Municipal Government Act* requires that area structure plans contain the sequence of development, the land uses, the proposed population density, and the general locations of major transportation routes and public utilities for a plan area.

The River Heights Area Structure Plan addresses these requirements primarily through the Land Use Concept presented in Figure 6, but also through policies found throughout the document. The complementary nature of the policies and figures provide clarity as to the objectives for development in this Plan area.

2.1.2 ALBERTA LAND USE FRAMEWORK

In 2008, the Government of Alberta published the Land Use Framework, which consists of seven strategies to improve land-use decision-making in Alberta. One of the strategies is to create regional plans for seven land-use regions that are based primarily on watershed boundaries. The Town of Cochrane lies within the South Saskatchewan Regional Plan area, which is currently being prepared. All statutory plans are required to align with their corresponding Regional Plans and once the South Saskatchewan Regional Plan is complete and adopted, a review of existing municipal planning documents such as this ASP should be conducted to ensure conformance to the Regional Plan.

The Land Use Framework is being implemented through the *Alberta Land Stewardship Act*, which was proclaimed on October 1st, 2009, and by way of amendments to other relevant provincial legislation.

2.1.3 MUNICIPAL DEVELOPMENT PLAN

Section 14.3.2(b) of the Town of Cochrane Municipal Development Plan (adopted in 2008) outlines the requirements for an Area Structure Plan to be adopted in Cochrane as follows:

"... Each plan shall address those matters identified in the *Municipal Government Act*, as well as, but not limited to, the following points:

(i) parks and open space;

(ii) utilities;

(iii) conflicts between incompatible uses;

(iv) interface with highway and railway rights-of-way;

(v) urban design;

(vi) ecologically significant areas;

(vii) sustainability standards."

Accordingly, the River Heights Area Structure Plan addresses the above matters in Section 4 and Section 5, as well as Figure 6.

2.1.4 COCHRANE SUSTAINABILITY PLAN

The Cochrane Sustainability Plan (adopted in 2009) details six interconnected systems of sustainability that act as the guideposts for development in the Town of Cochrane:

- culture
- social
- natural environment
- economic
- built environment
- governance

The plan also includes thirteen pathways to a sustainable future. Each pathway outlines the description of success and targets that Cochrane is working towards in order to achieve its vision of sustainability. It is incumbent on development in new planning areas to identify how it is meeting the goals of the various pathways and thereby achieving a more sustainable future.

The policies in many areas of Section 5 are designed to create the parameters for development that will help Cochrane achieve more of its sustainability targets.

2.1.5 INTERMUNICIPAL DEVELOPMENT PLAN AND RANCHEHOUSE ACCORD

The Town of Cochrane is surrounded by Rocky View County. The two municipalities have maintained a good working relationship, and jointly prepared the Intermunicipal Development Plan (adopted in 2001) and the RancheHouse Accord (signed in 2010) to maintain and enhance this relationship.

Several key policies in this Area Structure Plan address issues of paramount importance for both municipalities, including land use transition, gateway features and resolution of gravel haul routes.

2.1.6 CALGARY METROPOLITAN PLAN AND CALGARY REGIONAL TRANSIT PLAN

In 2009, the Calgary Regional Partnership prepared the Calgary Metropolitan Plan and the Calgary Regional Transit Plan. These plans focus on minimizing the human footprint by intensifying development into compact communities that are well-served by transit and which protect ecologically sensitive natural areas.

The River Heights Area Structure Plan conforms to the planning objectives outlined by the Regional Partnership in many ways, but especially with reference to meeting density thresholds and preparing for future municipal and regional transit systems.

2.1.7 PREVIOUS AREA STRUCTURE PLAN PREPARATION

Town Administration prepared a draft Area Structure Plan for the River Heights area in 2008, but the plan was not adopted as a Bylaw by Town Council. This version of the Area Structure Plan builds upon the previous draft, and revises it to better reflect the objectives of Council for developing complete communities in line with the municipal development vision and sustainability targets. This plan also seeks to align more closely with the Town of Cochrane Transportation Plan, and to identify solutions for issues such as gravel haul routing. This revised version also incorporates comments from the public hearing for the draft Area Structure Plan that was prepared in 2008.

2.1.8 STATUTORY PLANS FOR ADJACENT LANDS

Two Area Structure Plans have been approved for the lands abutting the River Heights area: Westridge Area Structure Plan (2008) to the west, and South Ridge Area Structure Plan (1994) to the north. Both areas are planned primarily for residential development, with the provision for neighbourhood commercial development, schools and parks in specified locations.

The estimated population in these two plan areas is summarized below:

Westridge Area Structure Plan:

- Plan Area ..... 114.5 hectares
- Population Estimate ..... 5,586 (2,100 dwelling units)

Within the Westridge Area Structure Plan, the Fireside Stage 1 Neighbourhood Plan contains 53.77 hectares, which will accommodate up to approximately 4,250 people at 29.7 unit/ha*.

South Ridge Area Structure Plan:

- Plan Area..... 297.7 hectares
- Population Estimate ..... 6,173 (2,321 dwelling units)

Within the South Ridge Area Structure Plan area, 54.34 hectares of the Riversong Stage 1 Neighbourhood have already been developed into single and semi-detached dwelling lots, with the overall Neighbourhood Plan area density anticipated to be 18.8 unit/ha*.

As of August 1, 2011, Town Council had approved a series of minor amendments to the South Ridge ASP that would further align it with the Municipal Development Plan and the Sustainability Plan, as well as incorporate the policies of the Riversong Design Brief (adopted May 2010).

** These numbers are quoted directly from the respective plans, which use different methods to calculate the density.*

2.2 PHYSICAL CONTEXT

2.2.1 TOPOGRAPHY

The plan area consists primarily of "knob and kettle" terrain on the upper terrace, with major and minor escarpments running northwest to southeast. These escarpments provide lower terraces that slope toward the Bow River, as shown in Figure 4.

2.2.2 BOW RIVER FLOOD PLAIN

Data from the Town of Cochrane's Geographic Information System identifies the 1:100 year flood fringe and floodway areas along the Bow River, as shown in Figure 5. Land within these flood risk areas may be designated as environmental reserve in accordance with the Section 664 of the *Municipal Government Act*. Development along the flood fringe and floodway must conform to the relevant sections of the Town of Cochrane's Land Use Bylaw.

2.2.3 ENVIRONMENTAL SITE ASSESSMENT

Several Phase I Environmental Site Assessments have been completed for isolated parcels within the Plan area. All of the assessments conclude that there is no risk of contamination from any previous land use activities. However, further assessments may be required as part of Neighbourhood Plan submissions at the discretion of the Development Authority, in accordance with the policies in Section 5.

2.2.4 GEOTECHNICAL ASSESSMENT

A background geotechnical assessment has been conducted for the Plan area by McIntosh-Lalani Ltd. The purpose of this investigation was to identify the stability of the slope and to establish a development setback from the top and toe of those slopes within the overall planning area. The final report from McIntosh-Lalani is available under separate cover on request from the Town of Cochrane, and it incorporates previously conducted geotechnical assessments for individual parcels within the plan area. However, additional test holes and geotechnical investigations will be required at more detailed planning and design stages, as specified in later sections of this plan.

Both the Municipal Development Plan and the Land Use Bylaw discourage development on land with a slope of 15% or more, as well as land within 30 metres from the top of the bank and land within 24 metres from the toe of the slope. However, these development setbacks may be varied on a site-by-site basis where a geotechnical investigation has been submitted and approved by the Development Authority, as per the Land Use Bylaw.

2.2.5 BIOPHYSICAL IMPACT ASSESSMENT

A Biophysical Impact Assessment (BIA) overview was conducted by Sweetgrass Consultants Ltd. for the Plan area. The main objectives of the study were to:

- Map the habitats and general description of wildlife and vegetation;
- Identify wetlands and rank their significance according to the Stewart and Kantrud method;
- Analyze significant habitats and any presence of potential for species at risk;
- Discuss regional ecosystem concepts and include an assessment of habitat connectivity and wildlife corridor potential, and;
- Provide recommendations for management and mitigation of these environments and ecosystems.

This BIA overview used the previously prepared River Heights Wetland Classification and Riparian Health Inventory Project (February 2010) prepared by the Cows and Fish Alberta Riparian Habitat Management Society for wetland boundaries as a basis for the assessment, as well as previously conducted biophysical impact assessment reports for individual properties. Wetlands noted in all previous studies were ground-truthed via reconnaissance survey as part of this Biophysical Impact Assessment.

The development and mitigation recommendations from the report are as follows:

1. An opportunity exists to retain nationally significant valley habitats that include hazard lands in the form of steep slopes and flood plain.

2. Retention of a portion of native habitat on the western edge of the plan area, including representative and significant wetlands as well as surrounding native upland habitats, should be considered. This could serve as a buffer to the highway as well as open space/environmental reserve. Mitigation for the loss of wetland habitat to development could be achieved with integrated wetland-stormwater ponds that incorporate existing wetlands and salvage plant material from areas cleared for development.

3. Clearing of land and wetland work should be conducted outside of the nesting season to comply with the *Migratory Birds Convention Act*.

A copy of the Biophysical Impact Assessment is available under separate cover on request from the Town of Cochrane.

2.2.6 UTILITY RIGHT-OF-WAY CORRIDORS

A land development package from the Energy and Resource Conservation Board has been reviewed for the Plan area. A high pressure gas pipeline, operated by ATCO Pipelines, crosses the plan area as shown in Figure 5.

ATCO Pipelines requires that:

- Any development application within 30 metres from the pipeline right-of-way must be forwarded for their review.
- A five metre building setback is recommended from the edge of the utility right-of-way.
- An encroachment agreement be registered at the subdivision or development stage in order to construct a pathway within the corridor.

In order to adequately serve future development in the Plan area, there is also a need to develop a substation location along this high pressure line. As of August 1, 2011, ATCO Gas and ATCO Pipelines were in discussions with several landowners in the planning area to establish this location.

AltaLink's 138 KV electrical transmission line also crosses the plan area, for which AltaLink requires the following setbacks:

- No soil disturbance within 25.0 metres of the tower base is permitted.
- Servicing facilities are to be placed at least 25.0 metres away from the tower base.
- A minimum 4.0 metre safe limit of approach is required at all times for all equipment and personnel to lowest wire.
- No buildings are allowed within 17.5 metres of the centre line of a tower.

However, despite these setback requirements, AltaLink has confirmed that walkways are allowable if there is enough vertical clearance and that road crossings are permitted where sufficient clearance can be maintained. Opportunities therefore exist to utilize and cross these corridors with transportation routes of many forms to maintain connectivity between development cells.

2.3 SERVICING

2.3.1 WATER

In general respect, like many communities in the Calgary region, the Town of Cochrane, and therefore River Heights, draws its water supply from the Bow River. Current water licenses held by the Town provide the capacity to service a build-out population of approximately 30,000 to 35,000 people, depending on the extent of water conservation measures and future demand. However, the development of River Heights, in conjunction with that of other growth areas in the Town, may result in a future population that exceeds the current water licensing capacity. To this end, Cochrane's membership in the Calgary Regional Partnership provides a likely solution to the need for water supply. Policies within the Calgary Metropolitan Plan confirm that the water licenses held by the City of Calgary can be shared with member communities that agree to develop at a minimum density standard of 19.8 units per hectare (8 units per acre).

More specifically, the Plan area is currently serviced by the River Heights reservoir as well as a reservoir supply main that crosses from north to south over the River Avenue bridge. Figure 9 shows the area that will be serviced by this reservoir and its future expansion. Figure 9 also identifies the two lower zones of the Plan area, adjacent the Bow River, which will need to be serviced in conjunction with the adjacent development through extensions of the main water pressure zone of the Town.

The current reservoir capacity is 3637 m^3 (800,000 igal). The reservoir supply main and the current reservoir volume can service an area of approximately 130 hectares of development based on residential development at 20 units per gross developable hectare with an average household size of 2.6 people (or an equivalent of 52 people per hectare). Reservoir expansion, pump station upgrades, and a second reservoir supply main will be required to serve the balance of the Plan area. The current reservoir site is large enough to accommodate a reservoir expansion of 6060 m^3 (1,333,000 igal) which, combined with the capacity of the existing reservoir, can serve an equivalent population of 24,000 people. Reservoir capacity has assumed a required fire flow of 225 L/s (3,000 igpm) for a period of two hours.

2.3.2 SANITARY

The Plan area will be serviced by way of extensions from the Town's existing sanitary collection system. Currently, there are two siphon sewer mains which connect the collection systems across the Bow River. The sewage is ultimately collected at the Town's primary pump station, which forwards all Town sewage to the City of Calgary system for treatment and disposal.

Figure 10 illustrates the approximate sanitary sewer catchment boundaries that can be serviced by the existing collection mains and river crossings. These catchment boundaries are based on pre-development contour topography and may be modified based on a sanitary sewer servicing strategy that is to be submitted in support of a Neighbourhood Plan application. Any variation of the catchment area boundaries will be at the discretion of the Development Authority. Due to the relatively flat, but undulating topography in the Plan area, lift stations may be required to service portions of the larger catchment areas.

Figure 10 also identifies the capacity available in the existing collection system to serve the Plan area. This capacity is based on residential development at 20 units per gross developable hectare, with an average household size of 2.6 people (or an equivalent of 52 people per hectare). Development plans will need to re-evaluate the system's capacity based on actual sanitary sewage flows.

2.3.3 STORM DRAINAGE

The River Heights Plan area will be serviced for storm drainage with a number of ponds and corresponding outfalls to the Bow River. Currently, there are two outfalls proposed to the Bow River. Figure 11 shows the proposed catchment areas to be serviced by these proposed outfalls as well as the assumed release rates for the various areas within the catchment areas. These catchment boundaries are based on pre-development contour topography and may be modified based on a Stormwater Management Plan that is to be submitted in support of a Neighbourhood Plan application. Any variation of the catchment area boundaries will be at the discretion of the Development Authority.

