

SOUTH RIDGE
AREA STRUCTURE PLAN
Bylaw 14/94

OFFICE CONSOLIDATION

July 18, 2011

December 1994
Prepared at the request of and in cooperation
with the Town of Cochrane by the IBI Group
and the Calgary Regional Planning Commission
Consolidated to include amendments to July 18, 2011

Town of Cochrane

BYLAW NUMBER 14/94

SOUTH RIDGE AREA STRUCTURE PLAN

WHEREAS Section 64 of the Planning Act, 1980, being Chapter P-9 of the Revised Statutes of Alberta provides that a Council of a Municipality may adopt an Area Structure Plan which provides a framework for subsequent subdivision and development of an area of land within its Municipal boundaries; and

WHEREAS the Council of the Town of Cochrane in the Province of Alberta (hereinafter called the Council) did direct the preparation of an Area Structure Plan for those lands east of River Avenue and south of the Bow River to the southern Town Boundaries (hereinafter called South Ridge); and

WHEREAS an Area Structure Plan has been prepared under the direction of Council;

NOW THEREFORE the Council of the Town of Cochrane in open meeting hereby assembled, and in accordance with the requirements of the Planning Act, hereby enacts as follows:

1. This Bylaw may be cited as the "South Ridge Area Structure Plan";
2. The South Ridge Area Structure Plan being Schedule "A" attached hereto shall form part of this Bylaw;
3. The South Ridge Area Structure Plan, 1987, as adopted by Bylaw Number 3/87 is hereby rescinded; and
4. This Bylaw comes into full force and effect upon third and final reading.

READ A FIRST TIME this 19th day of December, 1994 A.D.

READ A SECOND TIME this 8th day of May, 1995 A.D.

READ A THIRD TIME this 8th day of May, 1995 A.D.

Original Signed by "LYDIA GRAHAM"

Mayor

Original Signed by "MARTIN SCHMITKE"

Chief Administrative Officer

SOUTH RIDGE AREA STRUCTURE PLAN

December 1994

Includes the following amending bylaws:

18/01 (adopted August 13, 2001)
25/01 (adopted September 9, 2002)
13/2011 (adopted July 18, 2011)

This document is consolidated into a single publication for the convenience of the users. The official Bylaw and all amendments thereto are available from the Municipal Clerk and should be consulted in interpreting and applying this Bylaw. In case of any dispute, the original Bylaw must be consulted.

For easy reference the amending Bylaw Numbers are noted adjoining the Sections that were amended to identify that a change has occurred in a Section, Subsection or Clause, subsequent to the adoption of the original Bylaw.

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1.0 INTRODUCTION

1.1 Background

The South Ridge Area Structure Plan encompasses approximately 299 hectares (737 acres) as shown in Figure 1. (18/01)

The Plan area has been the subject of two area structure plans. The Bow Meadows Area Structure Plan adopted in 1981, which dealt with only a portion of the current plan area, and the Shadow Ridge Area Structure Plan which was adopted in 1987. The 1987 Plan was replaced with this Area Structure Plan in 1994. In 2008 Cochrane Town Council approved a new Municipal Development Plan and in 2009 the Cochrane Sustainability Plan was adopted. (13/2011)

The large and topographically varied South Ridge area provides a unique opportunity for the comprehensive and coordinated development of a major expansion area for Cochrane. Lands south of the Plan area form part of the M.D. of Rocky View/Town of Cochrane Intermunicipal Development Plan area, and as such the Plan recognizes the need to provide links to this long-term growth area. (18/01)

1.2 Purpose of the South Ridge Area Structure Plan

The Town of Cochrane Municipal Development Plan (MDP) identifies the South Ridge Area Structure Plan lands as a future residential area. It also identifies significant open space areas on sloping lands and sites adjacent to the Bow River. The Plan recognizes the need for a pathway along the Bow River as part of an interconnected system of walking and cycling pathways within the South Ridge area and throughout Cochrane. (18/01) & 13/2011

The policies of the MDP dealing with these and other issues provide a basis for more specific policy direction contained in the Area Structure Plan. Section 633(1) of the *Municipal Government Act*, Statutes of Alberta, 1994, Chapter M-26.1, as amended, states that the purpose of an area structure plan is to prepare “. . . a framework for subsequent subdivision and development of an area of land”. The South Ridge Area Structure Plan accomplishes this goal by addressing the following objectives:

- Ensure that proposed development within the Plan area conforms with the policies, goals and objectives of the Cochrane Municipal Development Plan. (18/01)
- Provide a framework for future development within the Plan area by describing future land use patterns, transportation networks, and public utility systems.
- Outline a phasing plan through the identification of development cells, in order to allow development to occur in stages.
- Describe the population density proposed for the Plan area.

1.3 Design Brief Policy Area

(13/2011)

1.3.1 Purpose of the Design Brief Policy Area

The South Ridge Area Structure Plan (SR-ASP) generally includes two different use areas. These areas consist of the urban-residential community of Riversong within the west portion of the Plan area, and a gravel extraction operation making up the easterly

portion of the Plan area. The community of Riversong is currently being developed, while the gravel extraction operation may not see re-development for approximately 15 to 20 years. An overall update to the SR-ASP has been deemed inappropriate due to the vast development timeframe differences between the west and east sides of the Plan area. Therefore a separate Design Brief Policy area was created for the community of Riversong to provide policy direction, in addition to the SR-ASP, that acknowledges the 2008 MDP and the 2009 Cochrane Sustainability Plan. The Design Brief Policy area are illustrated on Figure 1.1.

1.3.2 Riversong Design Brief

(13/2011)

The Riversong Design Brief was approved by Cochrane Town Council on June 7, 2010. The Riversong Design Brief has now been appended to this South Ridge Area Structure Plan as Appendix 4.

1.2.1 Plan Implementation and Amendment

This Plan establishes a long-term development pattern for the Plan area; however, future conditions may require Council to undertake amendments. When considering any amendment, Council will review the effect of Plan modification on this or any other adopted statutory plan.

2.0 SITE ANALYSIS

2.1 Natural Environment

In evaluating the development potential of the South Ridge area, the natural and man-made elements, both existing and proposed, have been assessed in terms of opportunities and constraints for development. These determinants as discussed in this section have a significant influence on the organization of land uses within the Plan area.