Stormwater Management Plans, required in conjunction with the preparation of Neighbourhood Plans and subject to Alberta Environment review, as well as Town approval, will need to assess catchment boundaries, stormwater quality and flows, proposed released rates and pond locations. Due to the relatively flat, but undulating topography in the Plan area, more detailed development grading will better identify the feasible location of stormwater ponds. Development planning should endeavour to reduce the number of ponds required to serve the Plan area, which will reduce operational efforts as well as costs, and thereby increase sustainability.

It is noted that requirements for stormwater management are continually evolving and subsequent development planning will need to adhere to all policies and regulations in effect at the time that future Neighbourhood Plans are prepared and submitted.

2.4 TRANSPORTATION

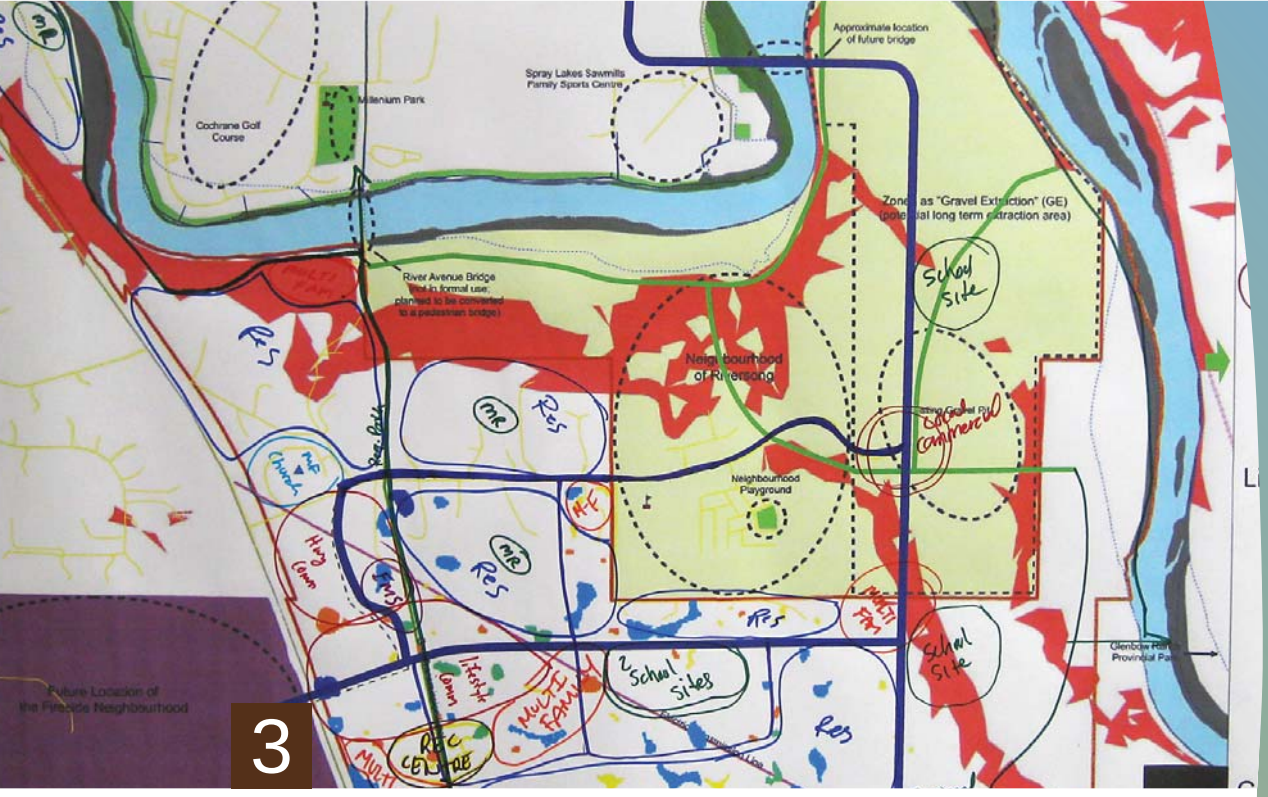
The Plan area is currently accessed from River Heights Drive at the intersection of Highway 22. The existing River Heights Drive and Highway 22 intersection will be relocated to a new intersection point approximately 550 metres south on Highway 22. This new intersection is currently under construction. Ultimately, a second permanent vehicular connection will be made across a new bridge over the Bow River in the area governed by the South Ridge Area Structure Plan.

Figure 7 identifies the proposed road network to the Plan area including all existing and future vehicular access points, as well as emergency access locations. The road network includes a proposed grid of collector and arterial roads. The ultimate location of the Plan area road network will generally be as illustrated in Figure 7, particularly the arterial roadway. Its alignment was selected based on a number of factors including land ownership, topography, and its ability to provide development cells of reasonable size and connectivity.

With the construction of the new intersection of River Heights Drive and Highway 22, and the closure of the existing River Heights Drive intersection (which will be used for emergency access), non-emergency access to the Plan area will be limited to one intersection until such time as the new bridge is constructed. A Transportation Impact Assessment (TIA) will need to be undertaken in conjunction with the preparation of each Neighbourhood Plan to determine the ability of this intersection to accommodate new development. It has been calculated that after build-out of Fireside Stage 1 and Riversong Phase 4, minor improvements to the new intersection could allow it to accommodate approximately 640 additional units of residential development. This capacity will need to be verified as development occurs and prior to land use approval. The reference to development of Fireside Stage 1 development does not imply allocation of capacity of the intersection to this development. Capacity will be verified prior to any land use approval that may impact the intersection. Once the capacity of the new intersection is reached, the twinning of Highway 22 and/or the construction of the new bridge over the Bow River is required to provide additional development capacity for the Plan area.

2.5 OTHER INFRASTRUCTURE

The Town of Cochrane has franchise agreements with the major utility providers within the Calgary region to provide the services necessary for successful urban development. Such services also include the provision of high-speed internet, which the Town views as an essential component for the economic viability of the municipality generally, but also for the future employment area specifically.



3

public consultation

Public consultation plays an integral role in the development of any Area Structure Plan. The River Heights ASP, with its diverse topography, large contingent of owners, and unique development issues, has been no exception.

Throughout this planning process, the Town of Cochrane employed various forms of public engagement programs and stakeholder consultation to supplement the agency circulation and public hearing required when developing a statutory plan.

3.1 PUBLIC ENGAGEMENT

Since March 2010, an escalating scale of public engagement was used to develop the policy framework and resolve critical development issues within the planning area. This involved five formal, full-scale public input opportunities, including:

Issue Identification Meeting:	March 2010
Visioning Exercise:	April 2010
Design Charrette:	May 2010
Public Open House/Launch:	September 2010
Public Hearing:	September 2011

Each of these sessions was advertised for a minimum of three weeks through local newspapers and radio spots, and individual notices were sent to each of the planning area landowners, as well as adjacent landowners in Rocky View County to inform them of the engagement process.

The format and nature of these engagement opportunities was in keeping with the best practices recommended by the International Association of Public Participation (IAP2), where the intent is to "inform, consult and involve". Approximately 75 landowners and citizens attended the initial Issue Identification Meeting, with approximately 25-40 participants coming to each of the Visioning Exercise, Design Charrette and Public Open House sessions.

To keep the public feedback loop as strong as possible, the Town of Cochrane made a summary of the results of each engagement session available online, and participants were invited to contact the project managers from the Town and the consultant team directly throughout the project.

3.2 STAKEHOLDERS AND LANDOWNERS

Throughout the process, but especially between the public launch of the first ASP draft in September 2010 and the public hearing to adopt this Plan, Town Administration orchestrated dozens of meetings with landowners, special interest groups and the subject matter experts from various government agencies to refine the land use concept and the specific policies that make up this statutory document.

Involvement of all major stakeholders and landowners proved absolutely crucial in refining the policies and land use concept prepared for this Plan. The final product is testament to these collective efforts, and its strength for implementation rests in the fact that all parties have had an opportunity to shape the collective destiny for this planning area.

3.3 AGENCY COMMENTS

Administration involved external agencies at the very start of this plan development process through a "pre-consultation circulation". These agencies thus provided a series of parameters, constraints and opportunities specific to this planning area that shaped several of the major land use/policy decisions, as well as the public engagement process.

Working with the internal and external agencies throughout the process as done here simplified the circulation required under the *Municipal Government Act* and made it far simpler to bring this plan for adoption by Council with endorsement from the external agencies.

4

development approach

The overall vision for the Town of Cochrane, expressed in its Municipal Development Plan, is as follows:

> *The community of Cochrane is committed to enhancing social well-being, environmental stewardship, and economic vitality within a context of responsible growth and community engagement. Cochrane embraces sustainability and innovation while maintaining a strong link to its vibrant western heritage.*

Based on the input received from the public and landowners during the visioning exercise held in April 2010, the vision for the River Heights Area Structure Plan is:

> *River Heights is an environmentally and socially-conscious community that strives to be safe, clean, integrated, and connected by various transportation systems. River Heights will accommodate people of all ages within a variety of housing choices that will be supported by excellent schools, parks and trail systems. Within the heart of the community, a people-oriented focal point will provide for an assortment of activities. This new community will support a range of densities, services and amenities at appropriate locations that will heighten the quality of life for residents. The River Heights community will be one that is progressive and forward-looking, yet one that values its heritage and natural features.*

This vision statement is in keeping with the aims expressed in the Municipal Development Plan and guides the development approach as well as land use policies for this document. Any future amendments to this statutory document should refer to this vision in order to remain consistent with it and the design principles for this planning area.

4.1 CREATING COMPLETE COMMUNITIES

When the land contained within this ASP planning area was annexed from Rocky View County, it significantly increased the area available for development within the Town of Cochrane. Since then, the Town of Cochrane has expressed, through its Municipal Development Plan and Sustainability Plan, that it is the intent of this municipality to plan and develop new areas as *complete communities.*

A *complete community* is one that provides for the social, local, recreational, and neighbourhood commercial needs of residents. It should have diverse housing options, local food production, diverse educational opportunities, employment opportunities, transportation options (including public transit), and balanced land uses. Establishing River Heights as a complete community is one of the primary objectives of this Area Structure Plan.

The size of this planning area represents an advantage in that it provides an opportunity to achieve this objective through a variety of land uses and design features.

4.2 SUSTAINABILITY

Cochrane's vision for a sustainable future has influenced the policy direction for all sections of this plan, especially with reference to the design features and land use policies. A Sustainability Matrix report has been prepared under separate cover and is available on request from the Town of Cochrane.

4.3 DESIGN FEATURES

The proposed Area Structure Plan incorporates design features that are summarized below and described in further detail in Section 5. The proposed development concept is shown in Figure 6.

Village Centre

The Village Centre is intended to serve as a focal point for the neighbourhoods that will make up this planning area. It will consist of a mix of complementary commercial and residential uses, while providing an inviting, pedestrian-friendly atmosphere in which residents can socialize and meet their daily needs. It is intended that the Village Centre will be supported by adjacent institutional uses and a Transit Centre.

Mobility and Transit Centre

Mobility is encouraged throughout River Heights through a variety of transportation methods such as trails, transit and roadways. A Transit Centre for local and regional bus services will be developed within walking distance from the Village Centre, Employment Area and other institutional uses.

Institutional Services

A complete community is one that meets the social service needs of its residents and this means including institutional uses within proximity of the village centre and transit centre. Potential institutional uses that may be located in River Heights to provide services for this area and other developments south of the Bow River include: police stations, fire halls and health service centres.

Employment Area

The Employment Area within the River Heights ASP is intended to provide lands that can house a variety of clean industries and complementary land uses, with an aim at providing a regional employment hub within the Town of Cochrane.

Town Gateway

The southern entrance to Cochrane along Highway 22 (Cowboy Trail) is recognized as significant in many statutory documents, and policies are contained in this Plan to ensure that it remains a landmark area. This may be achieved by integrating wetland areas, welcome signage and building design to create an area of visual interest that accurately reflects the diversity of the Town's historic, geographic and development characteristics.

Environmentally Significant Areas

Based on the Biophysical Impact Assessment overview, areas of significant ecological value were identified and are addressed in accordance with this Plan's policies and the *Municipal Government Act*.

Wetland Conservation

Protection and enhancement of wetlands in the planning area represent the primary operating principles guiding policies in this ASP. However, where disturbance is unavoidable, appropriate mitigation and/or compensation will be provided to the satisfaction of relevant Provincial approval agencies in conformance with the Town of Cochrane's policies.

Parks, Pathways and Public Open Space

Open space and parks in various sizes and functions are distributed throughout the Plan area to permit a wide range of passive and active recreational opportunities. A primary central park will provide the majority of the active recreational fields not contained in school sites. In addition, passive recreational opportunities such as community gardens will be interspersed in neighbourhoods throughout the Plan area.

All open spaces and parks are to be linked by sidewalks and pathways, providing non-vehicular transportation network within the Plan area and beyond.

Variety of Housing Types

River Heights will be developed with a range of housing types that will provide affordable housing options for all income levels and create a sense of community through its mix and form, as well as its relation to other land uses.

Gravel Haul Routes

Part of the Annexation Agreement signed with Rocky View County to incorporate these lands as part of the Town of Cochrane involved the resolution of the haul route for the gravel extraction area in the adjacent South Ridge Area Structure Plan. Policies in this plan propose a transitional and ultimately permanent route that will mitigate conflicts on residential and institutional land uses currently impacted by the hauling associated with this gravel operation.

4.4 DEVELOPMENT STATISTICS

The table below summarizes the general land use breakdown of the Development Concept. The area required for future widening of Highway 22 will be determined through discussions with Alberta Transportation:

TABLE 1: LAND USE STATISTICS

	Hectares(ha)	Acres(ac)
Total Plan Area	414	1022
General Land Uses		
Residential	222	548
Special Study Areas	62	153
Employment Area	42	104
Protected Areas / Open Space	52	129
School Sites	14	34
Arterial Road	14	34
Community Park	8	20

In order to estimate the overall population, this plan uses the same methodology as provided by the Calgary Regional Partnership. Based on this method, the Gross Residential Area is obtained by subtracting the non-developable areas and the regional land uses* from the overall developable area.

For the purposes of estimating the total population, the Gross Residential Developable area is 231 hectares (or 571 acres). This area includes the Residential Area, as shown on Figure 6, and the two Kindergarten to Grade 4 schools and the Grade 4 to Grade 8 school. The Kindergarten to Grade 9 school has not been included because its catchment area will go beyond the ASP boundaries. As such, the total estimated population for the River Heights Plan area is:

TABLE 2: POPULATION ESTIMATE

Step 1:	Gross Residential Developable Area (hectares)	231
Multiply (x)	Units per Gross Developable Residential Hectare	20
	Total Dwelling Units	4,620
Step 2:	Total Dwelling Units	4,620
Multiply (x)	Persons per Dwelling Unit	2.6
	Total Estimated Population	12,012

* *Regional land uses are determined through discussion at the Neighbourhood Plan level with the Calgary Regional Partnership, and may include such design features as Employment Areas, Transit Centres, Institutional Uses and Schools with a regional catchment area.*

It is recognized that the total estimated population will have to be refined as a result of the more detailed planning associated with the preparation of the Neighbourhood Plans. At that time, the extent of the Protected Areas/Open Space will be refined, the Special Study Areas will be more closely examined, and through that examination, portions may be deemed developable. Further, within the area designated as Residential on Figure 6, there are a number of wetlands which may be preserved as part of the Neighbourhood Plan and Biophysical Impact Assessment process, thereby reducing the total Gross Residential Developable Area.

5 land use concept

The Land Use Concept for the Plan area is shown on the Land Use Concept Map (Figure 6). It is based on the Development Approach set out in Section 4 and consists of a series of areas and symbols that define a future land use pattern for the River Heights community. The Land Use Concept is intended to provide direction for all stakeholders on how River Heights will develop, based on the policies set out in the following sections.

5.1 GENERAL DEVELOPMENT POLICIES

In concert with the development approach articulated in Section 4, it is intended that the specific design features of River Heights would be developed in accordance with the following principles.

5.1.1 OBJECTIVES

1. To provide policy direction on specific design features for development within the Plan area.
2. To encourage the standard of development within River Heights to incorporate best practices for development.
3. To encourage development in this area to achieve the sustainability targets set by the Town of Cochrane Sustainability Plan.

5.1.2 POLICIES

1. All development within the River Heights Area Structure Plan shall be designed in accordance with Crime Prevention Through Environmental Design (CPTED) principles.

2. Development Permit applications for multi-family residential and other non-residential uses within the Plan area, including schools, shall be required to include a professional CPTED analysis, at the discretion of the Development Authority.

3. Outdoor lighting for all development, including landscaping designs for public spaces, shall have regard to dark sky lighting principles and shall be consistent with the provisions the Town of Cochrane Land Use Bylaw.

4. Landscaping concepts for public spaces are encouraged to make use of xeriscaping designs and techniques to reduce water consumption.

5. Architectural controls prepared as part of Neighbourhood Plan submissions are encouraged to incorporate xeriscaping standards and shall not prohibit them as an option to future landowners and/or tenants.

6. Neighbourhood Plan submissions are encouraged to incorporate the principles of the Leadership in Energy and Environmental Design Neighbourhood Design standards (LEED-ND) as part of their community designs.

7. Development Permit submissions for multi-family and non-residential uses are encouraged to incorporate Leadership in Energy and Environmental Design (LEED) building design standards as part of their applications.

5.2 RESIDENTIAL

The residential policies are intended to provide a framework for the establishment of residential neighbourhoods in the Plan area that are pedestrian oriented, allow for a diversity of housing, and provide the residents with a sense of community. This will be done through the thoughtful location of homes and buildings, the adherence to solid urban design principles, and careful consideration of all aspects that contribute to creating a complete community.

The design of residential areas will be such that environmentally sensitive areas can be protected and, wherever feasible, incorporated into the overall design of the community. Various design techniques, such as clustering of units, locating multiple family units adjacent to views and vistas, and creating short street blocks can be used to promote neighbourhoods that are integrated into the natural environment.

5.2.1 OBJECTIVES

1. To provide a diverse housing mix that caters to all income levels.

2. To achieve an overall density that is consistent with the Town's objectives, as set out in the Municipal Development Plan.

3. To locate the different housing forms so as to enhance their relationship with the street frontage, street width, and proximity to parks, schools, recreational amenities, commercial areas and transit.

4. To connect neighbourhoods with all forms of mobility, including vehicular, pedestrian, bike and transit.

5.2.2 POLICIES

1. A range of housing forms shall be included within the Residential area of each Neighbourhood Plan as shown on Figure 6.

2. The minimum residential density, calculated for each Neighbourhood Plan area, shall be 19.8 units per gross developable hectare (8 units per gross developable acre), as specified in the Town of Cochrane Municipal Development Plan.

3. Affordable housing, either in the form of rental or home ownership, is encouraged throughout the Plan area. Developers are encouraged to liaise with the Cochrane Society for Housing Options to provide the best possible ratio and location for ownership and rental options.

4. Connectivity between neighbourhoods through the continuity of streets shall be designed to promote access and support safe pedestrian, bike and vehicular movements.

5. Consideration should be given to reducing block lengths and avoiding cul-de-sacs in order to provide pedestrian connectivity and movement.

6. Multiple family units shall be located throughout the Plan area and are encouraged to:

   (a) be adjacent, or in close priority to, the Plan area's major roadways (e.g. collectors, arterials);

   (b) be located in areas that would take advantage of views, vistas or other environmental features;

   (c) provide safe pedestrian and bike access to the adjoining street;

   (d) be in proximity to the area's parks and pathway system; and

   (e) provide common amenity areas such as playgrounds and community gardens where feasible.

7. Alternative housing forms (e.g. secondary suites, live/work units) may be allowed within the Residential area where deemed appropriate by the Town.

5.3 EMPLOYMENT AREA

An Employment Area has been designated as part of the Land Use Concept found in Figure 6. The extent of the Employment Area is based on a distribution of the Town's future estimated commercial/industrial land use needs. These future needs were based on the various methods used in the Calgary Regional Partnership's publication, Context for Change Management for the Calgary Regional Partnership Area. The methods used in that publication for calculating the future commercial/industrial land use needs created an estimated range of land required for commercial/industrial uses in Cochrane. From this, a reasonable allocation of the future employment areas appropriate in Cochrane globally was distributed to the River Heights plan area specifically. The allocation provided for River Heights in this ASP is in keeping with the general requirements for the Town, and retains the ability of the Town of Cochrane to provide adequate employment areas within all of its boundaries for the foreseeable future.

However, it is also recognized that the determination of employment land requirements is a complex endeavour based on many factors, including global, national and regional trends, as well as geographic advantages and other factors. It is anticipated that the nature of land uses within the River Heights Employment Area will likely have a high employment density, and for this reason, flexibility in the size and composition of the employment area is extremely important and should be subject to constant evaluation as part of the implementation of this Area Structure Plan.

In this regard, the River Heights Employment Area is intended to accommodate a wide range of commercial/light industrial uses that will contribute to the Town's objectives of creating a complete community, a regional employment hub, a landmark entrance feature, and a greater balance between residential and non residential tax revenues.

Recognizing a large portion of the Employment Area is adjacent to Highway 22 at the southern entrance to the Town, it will be important that any development that is visible from the Highway be developed in a visually attractive manner.

5.3.1 OBJECTIVES

1. To create an employment area that allows Cochrane residents to work within the community.
2. To establish a commercial/light industrial area that provides a non-residential tax base that will contribute to the Town's objective of having a more balanced overall assessment.
3. To develop the area such that it remains an attractive entrance to the Town.
4. To have the Employment Area form an integral part of River Heights and the balance of the Town through vehicular, pedestrian, bike and transit connections.
5. To develop the Employment Area in such a manner as to maximize its viability and success for all parties.

5.3.2 POLICIES

1. The Employment Area shall be comprised of commercial and light industrial uses including, but not limited to: retail, light manufacturing, knowledge-based industries and highway oriented uses.

2. Where parcels back onto Highway 22, the rear of the buildings shall be built to the same design and facade treatment as the front of the building.

3. Recognizing the Employment Area will form part of the entrance to the Town, it shall be developed so that it creates a positive visual appearance through the use of landscaping, attractive signage and architectural features.

4. The Employment Area contains a number of environmentally significant wetlands and they should be recognized, protected and enhanced as part of any design.

5. All buildings shall adhere to the Western Heritage Design Guidelines.

6. Commercial land uses proposed in this area shall complement adjacent industrial and other employment buildings.

7. Commercial land uses in the Employment Area are encouraged to possess a high employment ratio per hectare in their own right.

8. No single use commercial retail store shall adversely compete with the downtown.

5.4 VILLAGE CENTRE

The location of the Village Centre is illustrated on Figure 6 and is intended to provide a focus for the River Heights community. It will be a meeting place for the area residents containing a mix of uses that will include multiple family units along with street-oriented neighbourhood commercial uses. The area will be connected to the community by a road network and a series of pathways that converge at or near the Village Centre. The Village Centre itself will have a strong pedestrian orientation while being close to the area's Transit Centre.

5.4.1 OBJECTIVES

1. To create a mixed-use, residential/commercial, pedestrian-oriented area that provides a focal point and caters to the surrounding neighbourhoods.

2. To provide for the local needs of the River Heights community while creating an area that does not compete with the downtown.

3. To integrate the Village Centre with the road network, pathway and transit systems.

5.4.2 POLICIES

1. The Village Centre should contain a variety of multiple family developments including street oriented townhouses, stacked townhouses, apartments, and live/work units.

2. Street front retail uses, located on the ground floor that cater to the local needs of the surrounding neighbourhoods are encouraged.

3. Neighbourhood-scale recreational, cultural, and institutional uses are encouraged to be located within the Village Centre.

4. All buildings within the Village Centre shall be a minimum of two storeys and transition outward from higher density to lower densities.

5. Where buildings contain non-residential uses (e.g. retail, office, institutional uses), these uses shall be limited to the ground and second floors.

6. At the discretion of the Development Authority, the Village Centre may be developed with reduced road carriageways or with relaxed land use bylaw standards (setbacks, lot width, height, etc.) in order to achieve a more efficient development form, consistent with sound planning principles.

7. The Village Centre is shown conceptually on Figure 6. Its location, adjacent to a collector road and in proximity to the arterial road, and its connection to the regional pathway system, combine to make it accessible to vehicles, pedestrians, bicycles and transit service. Its ultimate location shall respect the need for it to be a multimodal centre and shall be determined as part of a Neighbourhood Plan.

8. In the design of the Village Centre, emphasis shall be placed on the relationship between the buildings and the street to ensure a pedestrian oriented development.

9. The streetscape within the Village Centre shall incorporate elements such as wide sidewalks, benches, bike racks, pedestrian lighting, planters and street trees to enhance the pedestrian experience.

10. The design of the Village Centre is encouraged to incorporate places, such as public squares, where people can socialize and congregate to celebrate special events.

11. Lands required for institutional uses operated by any level of government shall be purchased unless otherwise specified or agreed to by the landowner.

12. Uses located in the Village Centre are intended to serve the local needs of the River Heights community and shall not be designed to compete or have a detrimental effect on the downtown.

13. A conceptual design for the Village Centre shall be required as part of the Neighbourhood Plan submission for the area containing the Village Centre. In preparation of this conceptual design, consideration shall be given to the policies listed above as well as the following elements:

    a. location, amount and integration of surface parking;

    b. building heights and interfaces

    c. public squares, amenity areas and open spaces

    d. potential transit locations

    e. establishment of a sense of place

    f. enhancement of the pedestrian experience

5.5 PARKS AND PUBLIC OPEN SPACE

The River Heights Plan area presents an opportunity to create a park and open space system that contains a wide range of passive and active recreational amenities. The design of the system needs to ensure overall connectivity, not only within the park and open space system, but also the developed areas. The system will need to promote user safety, respect the existing environmental components and accommodate the needs of the future residents.

The parks and open space system needs to be planned and developed in conjunction with the school sites that will be developed within River Heights. Each will contribute to the unique needs of the community and provide complementary amenities.

5.5.1 OBJECTIVES

1. To integrate the system with the wider community through pedestrian and bike pathways.

2. To provide the River Heights community with a variety of recreational opportunities.

3. To provide spaces that create recreational opportunities for varying age groups.

4. To recognize the opportunity to integrate the system with future school sites so that each may provide complementary amenities.

5.5.2 POLICIES

1. Figure 8 generally illustrates the location of the key components of the parks and open space system, including the location of pathways. The locations shall be refined at the Neighbourhood Plan stage and ultimately be confirmed at the time of subdivision.

2. A Community Park (Recreational and Athletic) of approximately eight hectares in size shall be dedicated in the general location illustrated on Figure 8.

3. Municipal Reserve shall be dedicated through the subdivision process in accordance with the provisions of the *Municipal Government Act*.

4. Within River Heights, Municipal Reserve shall be via a land dedication unless otherwise specified by the Subdivision Approving Authority.

5. The Subdivision Approving Authority may register a deferred reserve caveat against the title of a parcel in order to defer the provision of Municipal Reserve, pending the future subdivision of a parcel and provided the parcel will retain its potential for further subdivision.

6. Regional trails shall be provided to ensure the Plan area is connected to the Glenbow Ranch Provincial Park, the community of Riversong, and across Highway 22 into the community of Fireside.

7. The location of regional trails, internal pathways, access points and/or viewing areas in proximity to environmentally significant wetlands is encouraged, provided that locating the trail, pathway, access point or viewing area in such proximity does not threaten the biodiversity of the wetland.