2.1.1 Topography

The South Ridge Area Structure Plan area is comprised of distinct topographic areas: bottom lands, plateaus and slope lands. The bottom lands are flat to gently sloping and portions are located within the floodplain.

The sloped lands are associated with an escarpment which runs through the study area. This escarpment is broken in a number of locations by gullies which range in depth from 6 to 20 metres. There are a series of plateaus and relatively flat top land above the escarpment.

There are excellent views of the mountains and the Town from this site and the land is highly visible from north of the river. Certain slopes constitute physical constraints to development and other slopes possess differences in aspects, views and grades that will contribute to a visually attractive residential community.

Those areas with slopes over 25% are primarily tree covered and policies are provided to retain such lands in their natural state except for limited modification related to providing vehicular and pedestrian circulation systems. The area of slopes with major constraints (15%+ slopes) will remain undeveloped.

Land within the Plan area slopes towards the Bow River. In the floodplain the land has good drainage due to the high porosity of the soils. The gullies in the central portion of the area drain much of the site and lands to the south and east also drain into these gullies.

2.1.2 Soils and Vegetation

(a) Soils

The soils in the Plan area vary from silts and sands overlying gravel deposits adjacent to the river to clay deposits on the upper slopes with glacial till predominantly on the high uplands.

(13/2011)

(b) Slope and Stability

According to a geotechnical report on subsoil conditions, the majority of the slopes in the Plan area are stable, and the stability of the slopes can be maintained if the slope toes are not undercut or the top overloaded. The report recommended that this can be assured if construction activities on the uplands are restricted to areas above a setback line and lower development does not undercut the slopes.

(c) Vegetation and Wildlife

Figure 2 indicates those portions of the site covered by tree stands. Areas of tree growth cover 17% of the site. The trees for the most part are aspen poplar interspersed with white spruce. The stands range from healthy/mature to old and diseased. The open areas are covered with prairie grass.

The elongated terraces and their treed slopes serve as components of wildlife habitat along the Bow River. Existing country residential development west of the Plan area, agricultural operations and fencing have influenced wildlife habitat. Urban development of the area can be undertaken in a manner that minimizes impacts on natural habitat, particularly for species which are adaptable to the proximity of residential development.

2.1.3 Floodplain

The Canada-Alberta Flood Damage Reduction Program (FDRP) identified flood hazard areas in the South Ridge ASP and has established a minimum standard for flood protection. Notwithstanding developments approved prior to October of 1998, the Town will prohibit new development in the flood fringe of the Bow River and will continue to prohibit new development in the floodway. Developments approved by the Town prior to October of 1998 will be floodproofed to the satisfaction of the Development Authority. Schedule B in the 2008 MDP can be referenced for the flood fringe of the Bow River. (18/01) & (13/2011)

2.2 Built Environment

2.2.1 Land Ownership

Land Ownership in the Plan area is shown in Figure 3. (13/2011)

2.2.2 Adjacent Development (25/01)

Adjacent development consists of a large lot country residential development to the west of the Plan area between it and Highway 22. The presence of this existing subdivision necessitates design considerations regarding transportation and integration with new development. The River Heights Area Structure Plan policy area is south of the Plan area. Linkages are to be made to this new plan area. (13/2011)

The lands north of the Plan area and north of the Bow River are currently used for a variety of purposes including a gravel pit, campground, and sewage treatment facility.

On the southeast edge of the Plan area, between it and the Bow River, are lands are part of the River Heights Area Structure Plan. Linkages to this land from the Plan area to facilitate orderly and contiguous development in future require consideration. (13/2011)

There is a high pressure Atco Gas pipeline, which crosses the site in a north/south direction near the western edge of the site, as shown on Figure 2.1 Development Constraints. This pipeline will remain and appropriate development setbacks will be required.

(13/2011)

2.2.3 Historical Resources

An Historical Resources Impact Assessment (Report 80-181) was prepared by Lifeways of Canada Ltd. in 1981. One paleontological site, one historic site and five prehistoric archaeological sites were located. The paleontological site and two of the archeological sites were not of concern to Alberta Community Development at the time. The remaining four sites (EgPo 45, EhPo 35, 47 and 49) were of concern and may require additional work. One of these four sites (EhPo-49) is located within Riversong Design Brief boundary. This site (EhPo-49) was reviewed by Dr. Brian Reeves of Lifeways of Canada in 1998, at which time he concluded that the site was a natural formation and not a cultural feature. Dr. Reeves recommended to Alberta Community Development that mitigation requirements originally recommended be rescinded. This recommendation was approved, and a copy of the letter of approval is provided as Appendix C within the Riversong Design Brief, see Appendix 4.

(18/01) & (13/2011)

2.3 Utilities

2.3.1 Water Distribution

Servicing of the South Ridge area will require extensions to existing services across the Bow River. A reservoir will be required as part of the internal system to provide the volumes, pressure and security of service to accommodate full development in the Plan area. The reservoir will be phased to allow for additional phases to be added as demand increases. The construction timing of the first phase of the reservoir will be to the satisfaction of the Town. Two water pressure zones will likely exist in the Plan area. Boundaries will be determined at the detailed design stage. The lower lands may require pressure reducing valves, while the upper zone may be serviced off the reservoir and booster station in order to maintain appropriate water pressures for domestic use.

(25/01)

2.3.2 Sanitary Sewer

The Town of Cochrane has capacity to accommodate the new development. Sanitary trunks will have to be carefully located to ensure pipeline utilization.

(25/01)

2.3.3 Storm Drainage

The Plan area slopes toward the river providing good drainage in either pipe systems or open channels. Outfalls will be required in the central area of the site into the Bow River and on the most northerly portion of the lands. The outfalls may be integrated into a storm water management system of ponds and lakes and pre-treatment of stormwater may also be required.

2.4 *Summary of Design Considerations*

The major natural design considerations are sloping lands associated with the Bow River escarpment and the floodplain. Future bridge and arterial road locations are major considerations. Upgrading of the roads and intersections to handle traffic outside the Plan area will require coordination with the land use concept and policies of the adjacent plan area.

(25/01) & (13/2011)

3.0 PLAN AND POLICIES

3.1 Land Use

(25/01)

The Land Use Concept (Figure 4) illustrates the general land use pattern for the South Ridge area. The Plan shows the location of major land uses, transportation routes and public utilities. Areas shown broadly as residential may accommodate a range of residential uses and related compatible uses in accordance with the Land Use Bylaw. Similarly, smaller parks, minor pathway connections, local streets, and convenience commercial uses are not shown. Specific locations and site configurations will be determined as more detailed Design Briefs, Neighbourhood Plans, or similar mechanisms are submitted. Policies regarding the various uses deal with locational criteria that will be applied to each type of use. Interim use of lands within the Area Structure Plan area for gravel extraction may precede urban development.

(13/2011)

The Plan responds to the opportunities presented by the natural site features, the Town's policy framework, the physical and functional relationship of the area to surrounding lands, and the need to provide accommodation for future residents of the Town of Cochrane.

3.2 General

(18/01)

3.2.1 The Council of the Town of Cochrane has adopted other plans and documents, which affect land use in South Ridge. These must be considered in conjunction with the Area Structure Plan. They are:

- (a) Town of Cochrane Municipal Development Plan, Bylaw 07/2008, as amended from time to time;
- (b) Town of Cochrane Land Use Bylaw, Bylaw 01/2004, as amended from time to time;
- (c) Town of Cochrane Parks, Recreation and Culture Facilities: Master Plan, as amended from time to time;
- (d) the Town of Cochrane Transportation Master Plan (April 2009), prepared on behalf of the Town by Urban Systems and any subsequent studies and reports of the Town road network, as adopted by Council;
- (e) Canada-Alberta Flood Damage Reduction Program, Flood Risk Maps for the Town of Cochrane, or appropriate figures in the Municipal Development Plan, and;
- (f) The Cochrane Sustainability Plan.

(13/2011)

3.2.2 (a) A municipal environmental impact statement (MEIS), paid for by the developer, shall be completed for all Neighbourhood Plans adjacent to watercourses, escarpments or other areas, at the discretion of the Development Authority. The MEIS will comply to the requirements outlined in the MDP.

(13/2011)

- (b) Developers of proposed multi-unit residential developments, large subdivision, and recreational developments adjacent to watercourses and major escarpments shall prepare, at their own cost, a site-specific construction management plan that outlines environmental protection in accordance with the stipulations outlined in the MDP.
- (c) Developers of proposed multi-unit residential developments, large subdivisions, recreational, and industrial developments adjacent to watercourses and major

escarpments shall, at the discretion of the Development Authority, be required to provide a Visual Impact Statement (VIS), prepared at the developer's expense, and will adhere to the VIS requirements of the MDP. (13/2011)

3.3 Residential

(25/01) & (13/2011)

The Bow River and its floodplain and associated escarpments separate the South Ridge area from the other developed portions of Cochrane. These natural features are both amenities and constraints to development. This Plan seeks to minimize hazards associated with the floodplain and steep slopes, while maximizing recreational and aesthetic opportunities presented by treed slopes and views from the area. (13/2011)

A varied housing mix and the connection of this community to the balance of Cochrane through road and pathway networks are encouraged.

- 3.3.1 A variety of dwelling units are encouraged. Single detached housing is expected to be predominant with a limited mix of multiple housing at locations, which meet criteria set forth in this Plan and the Cochrane Municipal Development Plan.
- 3.3.2 An average density of 19.8 to 24.7 per gross developable hectare (8.0 to 10.0 units per gross developable acre) shall be encouraged. This recommended density threshold can be exceeded at the discretion of the Development Authority. Applications for neighbourhood plans and subdivisions shall be accompanied by a density table showing how the density within those plans contributes to the minimum density for the design brief area. (13/2011)
- 3.3.3 Multiple unit development shall be located in proximity to major streets and open space areas.
- 3.3.4 The form, structure, and appearance of multiple unit developments shall be complementary to adjacent development and the streetscape.
- 3.3.5 Multiple unit residential developments shall be dispersed throughout South Ridge, avoiding large concentrations of such housing.
- 3.3.6 A landscaping and tree-planting program, to be specified in a development agreement, shall be provided to the satisfaction of the Town.
- 3.3.7 Architectural design guidelines, to encourage compatibility between buildings, shall be established in consultation with the Town and implemented by the developer.
- 3.3.8 Residential development abutting commercial development is discouraged. Where this situation does occur, visual screening must be provided to Municipal standards, as approved by the Town.
- 3.3.9 Prior to the approval of the tentative plan, the developer shall demonstrate that by the design of the houses, their location on the lots, planting, fencing, or other screening methods, no part of the development shall appear as a wall of buildings when viewed from any of the trails along the Bow River.
- 3.3.10 Building elevations overlooking the Bow River should be varied.

3.4 Commercial

The Town of Cochrane Municipal Development Plan encourages the provision of neighbourhood commercial sites in new residential areas to serve local convenience commercial requirements. The MDP seeks to ensure that the central business district remains the focal point for retail, office and service uses. (18/01)

The location, size and configuration of the South Ridge area provides opportunity for convenience commercial sites to serve the Plan area. Specific locations are not shown for convenience commercial sites; however, the policies in this section provide criteria for evaluation of commercial development proposals. (18/01) & (13/2011)

- 3.4.1** Local commercial development shall be located, scaled, and phased to service the Plan area. Local commercial services oriented to the convenience and service needs of area residents are permitted outside the downtown. (18/01) & (13/2011)
- 3.4.2** Multiple commercial sites may be provided at locations to be agreed upon at the neighbourhood plan stage. (18/01) & (13/2011)
- 3.4.3** Commercial land uses shall be located adjacent to collector and arterial roads with access oriented away from local streets.
- 3.4.4** The site layout, scale and appearance of commercial buildings shall be complementary to the residential development in the area. Consideration should be given to ensure that commercial development in highly visible or key entranceway sites is visually attractive.
- 3.4.5** “Deleted”. (18/01)
- 3.4.5** Commercial developments shall be located and buildings sited to minimize impacts on residential areas. (18/01)
- 3.4.6** A landscaped buffer shall be provided on any yard abutting a residential area. (18/01)
- 3.4.7** All developments are subject to design controls as outlined in Appendix H of the MDP to ensure they complement and reflect the character of Cochrane’s heritage. (18/01)
- 3.4.8** A sense of community will be encouraged by providing for the social, local, recreational, and neighbourhood commercial needs of residents in the area. (18/01)

3.5 Institutional

The land use concept (Figure 4) and open space system (Figure 5) show sites that may be used for school purposes. One site is suitable for accommodating more than one school primarily serving the needs of South Ridge and the Town of Cochrane. The specific location, size and configuration of a school or schools on the sites will be determined at the neighbourhood plan stage. It is anticipated that the lands to the east of the Riversong Design Brief area (as shown on Figure 1.1) will need to include school(s) sites as may be required by the school boards at the time of future detailed planning (neighbourhood plan or similar).