8. Municipal Reserve may be used to create school sites and a variety of parks and pathways. Recreational uses such as off leash areas, sporting facilities and children's play areas may be appropriate uses within the area dedicated as Municipal Reserve. In addition, Municipal Reserve may be considered for upland grasslands surrounding wetlands and linkages between environmentally sensitive areas.

5.6 SCHOOLS AND JOINT-USE SITES

In the preparation of the Plan, Town Administration conducted extensive consultation with the Rocky View, Calgary Catholic Separate, and Catholic Francophone school divisions. As a result, four school sites were identified as being required to meet the educational needs of the River Heights community. These include two public, Kindergarten to Grade Four schools, one public, Grade Five to Grade Eight school, and one separate, Kindergarten to Grade Nine school. The approximate size of each school site is:

- Kindergarten to Grade Four (two sites): 8 acres each
- Grade Five to Grade Eight (adjacent to the Bow Valley High School): 6 acres
- Kindergarten to Grade Nine: 12 acres

In addition to determining the number and size of each school, there was discussion between the Town and the School Divisions on the ability of the schools to function as joint-use sites that would not only provide facilities to the children attending school, but also to the community at large.

5.6.1 OBJECTIVES

1. To provide school sites in appropriate locations and of sufficient size that will meet the needs of the community.

2. To encourage the integration of the schools into the community through the provision of uses and services that will benefit all the residents.

3. To encourage schools to be located so they can take advantage of play fields and other infrastructure and reduce the cumulative size of the school sites.

5.6.2 POLICIES

1. Schools should be located generally as illustrated on Figures 6 and 8. The size and final location for each school site shall be determined through Neighbourhood Plan submissions and dedicated as Municipal Reserve at the time of subdivision.

2. The predominant use of the land within a school site shall be for educational and recreational uses, including but not limited to: pubic and separate schools, sports fields, parks and playgrounds.

3. School buildings should be designed and encouraged to integrate a variety of uses that benefit the community and reinforce the role of the school as the social, educational and activity centre for the community.

4. School sites should be centrally located within a given student catchment area to increase the opportunities for students to walk and cycle to school.

5. School sites shall be located a safe distance from high pressure and sour gas lines as well as overhead power lines for purposes of safety and potential use in emergency situations, to the satisfaction of the Development Authority.

6. The school building shall be located on a collector road and is encouraged to be located at the intersection of collector roads wherever possible.

7. School sites shall be designed so as to incorporate CPTED principles.

8. School sites shall remain landscaped until such time as the school site is developed.

9. Passive recreation uses, such as community gardens and model flying clubs, are encouraged to be located on school sites at the discretion of the appropriate school authority.

10. Bus loading and drop-off zones shall be provided in appropriate locations in order to promote the free flow of traffic on the roads adjacent to a school site.

11. The co-location of multiple school sites will be evaluated on a case-by-case basis by the local school divisions and the Development Authority at the time of Neighbourhood Plan submissions.

5.7 SPECIAL STUDY AREAS

Three special study areas have been identified. These areas contain features that require specific reviews before it can be determined what portions can be developed and what portions need to preserved or protected. The areas that need additional analysis include:

1. The girl guides camp (Camp Jubilee) located adjacent to the Bow River within the northwest portion of the Plan area. This area contains land subject to flooding from the Bow River, steep slopes (i.e. in excess of 15%) and flora and fauna that have been identified as environmentally significant.

2. An area at the south end of the River Avenue Bridge that consists largely of steep slopes that may have stability issues.

3. The bench lands along the eastern portion of the Plan area that contain steep slopes, land that is subject to flooding and has been, based on a preliminary assessment, identified as being part of the Bow River wildlife corridor. In addition, because of the location of the benches in this area, and should those benches be deemed developable, the planning for this area may need to be done in conjunction with the land to the south, east and west, outside the Plan area.

Each of these has been designated as a Special Study Area on Figure 6.

5.7.1 OBJECTIVES

1. To receive and evaluate the required studies and assessments to determine what portions of each area may be developed and which portions are subject to conditions that would warrant their protection.

5.7.2 POLICIES

1. The policies that shall apply to Special Study Area A as outlined on Figure 6 are:

    a. Prior to any development occurring, and in conjunction with the preparation of a Neighbourhood Plan or land use redesignation application, the owner shall prepare the necessary technical reports that address the stability of the steep slopes, the potential for flooding and any measures needed to mitigate flood damage, measures proposed to avoid or mitigate any impacts to the environmentally significant areas and other matters deemed necessary by the Town.

    b. Notwithstanding Section 5.6.2.1(a), the existing Girl Guide camp may continue to operate within its current confines provided it does not build any additional permanent structures within the designated floodway or flood fringe, on or adjacent to the identified steep slopes or carry out any activity that may negatively impact the identified environmentally significant areas.

2. Within Special Study Area B, the following policies shall apply:

    a. Prior to any development occurring and in conjunction with a Neighbourhood Plan or land use redesignation application, the owner shall provide a geotechnical report that addresses the concern relative to the stability of the slopes within Special Study Area B. The report shall provide direction on whether development may occur, and if it can, what conditions should be imposed to ensure the long term stability of the slopes.

    b. Notwithstanding Section 5.7.2.2(a), it is recognized that there is a lower bench within Special Study Area B which has been deemed as potentially stable for development by preliminary geotechnical data, subject to confirmation by a future geotechnical report for this Neighbourhood Plan area.

3. Special Study Area C shall be subject to the following policies:

    a. Prior to any development occurring and in conjunction with a Neighbourhood Plan or land use redesignation application, the owner shall provide the Town with information that addresses the slope stability, the presence and potential mitigation of wildlife corridors and how the area will be integrated with the adjacent lands should development be deemed appropriate.

5.8 TOWN GATEWAY

River Heights forms part the Town's southern gateway and as such, any development that occurs along its western edge will have a direct impact on people's perception of Cochrane. The Town has worked hard on creating positive entrances to the community and it is important to carry this high standard of visual treatment into River Heights as it develops.

The Town has adopted the Western Heritage Design Guidelines and they will be applied to all buildings along the Highway 22 corridor. This will require a design review of all development along the Highway to ensure they meet the Design Guidelines, as well as all relevant Town policies and regulations with respect to creating aesthetically pleasing entrance ways.

In addition, at the time of writing this document, the Town had recently adopted new "welcome signage" with assistance from a representative stakeholder committee for the four major entrances to Cochrane. This signage builds on the theme of Cochrane's western heritage and one of the new entrance signs is proposed to be located at the southwestern edge of the ASP boundary.

5.8.1 OBJECTIVES

1. To create an edge treatment along Highway 22 that, through a combination of landscaping, building design and placement, and the incorporation of existing natural features and topography into any development, creates a positive appearance to the southern entrance to the Town.

2. To provide the Town with the opportunity to review how the land adjacent to Highway 22 is to be developed to ensure it meets the standards the Town has established for its entranceways.

5.8.2 POLICIES

1. Buildings shall be designed so as to present a smaller mass by using measures such as the reduction of the building footprint, offsetting walls, shifting rooflines to vary height, and articulating building elevations. The intention is to reduce building bulk and create visual variety (i.e. to avoid the "large box look").

2. Highway 22 is designated as a scenic tourism corridor and improvements to protect and enhance its visual quality shall be undertaken.

3. Edge consideration should be incorporated into all forms of future development. Considerations, such as parcel size, site design, functionality, visual separation, sound attenuation, open space alternatives, view corridors, vistas, vegetation, and building materials, shall addressed to create a positive visual appearance.

4. Prior to the approval of a Neighbourhood Plan, sketches, plans and illustrations shall be submitted to the Town showing how the Town objectives, policies and regulations with respect to entrance ways have been addressed.

5. The placement of municipal "welcome signage" shall be integrated with the wetland and other environmental features to provide a landmark entrance feature that is further complemented by the adjacent employment land uses.

5.9 WETLAND CONSERVATION

A Biophysical Impact Assessment overview (BIA) for the River Heights Area Structure Plan was completed by Sweetgrass Consultants Ltd in October, 2010. The BIA identified a number of wetlands throughout the area. Based on the Stewart and Kantrud Wetland Classification System, the existing wetlands range from Class 1 (Ephemeral) to Class 4 (Semi-Permanent Pond). Four wetlands, located along the western edge of the Plan area, were identified as environmentally significant. Figure 5 illustrates the location of the wetlands and those that were deemed to be environmentally significant.

The Town, as outlined in its "A Wetlands and Riparian Areas Conservation and Management Plan (2008)", prefers to:

- Avoid damaging wetlands and riparian areas;
- Mitigate adverse effects that cannot be avoided; and
- Compensate for the loss or damage to wetlands and riparian areas, with a preference to compensatory habitat within, or near to, the Town of Cochrane.

The decision on which method will be used in dealing with the area wetlands is multi-jurisdictional, including municipal, provincial and federal jurisdictions. To ensure a clear, coordinated and transparent process, all jurisdictions will need to work together to identify the most appropriate approach in dealing with the Plan area wetlands.

The following objectives and policies are intended to provide for the protection and enhancement of wetlands. The policies also recognize the potential to allow development of certain wetlands in accordance with the Town's "No Net Loss" policy. Where compensation is proposed, the owner will need to demonstrate that he/she has explored all reasonable options for avoidance and mitigation.

5.9.1 OBJECTIVES

1. To provide a framework and direction on protecting, conserving, restoring and establishing mitigation measures for the Town's wetlands.

2. To recognize that the treatment of wetlands is a multi-jurisdictional responsibility including municipal, provincial and federal departments, as well as non-governmental stakeholders.

3. To provide a framework for development in accordance with the Town's principle of "No Net Loss" and thereby address the possibility that it may not be possible to protect all wetlands in place.

5.9.2 POLICIES

1. Prior to, or in conjunction with, the preparation of a Neighbourhood Plan or land use redesignation application, and where there is a wetland within a Neighbourhood Plan area or an area that is the subject of a redesignation application, the developer shall, in consultation with Alberta Sustainable Resource Development and the Town, determine whether the wetland is subject to the *Public Land Act*, whereby the province has claim over the bed and shore of the wetland.

2. Prior to, or in conjunction with, the preparation of a Neighborhood Plan or land use redesignation application, a Biophysical Impact Assessment (BIA) that includes a detailed review of any wetlands and their associated riparian areas in the Plan area or the area to be redesignated, shall be prepared by a qualified professional.

3. In conjunction with the preparation of a BIA, the Development Authority may require a hydrological study or a hydrogeological study or both, in order to determine how and if subsurface or surface water flows affect environmentally significant wetlands.

4. The BIA shall classify all wetlands according to the Stewart and Kantrud method, and set out which are to be avoided, what mitigation measures need to be taken, and provide rationale on the development of wetlands that are not to be retained.

5. Where a wetland is to be retained, the BIA shall recommend a development setback that incorporates the riparian area.

6. Once all avenues of avoidance and minimization of development have been explored, and an appropriate level of disturbance has been authorized by the Development Authority and appropriate provincial and federal authorities, mitigation for the impact on the wetland shall adhere to the Town's "No Net Loss" principle.

7. Where wetlands qualify as Environmental Reserve (ER) in accordance with the provisions of the *Municipal Government Act*, the wetland may be dedicated as ER through the subdivision process.

8. Where a wetland is designated as ER or otherwise acquired, it shall be protected, except for:

    a. Improvements necessary to integrate the area with surrounding development and ensure its sustainability;

    b. Landscaping that is necessary to restore the wetland and its shoreline, and;

    c. Amenities such as interpretative areas, pathways, viewing areas, etc. considered by the Town to enhance the public's understanding of the wetland. Such amenities shall obtain a Development Permit as may be required by the Land Use Bylaw for the Town of Cochrane.

8. Where wetlands do not qualify as ER, the lands may be acquired through different means such as land transfer, dedication as Municipal Reserve, registration of a conservation easement, or purchase.

9. Where wetlands are not dedicated as ER or Municipal Reserve, or otherwise acquired or protected, they shall be considered developable.

10. Wetlands may be included as part of the stormwater management system, provided that the Stormwater Management Plan, prepared in support of any Neighbourhood Plan or land use redesignation, addresses the following to the satisfaction of the Development Authority:

a. the design and how the wetland will be managed;

b. how the configuration will support/enhance the natural open space system;

c. the means whereby the wetland will balance function with the provision of habitat, and;

d. the means whereby the wetland and associated detention ponds, forebays, etc. will be protected (e.g. Environmental Reserve designation)

11. If a wetland is to be part of the stormwater management system, prior to subdivision approval, the developer shall demonstrate to the satisfaction of the Province and the Town that the quantity and quality of stormwater entering the wetland will be such that the wetland will continue to function as it did before any development adjacent to the wetland occurred.

5.10 ENVIRONMENTALLY SIGNIFICANT AREAS

The Plan Area contains a number of Environmentally Significant Areas (ESA) as illustrated on Figure 5. These areas were identified in a Biophysical Impact Assessment overview (BIA) carried out by Sweetgrass Consultants Ltd. in 2010, the Canada/Alberta Flood Damage Reduction Program, and as part of the Town's Municipal Development Plan. The ESAs identified include:

- Native grasslands and tree stands;
- Wetlands;
- Floodway/flood fringe;
- Escarpments; and
- Slopes in excess of 15%;

These areas play an important role in Cochrane's urban landscape by:

- Improving water quality;
- Attenuating and protecting against floods;
- Reducing soil erosion;
- Providing diverse habitats for native flora and fauna;
- Contributing to an aesthetic urban design, and;
- Providing educational opportunities

The Town, through existing plans and policies (e.g. Sustainability Plan, Municipal Development Plan) provides direction on how it intends to deal with ESAs within the town as a whole. These plans and policies will be applied to the features identified on Figure 5, with the following providing additional direction for the River Heights Plan area.