(13/2011)

3.5.1 Schools

- (a) School sites shall be fully serviced and may be required to be graded and loamed at the Developer's cost formalized by development agreement at the time of tentative plan approval. The terms of the development agreement shall be to the satisfaction of the Town.
- (b) School grounds and recreational facilities shall complement and be integrated with the recreation infrastructure of the immediate neighbourhood.

3.5.2 Community Facilities

The Town of Cochrane encourages the provision of sites for community and social facilities in South Ridge. The selection of specific sites for churches, senior housing, community facilities, and similar uses will be undertaken at the more detailed stages in the planning process.

3.6 Open Space

The varied topography and vegetation coupled with the Bow River forming a strong edge on much of the perimeter of the Plan area provides opportunities for open spaces with a wide range of character. Lands in the floodway, sloping sites, and treed areas will remain largely in their natural state. The major Municipal Reserve site is located on generally level land and has been developed as a school site. Deferrals of reserve as subdivision proceeds were required to achieve the school site. The natural areas and community facilities will be linked by a system of pathways which will also connect to the Town-wide system. Small open spaces for uses such as tot lots will also be provided as components of larger parks or on separate sites as may be required. Recreation and open space guidelines are provided in Appendix 1.

(13/2011)

The Plan policies seek to minimize impacts on wildlife access to water and retain cover in treed areas. The open space system with links between the Bow River and treed slopes can accommodate a range of wildlife moving through the Plan area. Construction and post-development management practices are beyond the scope of this Plan but should be considered in conjunction with land use allocation policies that may affect wildlife.

3.6.1 Reserve Dedication

- (a) Reserve land shall be provided for both recreational and school needs. Municipal Reserve dedication shall be provided on the basis of need, Town policy, and the legislation in effect.
- (b) Reserve land allocated for school use shall be suitable for development of school facilities and play fields.
- (c) Environmental Reserve shall be provided in the floodplain and on sloping lands. Precise delineation of Environmental Reserve shall be determined at the neighbourhood plan stage. (13/2011)
- (d) The islands located within the Bow River shall be designated for open space uses only. Development upon these islands shall be prohibited.
- (e) At the time of subdivision approval and based upon Cochrane's needs as a growing community, the maximum municipal reserve dedication will be required and utilized, in accordance with the provisions of the Act. (18/01)
- (f) Where appropriate, the Town will require that municipal reserve be provided as land. Where this is not practical, the Town may require payment of money-in-lieu of municipal reserve land, or deferral of the reserve land requirement by legal caveat in accordance with the Act. Where money-in-lieu of open space is accepted the Town will use these funds in accordance with the requirements of the Act. (18/01) & (13/2011)
- (g) The Town will support the joint use of school sites and facilities for both school and community use. (18/01)

3.6.2 Trails

- (a) A pathway shall be constructed in the vicinity of the Bow River and along the escarpment edge providing access to the river, views and linkage to the Town-wide pathway system as shown in Figure 5.
- (b) A pathway system shall be provided within the Plan area to link neighbourhoods, reserve lands, and community facilities and to provide access to adjacent areas. Specific alignments for local pathways will be required at the subdivision stage.
- (c) The pathway system shall incorporate significant viewpoints from the tops of the slopes along the escarpment at locations to be determined to the satisfaction of the Town.
- (d) Except where passing through other open spaces, the pathway system shall be accommodated within walkway and utility rights-of-way.
- (e) Provision shall be made for pedestrian river crossings to be developed in conjunction with the vehicular crossings of the Bow River. Pedestrian access shall be provided across the river subject to development agreement.
- (f) Grade separation shall be provided where a pathway crosses an arterial at mid-block. All other road crossings should be at intersections.

- (g) Pathways shall meet standards consistent with Town design criteria being utilized at the time of development of each phase.

3.6.3 Neighbourhood Parks

- (a) Tot lots shall be provided in all neighbourhoods, where required at the discretion of the Development Authority. Park distribution shall be based on safe pedestrian accessibility with a maximum separation distance as per Appendix 1. (13/2011)
- (b) Neighbourhood and Community Recreation areas shall be provided as required throughout the residential areas of South Ridge. Locations, sizes and configurations shall be established at the neighbourhood plan stage to the satisfaction of the Town in accordance with guidelines in Appendix 1. (18/01) & (13/2011)

3.6.4 Natural Areas

- (a) The continuity of natural open spaces shall be maintained by incorporating such recreational features as pathways and linear parks.
- (b) Natural tree cover should not be removed or disturbed except for the construction of public pathways and roads.
- (c) The Town may consider the development of a golf course within the Plan area, provided that the development respects pathway continuity and impacts on sensitive areas.
- (d) Golf course lands shall be the subject of caveats that ensure the Town receives the full municipal and environmental reserve dedication should the land be subdivided or the golf course cease operation.
- (e) Grade-separated pedestrian crossings may be required where a major roadway divides a golf course development.

3.6.5 Wildlife

(25/01)

- (a) The developer(s) will minimize obstruction to wildlife access through the Plan area.
- (b) The developer(s) will ensure that links are provided between open space corridors, wooded areas, and the Bow River.
- (c) The Town will discourage disturbance to existing wooded areas.
- (d) The Town will discourage fencing in the vicinity of natural areas. Where fencing is necessary, the developer(s) will be encouraged to use of materials and designs that minimize risk to animals.

3.7 Visual Impact

The presence of the Bow River forming a distinct edge of South Ridge, the wooded slopes on the site and significant outward views are the major elements that contribute to the character of the area. Retention of access to views, the river and wooded areas is essential to capitalize

on the natural advantages of the site. Consideration of development impacts on views into South Ridge from north of the river is also desired.

- (a) The Town will seek to retain the scenic values of the Bow River and outward views from the area as well as consider impacts of development on views into the area.
- (b) Retention of significant scenic landscapes and the integration of such features into urban development is encouraged.
- (c) Wooded areas should remain undisturbed and be integrated with public open space systems.
- (d) Developers of proposed multi-unit residential developments, large subdivisions, recreational and industrial developments adjacent to the Bow River and major escarpments shall, at the discretion of the Development Authority, be required to provide a Visual Impact Statement (VIS), prepared at the developer's costs, and will adhere to the VIS requirements of the MDP. (18/01)

3.8 Transportation

(25/01) & (13/2011)

The South Ridge area is accessible within Cochrane from Highway 22. A new intersection is being constructed at Highway 22 and the re-aligned River Heights Drive to improve the access conditions to the South Ridge area. As development proceeds in the Area Structure Plan area and beyond, additional external connections including a new four-lane bridge crossing of the Bow River will be required. It is also recognized that emergency vehicle and pedestrian connections can be made into the South Ridge area via River Avenue Bridge. Transportation infrastructure improvements outside the Town will be the subject of development agreements and negotiations with Alberta Transportation, the M.D. of Rocky View, and affected landowners.

Figure 6 shows the alignments of arterial and collector roads across the Bow River into and through South Ridge, with connection into the River Heights Area Structure Plan policy area.

Access will be provided from River Heights Drive and Highway 22 requiring the developer(s) to improve River Heights Drive. A new intersection at Highway 22 and the re-aligned River Heights Drive is currently under construction. The new bridge crossing of the Bow River will ultimately provide a second access from the greater Cochrane area to the lands south of the Bow River. Depending upon the rate of growth in the South Ridge area, Council will determine the timing of the bridge construction. The existing River Avenue Bridge will have restricted vehicular access and will be used exclusively as a pedestrian bridge and an emergency access.

Roadway standards for the various classes of road can be found in the Town of Cochrane Transportation Master Plan, as may be amended from time to time.

- 3.8.1** The arterial roads and collector street alignments required to service South Ridge are as generally shown in Figure 6. Changes to the internal roadway configuration will not require an amendment to this Area Structure Plan. Changes to the connections to Griffin Road, Highway 22, River Avenue access will require an amendment to this Plan.

- 3.8.2** All roadway design and construction shall conform to the Town of Cochrane development standards.
- 3.8.3** Direct access shall not be permitted from lots adjacent to arterial and primary collector roads. Where access is allowed, the frequency of access points shall be limited.
- 3.8.4** The timing of the construction and completion of a new bridge to a minimum two-lane standard with a sidewalk at the approximate location shown on Figure 7 will be determined by Council.
- (13/2011)**
- 3.8.5** Twinning of the bridge should be at a time to be determined by Council.
- 3.8.6** As part of urban development in the South Ridge area, the existing River Avenue Bridge will be converted to a pedestrian bridge and an emergency access. At the discretion of the Town, some restricted vehicular access may be allowed.
- (13/2011)**
- 3.8.7** Highway 22 and the new bridge crossing the Bow River will provide primary accesses to the South Ridge area.
- 3.8.8** Design and construction costs for any bridges (pedestrian and vehicular) required to serve lands south of the Bow River may be collected through acreage assessment or other appropriate financial strategies, as adopted by resolution of Council from time to time. The Town will initiate the design and construction of any bridges.
- 3.8.9** Design and construction costs for the internal road network will be borne by the developers of the South Ridge lands.
- 3.8.10** The developer shall install signs to the satisfaction of the Town of Cochrane to advise future residents of the location of the proposed bridge crossing, prior to construction in the vicinity of the bridge-crossing route.
- 3.8.11** The road system shall be designed to facilitate future bus service.
- 3.8.12** The design of a bus service shall take into consideration walking distance from residential cells.
- 3.8.13** Noise attenuation measures along major roads shall be provided in accordance with Town of Cochrane policy.
- (13/2011)**
- 3.8.14** Provision shall be made for pathway crossings of arterial roads to Town standards in order to maintain continuous pedestrian movement.
- 3.8.15** Local streets shall be restricted to serving residential land uses.

3.9 Floodplain

Flooding along the Bow River occurs as a result of ice jam formation and rainstorms in conjunction with mountain snow melt. The design flood for Cochrane is the one in 100 year winter ice flood, which is more severe than the one in 100 year summer flood. The width of the floodplain and its component floodway and flood fringe vary throughout the length of the Plan area. The policies contained in this section regarding the floodplain, floodway, or flood fringe, relate to those areas as shown on Schedule B of the Municipal Development Plan, and summarized on Figure 2. (13/2011)

- 3.9.1** The floodway shall be kept unobstructed and free of all buildings and structures or the placement or removal of fill.
- 3.9.2** New buildings in the floodway shall be prohibited. Removable public structures and associated recreational uses may be permitted subject to requirements of the Town and Alberta Environment. (18/01)
- 3.9.3** Development in the floodway shall be limited to public parks.
- 3.9.4** Floodway lands should be maintained in their natural state.
- 3.9.5** Subdivision and development within the established floodway and flood fringe of all watercourses, as identified on Schedule B of the MDP and illustrated on Figure 2, shall be restricted and limited to uses such as natural areas, parks, trails, and essential utilities that do not impede flood discharge. No other development will be allowed. For developments and subdivided lands approved prior to the adoption of the 2008 Municipal Development Plan, development within the established flood fringe shall be floodproofed to the satisfaction of the Development Authority as outlined in the Land Use Bylaw. (18/01) & (13/2011)
- 3.9.6** All roads in the floodplain shall be constructed at or above the Design Flood Level.
- 3.9.7** Location of essential services such as hospital, fire halls and major utilities from locating within the flood fringe as well as uses sensitive to risk such as schools, special care nursing homes, and daycare centres should be discouraged.
- 3.9.8** For developments and subdivided lands approved prior to the adoption of the MDP, development within the established flood fringe shall be floodproofed to the satisfaction of the Development Authority. (18/01)
- 3.9.9** Mitigating measures shall be developed to ensure that major utilities and public facilities will be operational under severe flood conditions.
- 3.9.10** No construction or dumping or removal of fill, or alteration of natural topographic contours within the floodplain will be permitted, except in accordance with the combined requirements of the Town of Cochrane and Alberta Environment. (18/01)