5.10.1 OBJECTIVES

1. To identify areas within the Plan area that are environmentally significant.

2. To provide guidance on how the environmentally significant areas may be protected by creating policies for the Plan area, but also recognizing that the Town and the Province have additional policies that must be respected.

5.10.2 POLICIES

1. ESAs identified on Figure 5 are not automatically acquired and/or protected from development unless they qualify as Environmental Reserve (ER) in accordance with the *Municipal Government Act*. ESAs will be subject to review at the Neighbourhood Plan stage and shall be reviewed as part of a BIA that will accompany the Neighbourhood Plan or redesignation application.

2. Environmentally Significant Areas that do not qualify as Environmental Reserve in accordance with the *Municipal Government Act* may be protected through other means, (e.g. conservation easements, voluntary Municipal Reserve) as may be identified as part of a Neighbourhood Plan submission. However, where these ESAs are not dedicated, acquired or otherwise protected, the lands shall be deemed developable and the policies for the adjacent land use policy area (e.g. Residential, Employment Area) shall apply to those lands without requiring an amendment to Figure 6.

3. Mitigation and creative solutions for development, potentially impacting the ESAs, should be explored in the Neighbourhood Plan.

5.11 GRAVEL HAULING ROUTES

In accordance with the Annexation Agreement that incorporated River Heights into the Town of Cochrane in 2004, this Area Structure Plan addresses the issue of the gravel haul route that traverses through developed areas.

Primarily, this has involved collaboration amongst the gravel pit operator, impacted land developers, Rocky View School Division, Rocky View County, the public at large, and the appropriate departments at the Town of Cochrane.

In the short-term, it is the intent to take the gravel trucks from their current route to Highway 22 via River Heights Drive and re-route them along a private all-weather road in general alignment with the future east-west arterial road. In the long-term, it is the intent of the haul route strategy to disperse gravel hauling traffic between the east-west arterial and the north-south arterial/bridge, thereby reducing the impacts on adjacent land uses.

5.11.1 OBJECTIVES

1. Develop a haul route strategy that satisfies the terms of the 2004 Annexation Agreement with Rocky View County for the lands within the Plan area.

2. Ensure that the permanent haul route strategy generally channels gravel hauling traffic away from schools and residential areas.

5.11.2 POLICIES

1. The Town shall work with the gravel pit operator and the adjacent landowners to relocate the gravel haul route away from existing development of the Riversong community until such time as the arterial through the Plan area is constructed.

2. A temporary gravel haul route shall be constructed and financed by private agreement between the gravel pit operator and the impacted land developers, with no expense to the Town of Cochrane.

3. The temporary, private road is intended to be constructed to an all-weather standard, and to be designed for the exclusive purpose of hauling gravel until such time as the permanent arterial road is constructed.

4. The temporary, private road is intended to be fenced to permit current agricultural operations to remain in place with minimal disruption.

5. Detour of gravel haul traffic from the temporary gravel haul road onto other arterial and collector roads may be permitted during periods when the east-west arterial is being constructed or expanded, to the satisfaction of the Development Authority. A Traffic Management Plan shall be submitted to the Development Authority for approval in these circumstances.

6

development servicing

6.1 SERVICING

The Plan area is able to be serviced through the extension of Town infrastructure, much of which has been designed to accommodate the development of River Heights. For example, oversizing has been included to the sanitary sewer system as it passes through the development area to the north. Water service has built in capacity that can be further expanded as demand dictates.

6.1.1 OBJECTIVES

1. To provide the infrastructure necessary to permit the development as proposed by the Land Use Concept.
2. To phase infrastructure upgrades to be commensurate with the rate of development.
3. To incorporate Low Impact Development techniques and principles into the design of the area's utilities.
4. To develop servicing schemes that provide for sustainable infrastructure design that minimizes life-cycle costs, negative impacts to the environment, and meets the servicing standards of the Town.

6.1.2 POLICIES

1. Urban development within the Plan area shall be serviced with Town water, sanitary sewer and stormwater systems, as well as gas, cable, telephone and electricity.

2. Neighborhood Plans shall provide servicing schemes that provide for cost effective life-cycle costs for servicing that minimize negative impacts to the environment and meet the servicing standards of the Town.

3. Long-term operating costs shall be minimized by reducing the number of facilities required to provide service to the development area.

4. All cable, telephone and electricity for servicing development shall be underground.

5. Easements and rights of way shall be provided to accommodate Town utilities as necessary.

6. Easements, rights of way, public utility lots and road rights of way may be required, at the discretion of the Development Authority, to be dedicated or registered across undeveloped land to ensure orderly and sequential development.

7. The water, sanitary sewer and stormwater systems shall be designed to serve the ultimate development of the Plan area.

8. A Stormwater Management Plan shall be prepared prior to, or in conjunction with, a Neighbourhood Plan or a land use redesignation.

9. As part of the preparation of a Stormwater Management Plan "Best Management Practices" and alternatives for stormwater quality and quantity enhancements should be assessed with regard to Low Impact Development techniques and principles and put in place as part of the servicing design where feasible.

10. Stormwater facilities, such as stormwater ponds, are encouraged to be integrated into park and open space areas.

7 transportation

7.1 TRANSPORTATION SYSTEM

Within River Heights, the opportunity exists to create a multi-modal transportation system that includes vehicular and non-motorized transportation as well as an anticipated local and regional transit system. As such, there is a need to identify how these systems will be constructed and implemented so that together they form an integrated mobility system.

7.1.1 OBJECTIVES

1. To provide a safe, functional and efficient road system that accommodates vehicular and non-motorized traffic and meets the travel demands of the River Heights community.

2. To anticipate future roadway, transit and pathway requirements and provide connections to lands outside River Heights.

3. To provide for a transit system that links the River Heights community to the rest of Cochrane as well as providing efficient transit service within the Plan area.

4. To establish a pathway system that complements the road network so that there is an alternative method of travel for non-motorized traffic.

7.1.2 POLICIES

1. Road Network

    a. Arterial and Collector roadways shall be generally located as shown on Figures 6 and 7.

    b. Development adjacent to an arterial road should provide a variety of treatments and design solutions to promote visual breaks and a variety of interfaces between the arterial and the adjacent lands. Lots backing onto the arterial resulting in a continuous treatment (e.g. fencing) will be strongly discouraged.

    c. Roads should provide connections that converge toward the Village and Transit Centres.

    d. Local roads are not shown on Figures 6 and 7 but shall be located as part of each Neighbourhood Plan.

    e. The layout of the local road system should provide direct connections, multiple route choices, provide connectivity between all parts of the community, and allow for efficient transit routes.

2. Pedestrian and Bicycle Circlulation

    a. The pathway system shall be generally located as illustrated on Figure 8.

    b. Pathways should be part of an integrated park and natural space system wherever possible. Where this is not possible, pathways may be located within a road right of way.

    c. Local pathways are not shown on Figure 8 but will be located as part of each Neighbourhood Plan. When locating local pathways, they should provide direct connections to the Village Centre, parks, schools, the regional pathway system that links to the Glenbow Ranch Provincial Park, the community of Riversong, the community of Fireside, and transit stops.

3. Transit

    a. Transit routes shall be identified as part of a Neighbourhood Plan.

    b. Transit stops should be located so they serve multi-family developments, the Village Centre, schools, the Employment Area and be within 400 metres (e.g. five minute walk) of all dwelling units to encourage transit usage.

8 plan implementation

8.1 AUTHORITY OF THE PLAN

The River Heights Area Structure Plan ("the Plan" or "ASP") is an area structure plan that Council has adopted through Bylaw in accordance with Section 633 of the *Municipal Government Act* and retains such force as provided by this legislation.

8.2 INTERPRETATION OF THE PLAN

8.2.1 MAP INTERPRETATION

Unless otherwise specified, the boundaries or locations of any symbols or areas shown on a figure or map are approximate only and shall be so interpreted.

8.2.2 POLICY INTERPRETATION

Where an introduction section accompanies the objectives and policies for any development issue, it is provided for information and to enhance the understanding of the objectives and policies. Should an inconsistency arise between the introduction and an objective or policy, the policy shall take precedence for interpretation, followed by the objective, followed by the introduction.

Where "shall" is used in a policy, the policy and the actions that it requires are considered mandatory.

Where "should", "may" or "is encouraged" are used in a policy, the policy and action are considered optional, but the general intent is compliance except where unique circumstances, such as an impractical or impossible situation, require a different course of action.

8.3 PLAN AMENDMENTS

The intent of the River Heights Area Structure Plan is to provide policy direction and a general land use concept for development to occur within this geographic area. A certain degree of flexibility has been incorporated into this plan to provide various options for development that still meet the vision of the Town of Cochrane.

However, the Town of Cochrane recognizes that circumstances may dictate the need to add, modify or delete certain policies and plan elements in future. The following objectives and policies help to clarify the procedures for an amendment and the circumstances that would warrant such action.

8.3.1 OBJECTIVES

1. To provide clarity regarding the types of changes that will require an amendment to this Area Structure Plan.

8.3.2 POLICIES

1. An amendment shall be required where a substantive change, as defined by the Development Authority, is proposed to the text or figures of this Plan.

2. An amendment application shall be referred to the Development Authority for its consideration and to Council for ultimate approval, in accordance with the requirements outlined in the *Municipal Government Act*.

3. Where an amendment to this Plan is requested, the applicant shall submit the supporting information deemed necessary by the Development Authority to evaluate and justify the amendment.

4. It shall be the responsibility of the Development Authority to compile and make available a list of any amendments to this Area Structure Plan.

8.4 NEIGHBOURHOOD PLANS

The River Heights ASP provides principles, objectives and policies that when combined, set out how the area will develop in the future. The preparation and adoption of the ASP is, however, only one step in the planning process. Additional, more detailed, work is needed before it will be possible to actually start developing the area. The following sets out the next steps in the planning process.

8.4.1 OBJECTIVES

1. To establish a planning process that is clear and allows development to proceed in a timely fashion.

2. To ensure development is consistent with Town policies and regulations.

8.4.2 POLICIES

1. Figure 12 illustrates the Neighbourhood Plan areas within River Heights. Prior to, or in conjunction with, an application for redesignation, a Neighbourhood Plan shall be prepared for each area.

2. A Neighbourhood Plan shall address:

   a. a future land use scenario including lot design and configuration;

   b. parcel size and residential density;

   c. the anticipated commercial/industrial employment ratio per hectare, where applicable;

   d. proposed open space, including active and passive open areas, natural areas and both pedestrian and bike linkages to other existing or potential adjacent developments;

   e. Municipal Reserve and Environmental Reserve dedications as well as other appropriate means of protecting environmentally significant areas and open space;

   f. open space linkages with adjacent lands within and outside the Plan Area;

   g. development phasing, illustrating full build-out;

   h. innovative and efficient means to provide access and internal road circulation over both the immediate and long term;

   i. measures to provide for the integration of the proposed development with existing and adjacent development in a manner that ensures compatibility with adjacent land uses;

   j. measures to provide for the creation of an appropriate rural-urban interface for Neighbourhood Plan areas bordering Rocky View County;

   k. mitigation measures such as landscaping, screening, or berming to address any on-site or off-site visual impacts;

   l. any constraints to development, including but not limited to: geotechnical, environmental, and hydrogeological conditions; archaeological or historically significant features;

   m. a Stormwater Management Plan which will determine Best Management Practices for stormwater management;

   n. water and wastewater servicing strategies, including identification of rights-of-way required for connection to Town systems;

   o. Traffic Impact Assessment (TIA) that addresses the location of existing and future transportation networks, detailing traffic generation and its cumulative impacts on the road network, including necessary improvements based upon traffic volume and engineering advice;

p. Biophysical Impact Assessment (BIA) that includes field assessments which maps the habitats, describes the wildlife and vegetation, identifies and ranks wetlands according to significance, analyzes habitats and potential for species at risk, evaluates the regional ecosystems, habitat connectivity and potential for wildlife corridors, and provides recommendations for management and mitigation of the lands subject to its review;

q. Transit plan showing future routing and transit stops;

r. an overall landscaping concept for all public spaces, including, but not limited to: municipal reserves (including school sites), road right-of-ways, pathways and storm water features;

s. architectural guidelines;

t. mail box locations;

u. road names in accordance with approved Town policy;

v. proposed school sites;

w. recreational lands and facilities;

x. input from affected community stakeholders, including community organizations, and social service agencies; and

y. any other matter the Municipality deems necessary.

3. Land Use approval shall not be granted unless a Neighbourhood Plan has been approved by Council.

4. In order to implement the policies and Figures of the Plan, land may be redesignated by Council and implemented thorough subdivision approval or development permit processes.

5. Phasing of development will generally proceed west to east so that there is a logical extension of Town services and roadways.

6. At the discretion of the Development Authority, Neighbourhood Plan boundaries may be modified without the requirement for an amendment to this Area Structure Plan where it can be proven that better and more cohesive planning can be achieved.

7. Where certain lands have been deemed developable in the absence of a full Neighbourhood Plan, they may still be required to submit a "shadow plan" to evidence the viability of servicing and transportation connections to these parcels, at the discretion of the Development Authority.

8. Neighbourhood Plans partially or fully contained within the Notification Area of the Intermunicipal Development Plan (IDP) shall be circulated to Rocky View County in accordance with the terms of the IDP as part of the plan review to be conducted by the Development Authority. Applicants for these plan areas are encouraged to coordinate with Rocky View County administration prior to submitting a Neighbourhood Plan application to the Development Authority.

9

interpretations & definitions

9.1 GLOSSARY OF TERMS

Affordable Housing means the definition for this term provided by the Canada Mortgage and Housing Corporation, as may be amended from time to time.

Amendment means a change that alters the purpose, intent, policies or Figures of the Plan.

Council means the duly elected Council of the Town of Cochrane.

Crime Prevention Through Environmental Design (CPTED) means a multi-disciplinary approach to deterring criminal behaviour through environmental design.