3.10 Slopes

- 3.10.1** A preliminary assessment and/or map outlining the approved geotechnical top of bank, bottom of slope and setback and development lot lines will be required at the developer's cost at the time of application for approval of an outline plan of subdivision. At the developer's cost the top of bank, bottom of slope, and setback lines shall be illustrated in accordance with the MDP by legal survey prior to final endorsement. Where slope modification is proposed, the effects of slope movement shall be investigated by a qualified professional and slope stabilization undertaken, where necessary, to the satisfaction of the Town. (18/01)
- 3.10.2** Where development is proposed on/or adjacent to slopes greater than 15%, a geotechnical evaluation and slope stabilization analysis shall be undertaken by a qualified professional. Any slope stabilization required shall be to the satisfaction of the Town.
- 3.10.3** As a condition of subdivision approval, a grade plan detailing proposed lot and building grades shall be required to the satisfaction of the Town.
- 3.10.4** Prior to stripping and grading a site-specific erosion control plan shall be provided to the satisfaction of the Town.
- 3.10.5** Neighbourhood plans for sites adjacent to environmental reserves shall be submitted to the Subdivision Authority to provide sufficient detailed information (e.g., top of the slope line, slope stability line, property lines, building setbacks, contour lines, cross-sections, etc.) to demonstrate the developer's intended treatment of the interface. (18/01) & (13/2011)
- 3.10.6** Subdivision plans shall provide a minimum 15-metre setback of any property line adjacent to the top of slope of the Bow River valley, or such greater distance as required by the Town. A setback, in accordance with Town policy, from the toe of slope, for any adjacent private property line is required.
- 3.10.7** All development adjacent to the escarpment or its associated features shall be set back a minimum distance as set out in the Land Use Bylaw and as approved by Council from the "top of the slope" as designated by Council, in consultation with Alberta Environment and any other agency as deemed necessary by the Town. Any proposal for development closer than 30 metres (98.43 ft.) from the top of the slope shall be supported by a geotechnical study.
- 3.10.8** At its discretion, the Town may consider on a site specific basis, an encroachment into the 30-metre (98.43-foot) setback requirement where it can be demonstrated to Council's satisfaction that such an encroachment would not impair the stability of the slope.
- 3.10.9** The developer shall survey the top of the escarpment bank to the satisfaction of the Town when seeking approval for a tentative plan of subdivision in the vicinity of an escarpment.
- 3.10.10** Natural topography should be respected. Grading large flat terraces in order to expand the developable area is discouraged. Smaller terraces and stepped retaining walls may be acceptable. In addition, grading or altering topographic features (e.g., knolls, ridgelines, bedrock, outcrops, cliffs, and ravines) should be avoided. (18/01)
- 3.10.11** Development on major escarpment areas shall demonstrate sensitivity to the natural environment and aesthetics, protect view corridors, and ensure public access to view lookouts.

In addition, major escarpments are prone to erosion caused by urban development surface runoff. In order to protect water quality, development shall be required to mitigate erosion and the potential for increased debris runoff into watercourses. (18/01)

3.10.12 Escarpment ridgelines are considered as important natural and aesthetic features and should be protected. The following guidelines are encouraged:

- retain vegetation on ridgelines so that the ridgeline is seen as a continuous line of natural terrain or vegetation;
- plant vegetation for screening purposes where interruptions in the ridgeline caused by site development occurs;
- avoid the placement of roads, clear cuts, excavations, and larger buildings on, along, or over ridgelines. (18/01)

3.11 Servicing

(13/2011)

South Ridge will be serviced to an urban standard in accordance with Town of Cochrane development requirements. The South Ridge area is in proximity to the existing sewage treatment plant and can be linked to it by a river crossing.

The water system for the Plan area can be connected to the Town's existing water infrastructure system. As development reaches population thresholds the existing reservoir facility may require expansion.

The natural slope of the topography toward the Bow River aids storm sewer flows. Storm water management controls will be required.

3.11.1 Sanitary Sewer

- (a) Sanitary sewer connections will be provided to the Town of Cochrane sewage collection system in accordance with Town requirements and the needs of South Ridge. (13/2011)
- (b) Utility systems, notably in South Ridge, shall be appropriately oversized in order to accommodate growth within the existing Town boundaries. (18/01) & (13/2011)
- (b) Unless otherwise specified in a Town of Cochrane Development Agreement, developers shall be responsible for construction and initial maintenance of utility extensions and oversizing. (18/01)
- (c) Prior to approval of major utility extensions or upgrading, the Town will ensure that all construction and operating costs to accommodate growth will be recovered from benefiting users and/or landowners. (18/01)

3.11.2 Water Services

- (a) The internal water distribution and supply system shall be constructed to the Town of Cochrane design standard and connected to the existing Town distribution system.
- (b) The reservoir as a component of the internal system may require expansion as development occurs, to provide the necessary volumes, pressure and security of service to accommodate development in the Plan area. (13/2011)

- (c) Any upgrading of Town water distribution and supply facilities required to accommodate growth in the Plan area shall be identified at the time of redesignation or tentative plan consideration and formalized through a development agreement.
- (d) Oversizing of water lines to enable the future growth within the Town boundaries shall be considered in designing the water distribution system. (13/2011)

3.11.3 Storm Sewer

- (a) Storm water management controls and sedimentation control facilities shall be provided in compliance with Provincial guidelines and in accordance with the storm water management policy as adopted by the Town.
- (b) The storm water management program including a pre-treatment program and the location of discharge outfall(s) will require review and approval by the Town prior to construction.
- (c) Natural drainage courses within South Ridge should be retained and any vegetation protected.
- (d) Developers of proposed multi-unit residential developments, large subdivisions, recreational, commercial, and industrial developments shall be required to prepare and implement a storm water management plan in compliance with the stipulations outlined in section 6.3(e) of the Municipal Development Plan. (18/01)

3.11.4 Utilities

Electrical service will be provided to the area by an overhead 25 kV transmission line, which will be run in the vicinity of the River Avenue bridge. A three phase underground line will be looped through the South Ridge area from this overhead line.

There is an existing high pressure natural gas pipeline running along the western boundary of the Plan area. It is proposed to tie into this line and run an intermediate pressure line east through the proposed development. This tie-in would require a regulating station, which would be located to the east side of the existing high pressure line easement. The exact size and location of the regulating station would be determined at the conceptual scheme stage.

Telephone service for the Area Structure Plan area will be provided out of the existing Cochrane exchange.

- (a) Provision of Franchise Utilities in the Plan area shall be the responsibility of the Developer. The right-of-way and servicing requirements should be determined at the tentative plan preparation stage.
- (b) Buildings developed in the vicinity of the ATCO Gas high pressure gas line in the west portion of the Plan area shall be set back a minimum distance of 15 metres (49.21 feet) from the centreline of the pipeline. Care shall be taken where utilities cross or straddle the high pressure pipeline. (18/01)

- (c) Development and subdivision shall be set back from high pressure pipelines and sour gas facilities in accordance with this Plan and any Federal, Provincial, and other Municipal regulations.
- (d) All utilities shall be underground.

3.11.5 Off-site Levies

Off-site levies and acreage assessments to recover the costs of providing major public utilities will be imposed by the Town with respect to land that is to be developed or subdivided and that has not been previously subject to an off-site levy. These levies shall be assessed on a gross developable acreage basis, pursuant to the Town's current off-site levy schedules.

3.12 *Gravel Extraction*

Lands in the eastern portion of South Ridge are designated Gravel Extraction District (GE). The designated lands are located in a portion of the Plan area where later phases of development will occur. Interim extraction of the gravel, with careful control of off-site impacts, would ensure utilization of this valuable resource with minimal impact on existing and future residents of the area. The MDP supports extraction of natural resources prior to development and encourages measures to minimize land use conflicts that are associated with natural resource extractive industries. (18/01)

The policies of this plan follow the direction of the MDP and are meant to be read together with provisions of the Land Use Bylaw and any associated policies that may affect the processing or transportation of the gravel. Policies of the M.D. of Rocky View would apply to traffic impact, haul routes and related matters, if Rocky View County roads need to be used. (18/01) & (13/2011)

- 3.12.1** Gravel extraction to serve construction wholly within the South Ridge ASP area may be permitted subject to compliance with the Land Use Bylaw and agreement with the Town regarding the extraction of natural resources.
- 3.12.2** Gravel extraction operations that require trucking outside the Town of Cochrane boundary shall meet requirements of Rocky View County, if County roads are to be used. No development permit shall be issued until the Rocky View County accepts information related to traffic analysis, haul route selection, traffic safety precautions, and any other matters associated with use of County roads. (13/2011)
- 3.12.3** Any development application for gravel extraction, or neighbourhood plan bordering directly to the gravel extraction site, shall be accompanied by an impact assessment addressing potential impact on adjacent lands. Such an impact assessment shall address interface requirements, mitigating measures for noise, dust abatement, drainage, and visual impacts and related information as may be required. (13/2011)
- 3.12.4** Site rehabilitation plans shall conform with the South Ridge ASP and provide for continuity of development, landscaping, replacement of vegetation, and phasing for integration with the balance of the plan area.

- 3.12.5** Prior to redesignation, an interface strategy is required where residential and gravel extraction activities are proposed to abut. A variety of interface solutions will be considered by the approving authority. (18/01) & (13/2011)

3.13 *Historical Resources* (25/01)

Archaeological studies have identified archaeological sites, which are of concern to the Province. The excavation and mapping of specific sites may be required as development proceeds.

- (a) All subdivision or development within the Plan area shall adhere to the requirements of Alberta Community Development, Historical Resources Division, with respect to sites of archaeological or paleontological significance.

3.14 *Phasing* (25/01)

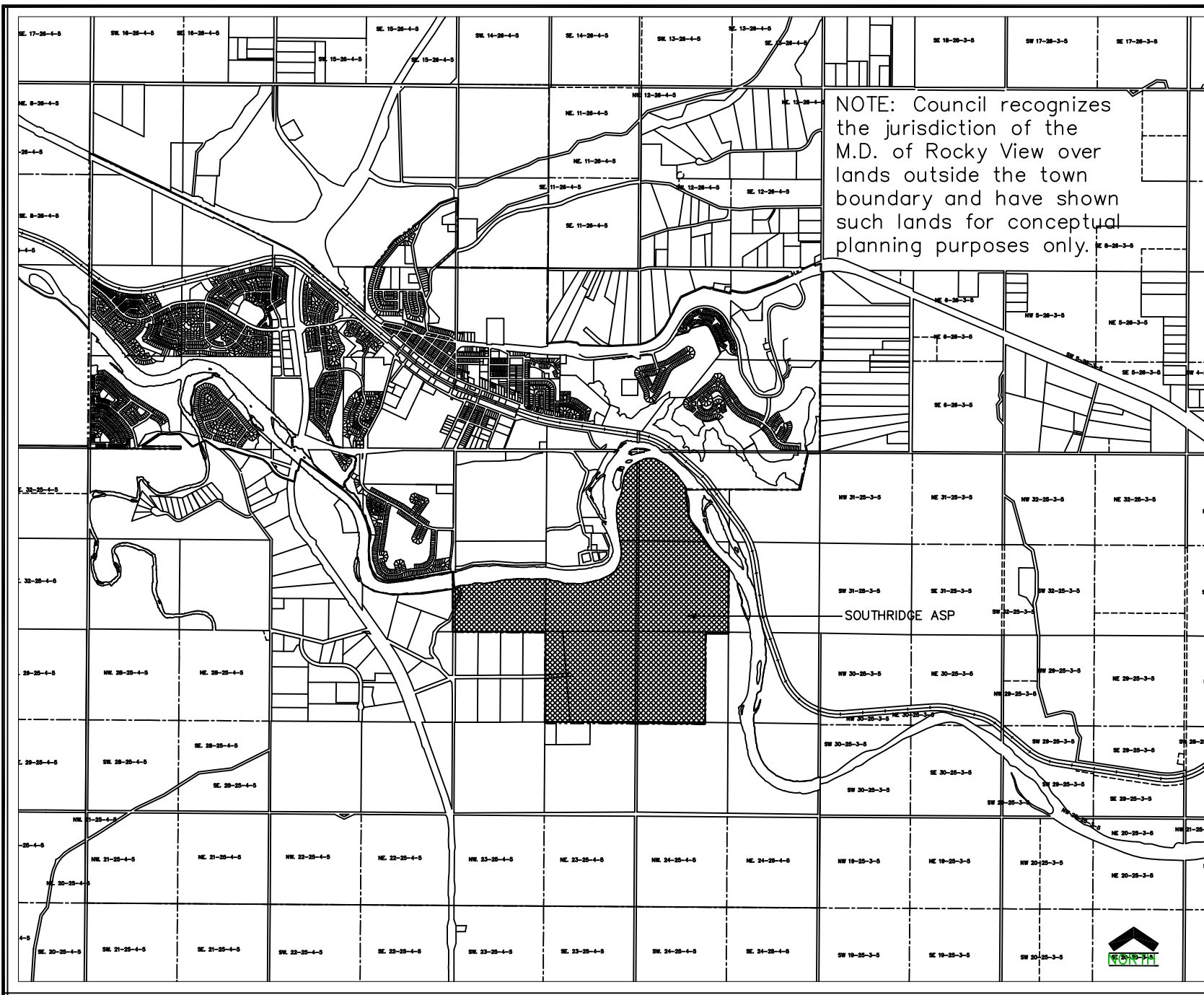
There are no major constraints to the servicing of the South Ridge area. Development will be contingent upon the extension of piped services and transportation networks. It is envisioned that development will continue from southwest to the north, starting in the area surrounding the existing school. Development thresholds related to transportation capacities will determine phase limits. (13/2011)