Development Authority means the definition for this term provided in the Town of Cochrane Municipal Development Plan (Bylaw 07/2008), as may be amended from time to time.

Gross Developable Area means the area of a site being subdivided, excluding Environmental Reserve and arterial roadways.

Gross Residential Area means an area of a site designated by a plan or bylaw to accommodate residential uses, excluding arterial roadways, environmental reserves, high school or other school sites intended to provide educational services to an area outside the plan or bylaw area, and any regional institutional or public uses.

Hydrological Study means a study that addresses the distribution and circulation of water on the surface of the land and how any alterations of the land will affect the natural surface water flow and the potential impact on wetlands.

Hydrogeological Study means a study that addresses the distribution and movement of groundwater in subsurface soils and rocks (ie aquaifers) and how the distribution and circulation of groundwater may be affected by alterations to the land, in particular potential impacts on wetlands.

Leadership in Energy and Environmental Design (LEED) means the third-party certification program and internationally accepted benchmark for the design, construction and operation of high performance green buildings, as accepted and may be amended from time to time by the Canada Green Building Council.

Leadership in Energy and Environmental Design – Neighbourhood Design (LEED-ND) means the rating system to guide and assess sustainable community development, as may be prepared and defined by the Canada Green Building Council.

Low Impact Development means a comprehensive approach to land planning and engineering design with a goal of maintaining the pre-development hydrologic regime of urban and developing watersheds.

Municipal Government Act means Chapter M-26 of the Revised Statues of Alberta 2000, as amended from time to time.

Neighbourhood Plan means a plan adopted by resolution pursuant to the provisions of the Municipal Development Plan for the Town of Cochrane and this Area Structure Plan.

No Net Loss means the definition for this term provided in the Town of Cochrane Policy 1502-01, or similar, as may be amended from time to time.

The Plan means the River Heights Area Structure Plan.

The Plan Area means the geographic area contained within the River Heights Area Structure Plan.

The Province means the Province of Alberta.

Public Land Act means Chapter P-40 of the Revised Statues of Alberta 2000.

The Town or **Town of Cochrane** means the Town of Cochrane, a municipal corporation in the Province of Alberta, and where the content so requires, the area contained within the corporate boundaries of said municipality.

Subdivision Authority means the definition provided for this term in the Town of Cochrane Land Use Bylaw (Bylaw 01/2004), as may be amended from time to time.

Xeriscaping means landscaping or gardening practices that reduce or eliminate the need for supplemental water from irrigation.

figures

Figure 1 Regional Context Plan

Figure 2 Ownership

Figure 3 Current Land Use District

Figure 4 Topography

Figure 5 Design Constraints & Considerations

Figure 6 Land Use Concept

Figure 7 Road Network

Figure 8 Trail Network

Figure 9 Water Servicing

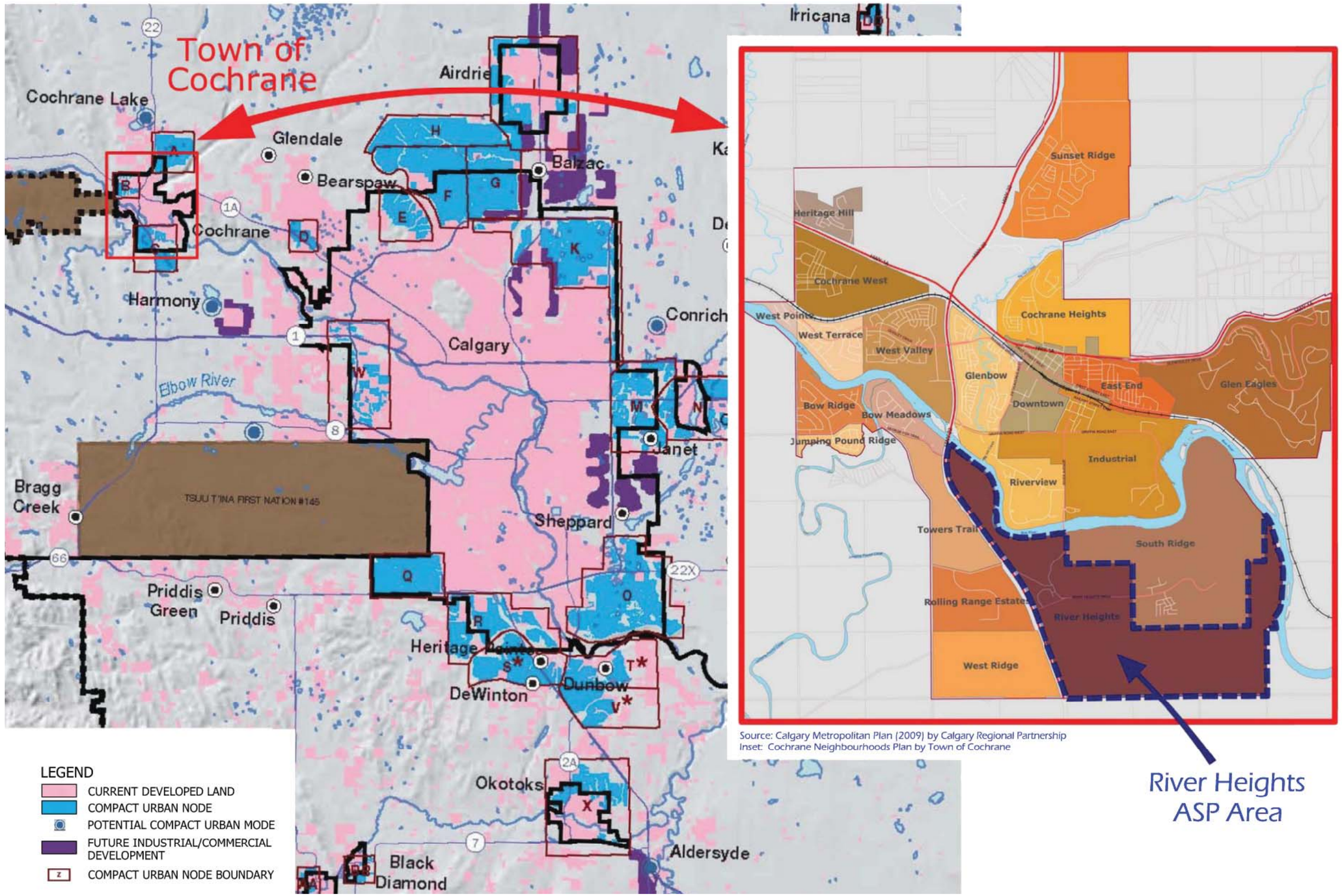
Figure 10 Sanitary Servicing

Figure 11 Storm Water Management

Figure 12 Neighbourhood Plan Areas

regional context

FIGURE 1



NOT TO SCALE

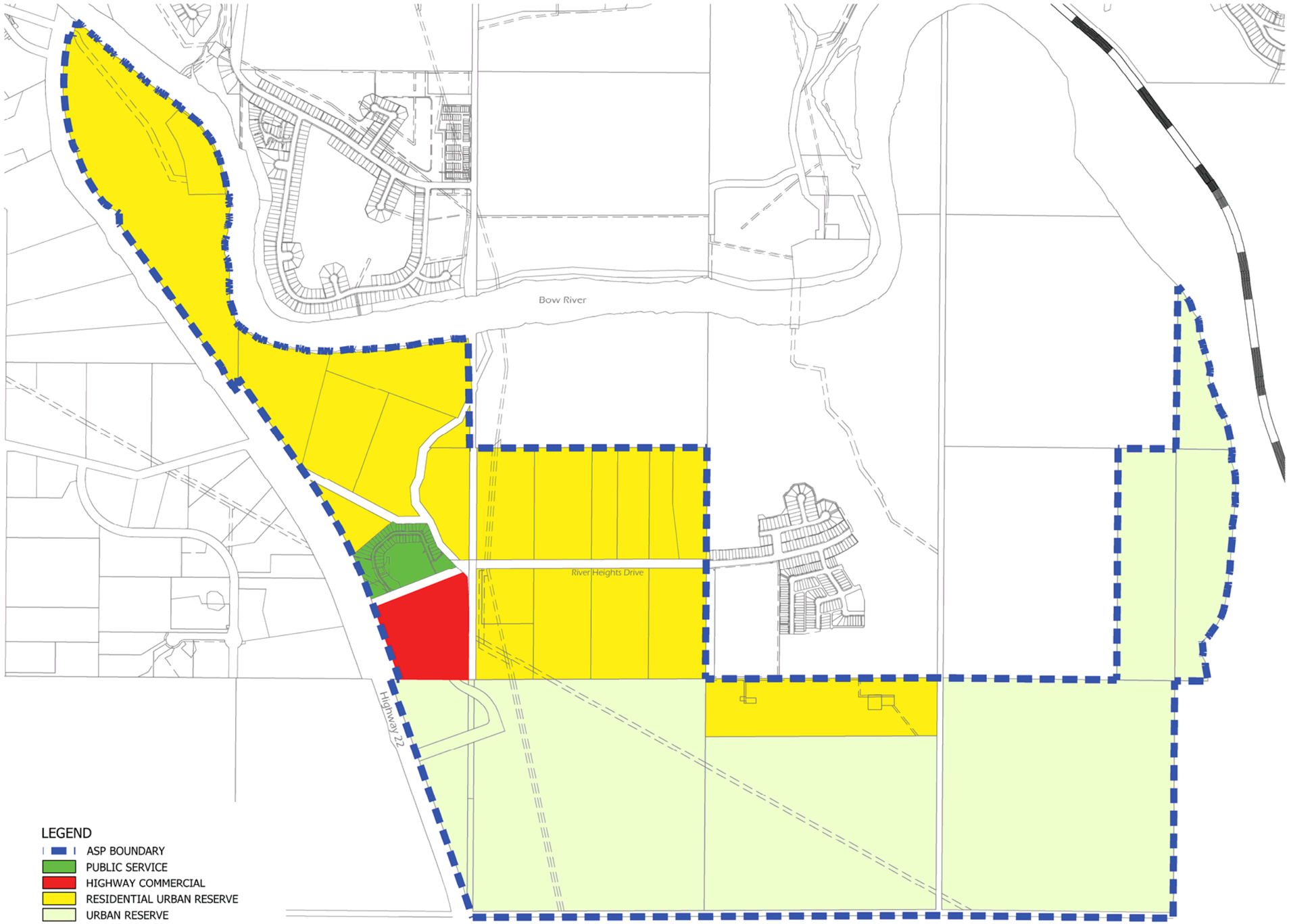
land ownership

FIGURE 2

NOT TO SCALE

current land use districts

FIGURE 3



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topography

FIGURE 4

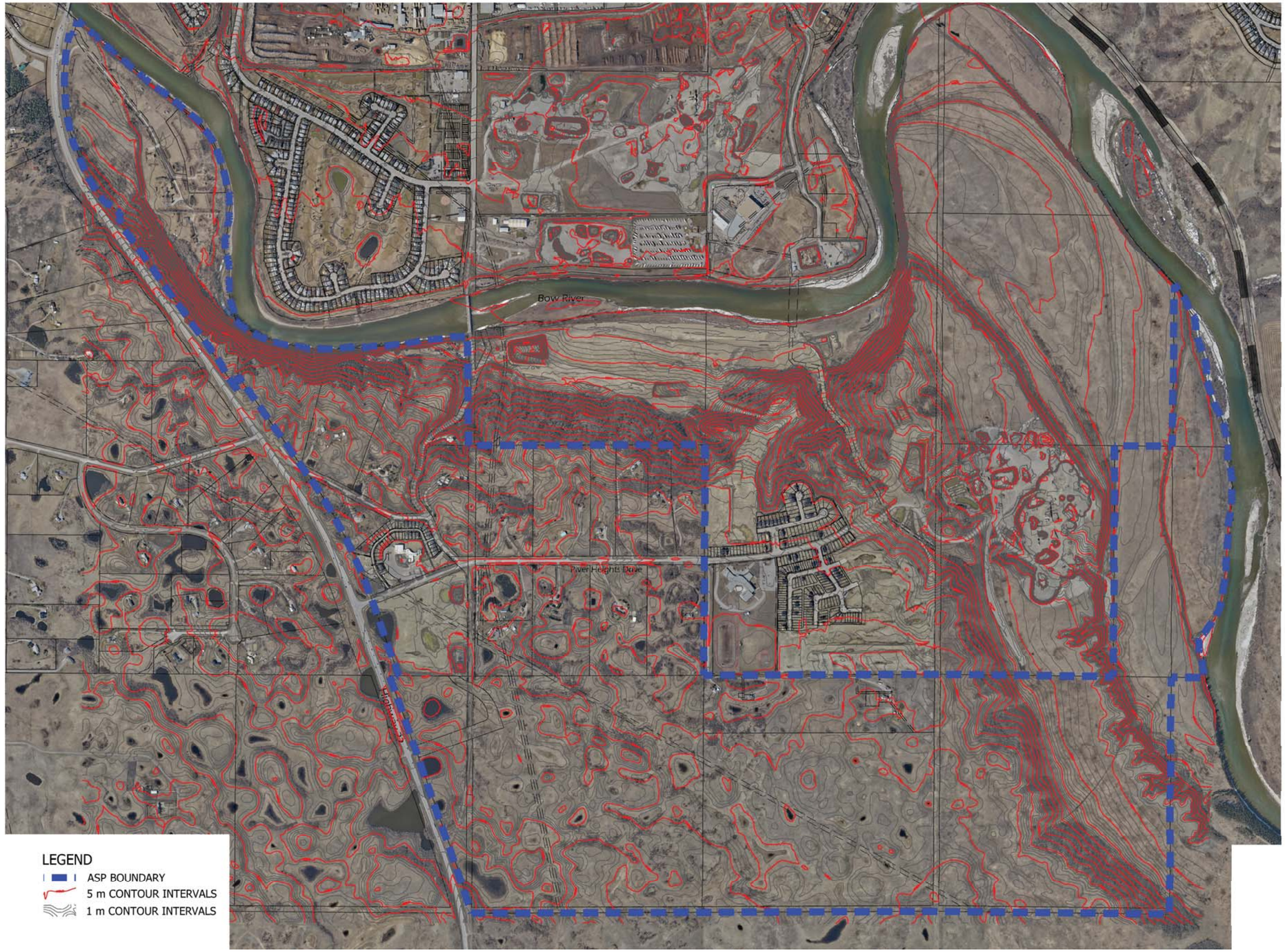

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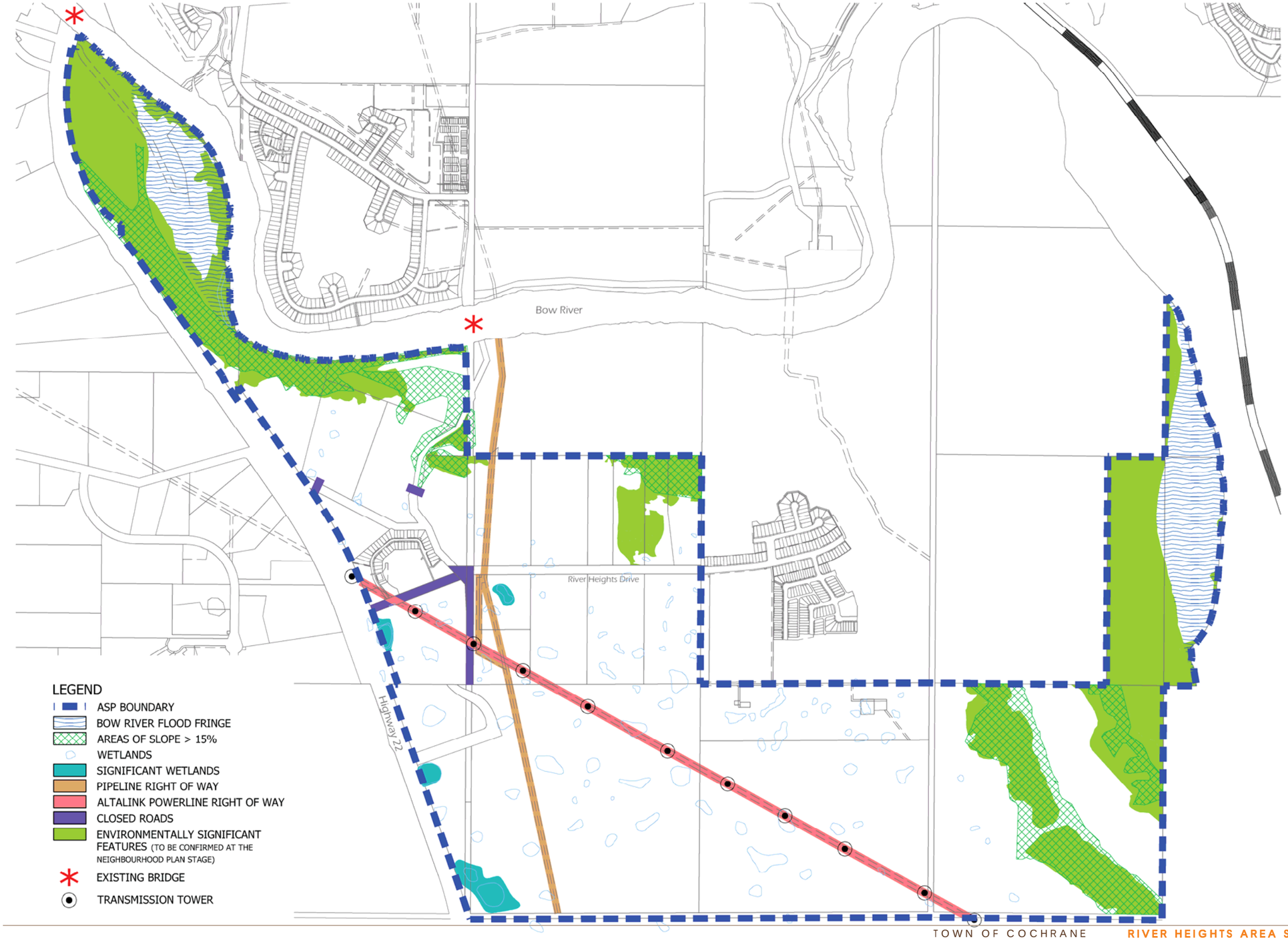
FIGURE 5



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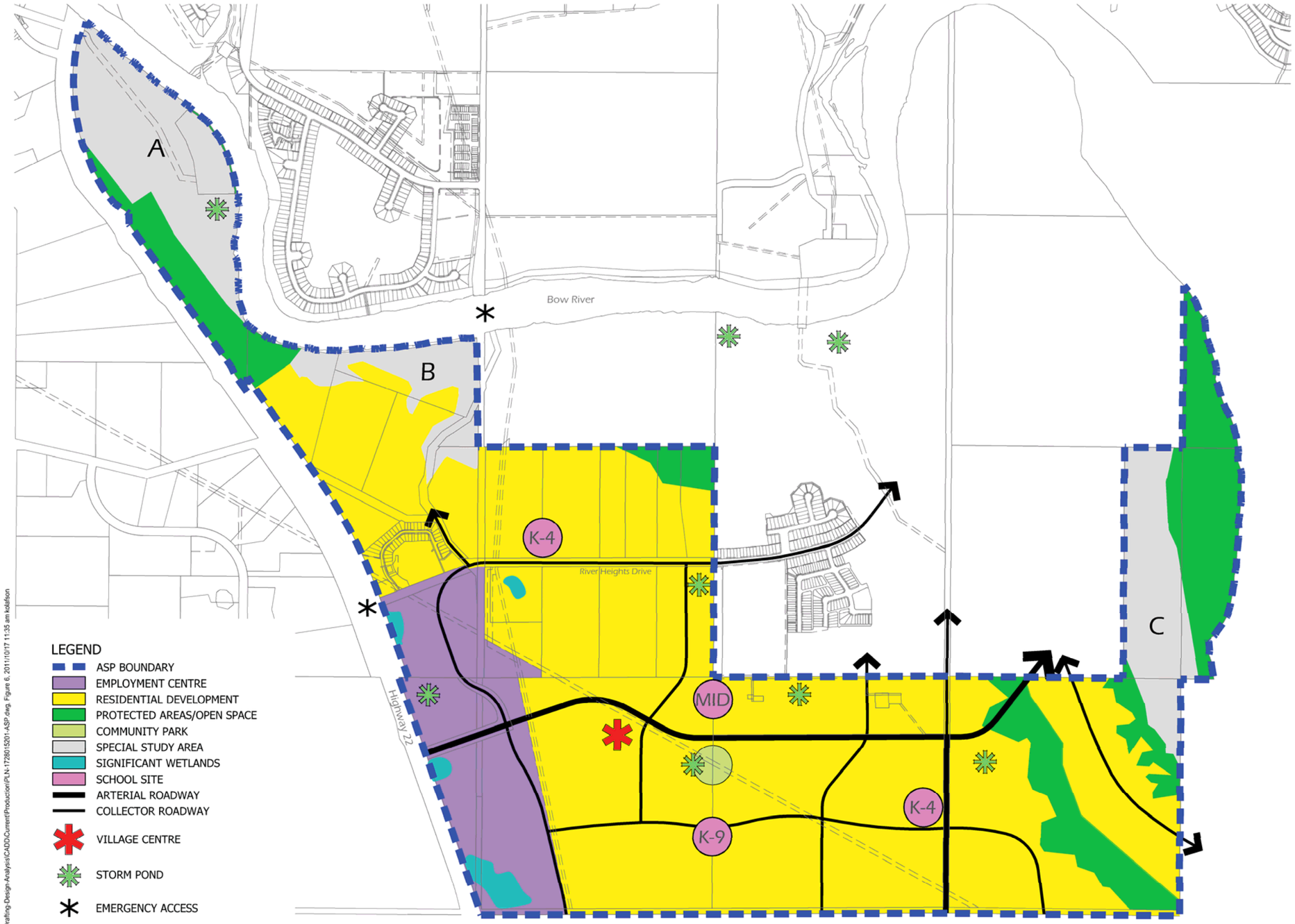
land use concept

FIGURE 6



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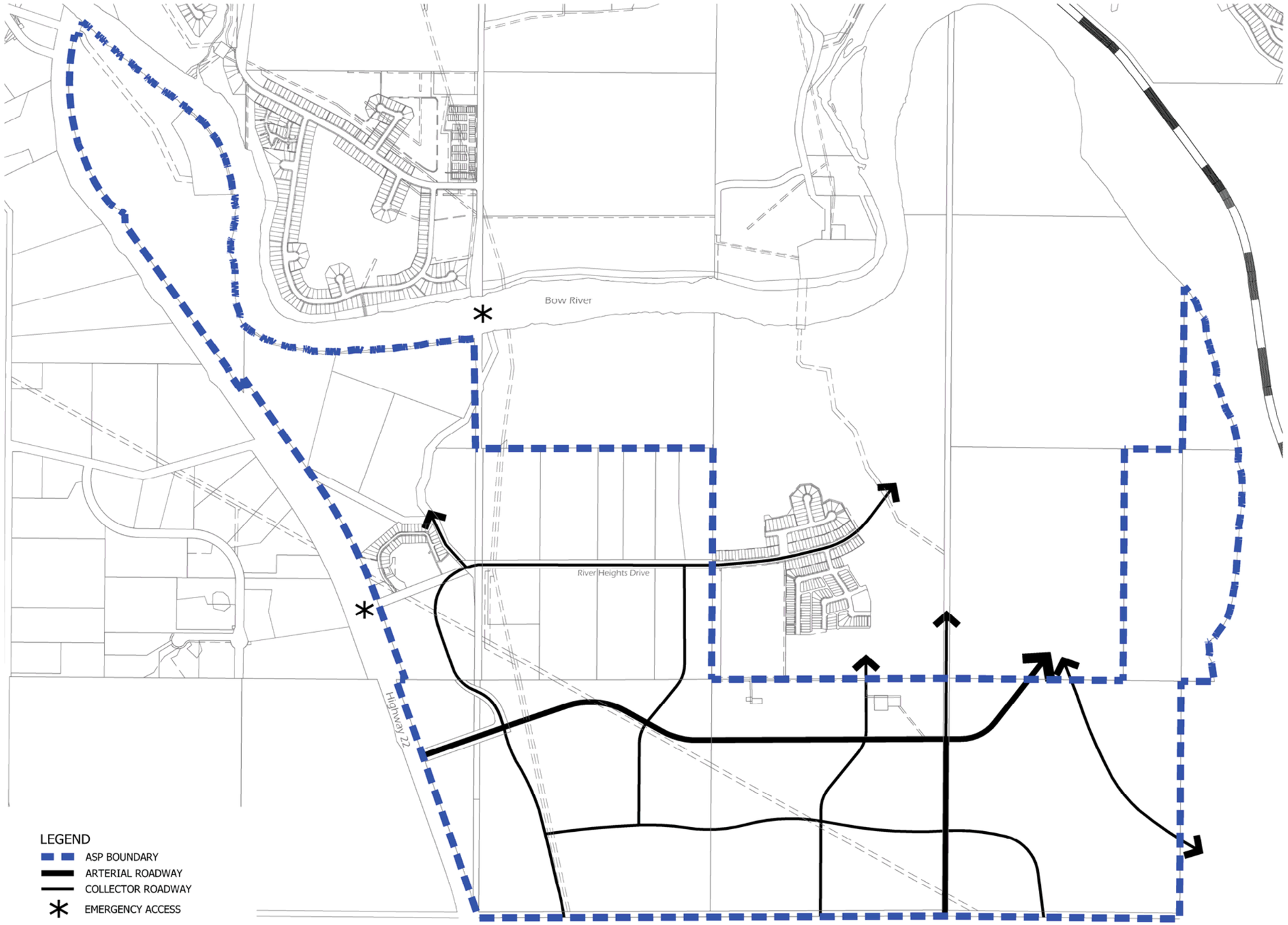
road network

FIGURE 7



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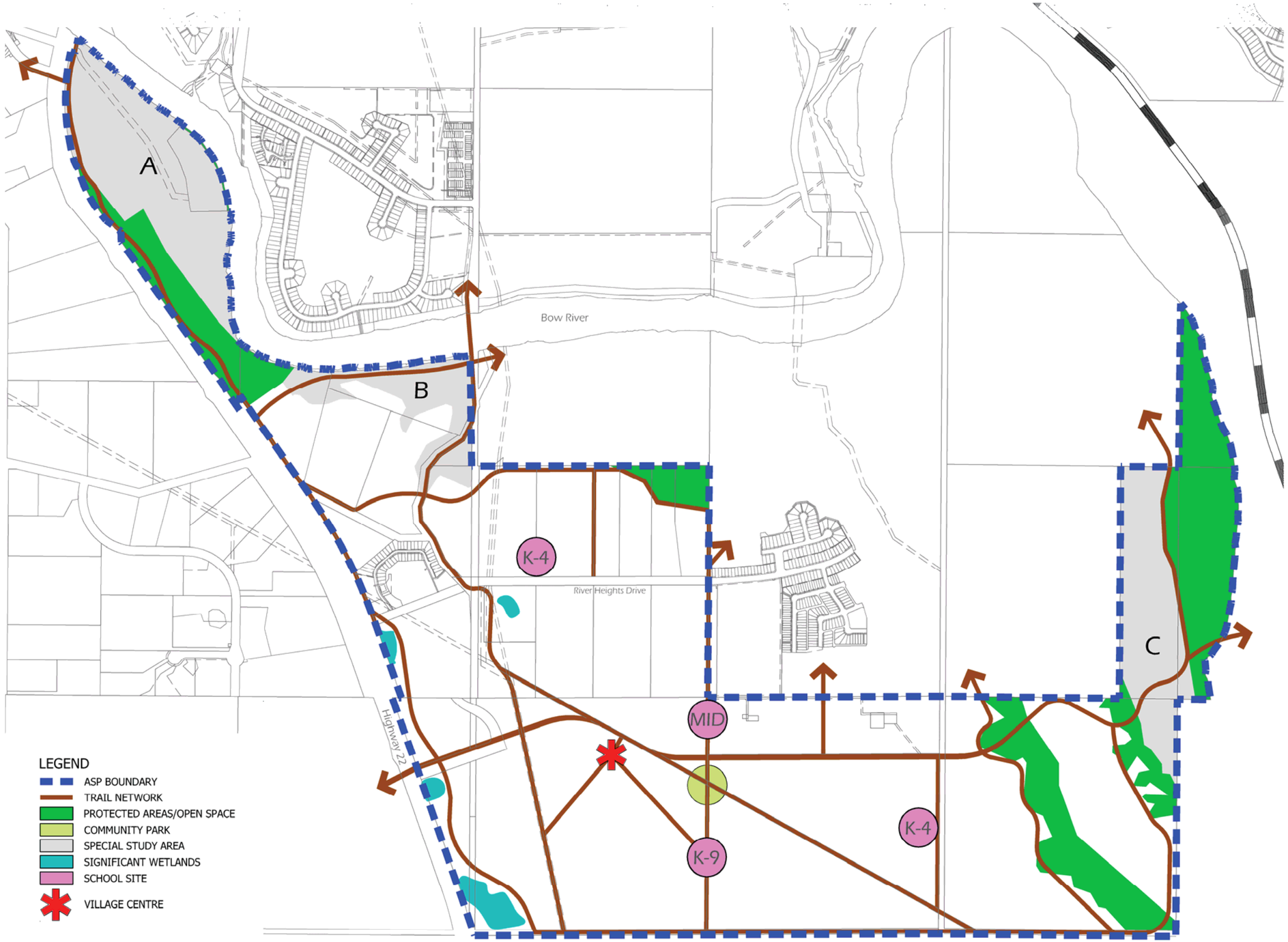
trail network

FIGURE 8



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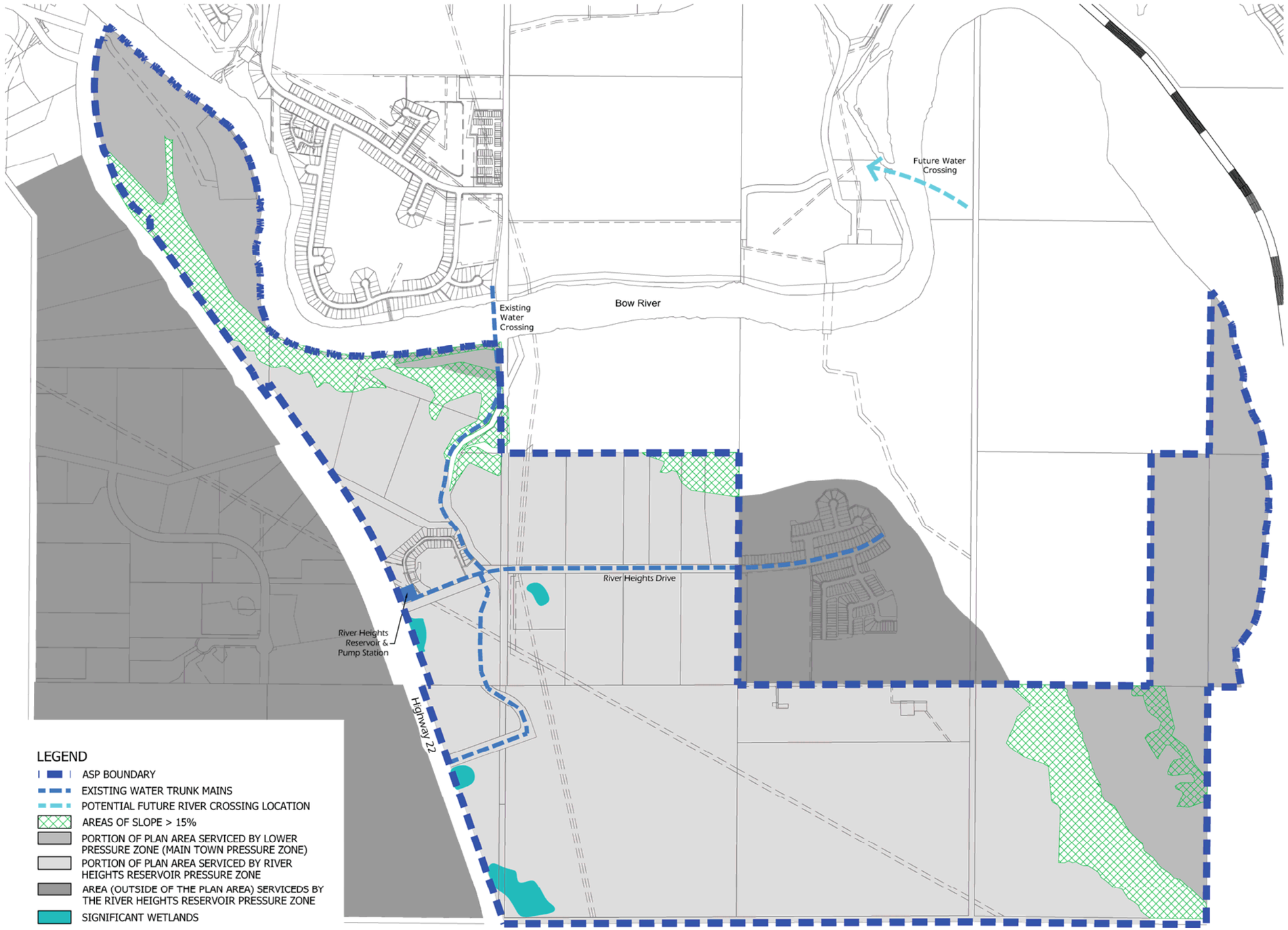
water servicing

FIGURE 9



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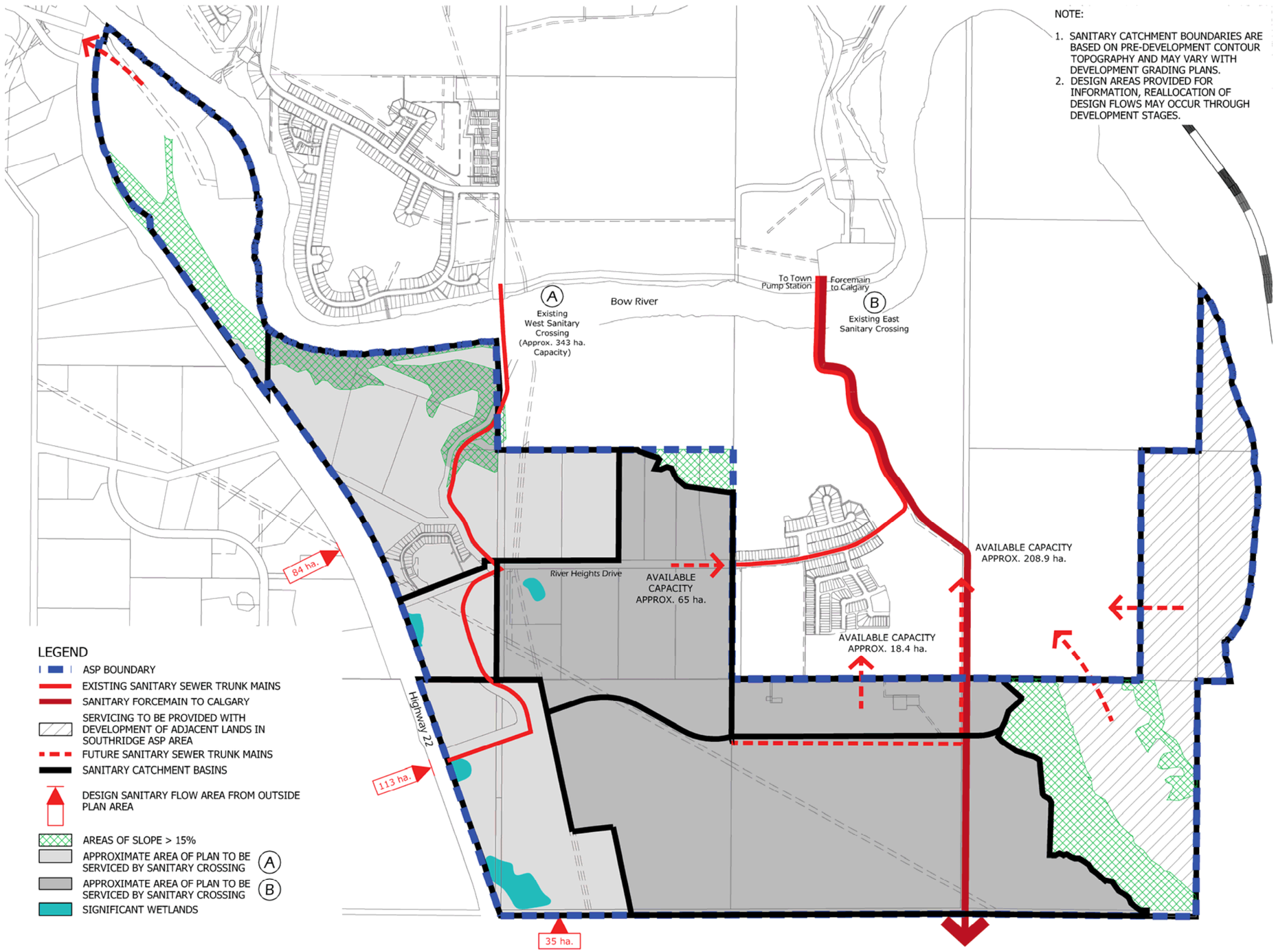
sanitary servicing

FIGURE 10



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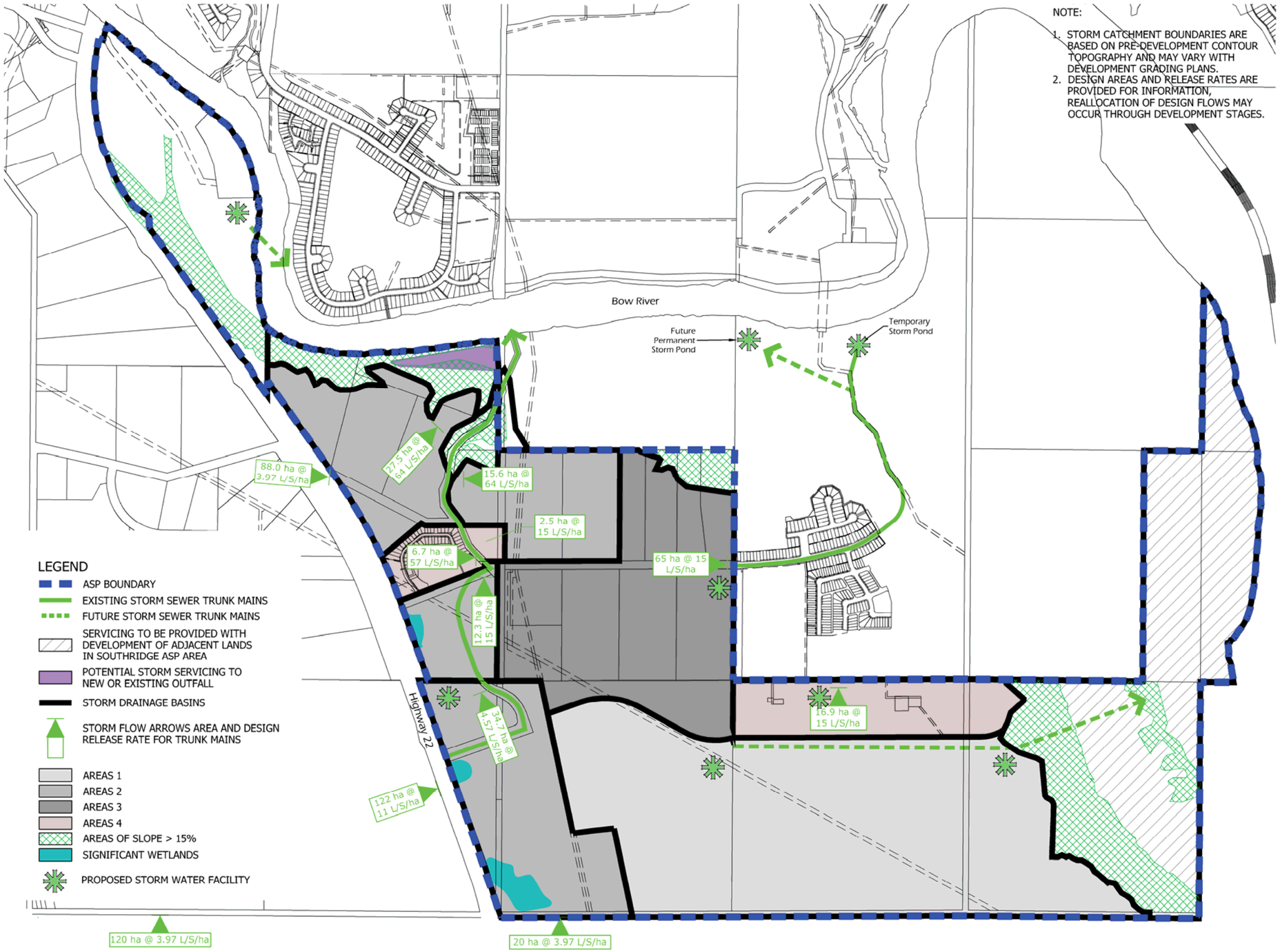
storm water management

FIGURE 11



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neighbourhood plan areas

FIGURE 12

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