3.15 *Deleted* (13/2011)

3.16 *Naming*

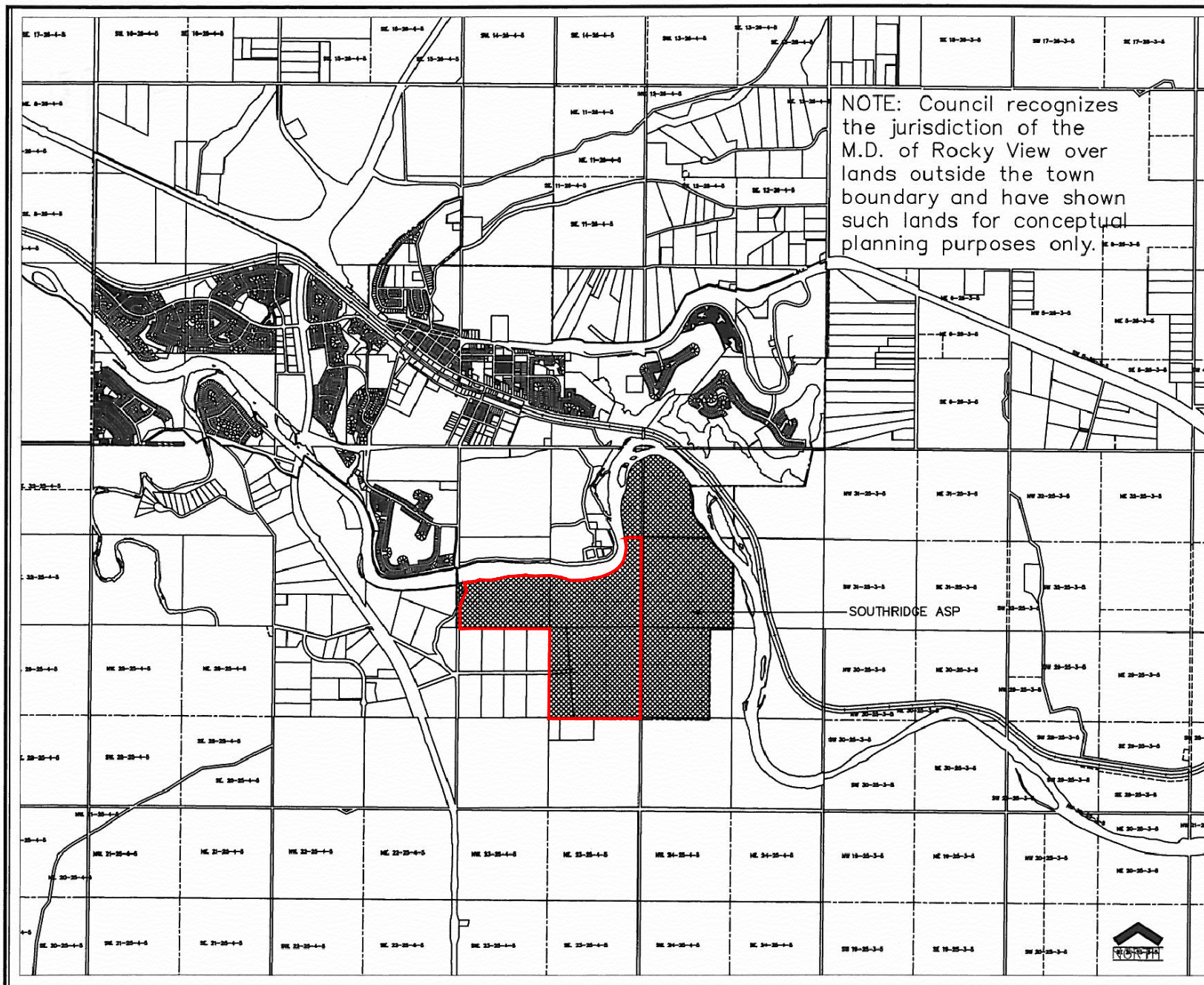
- 3.16.1** The name South Ridge is intended to apply to this development area. Subject to Council approval other names may be applied to portions of the Plan area.

- 3.16.2** Developers should utilize the names of local pioneers or features in the naming of streets and subdivisions.



Legend:
 — PLAN AREA

| | |
|------------------------------------|----------|
| SOUTH RIDGE AREA STRUCTURE PLAN | |
| CONTEXT PLAN | |
| THE TOWN OF COCHRANE | |
| scale: | 1:50 000 |
| figure : | 1.0 |



Legend:
 — PLAN AREA

| | |
|--|----------|
| SOUTH RIDGE AREA STRUCTURE PLAN | |
| RIVERSONG DESIGN BRIEF POLICY AREA | |
| THE TOWN OF COCHRANE | |
| scale: | 1:50 000 |
| figure : | 1.1 |

Legal Description

N.W. 1/4 Sec. 25, N.E. 1/4 Sec. 26, S 1/2 and
N.E. 1/4 Sec. 35, S 1/2 Sec. 36 Twp. 25 Rge. 4
W. of 5th. Mer. South of the Bow River

TOWN OF COCHRANE

Bow River

Bow River

legend:

CONTOUR INTERVAL 5m

■■■■■ Plan Area

SOUTH RIDGE
AREA STRUCTURE PLAN

NATURAL FEATURES AND
DEVELOPMENT
CONSTRAINTS
'SLOPE ANALYSIS'

THE TOWN OF
COCHRANE

scale:

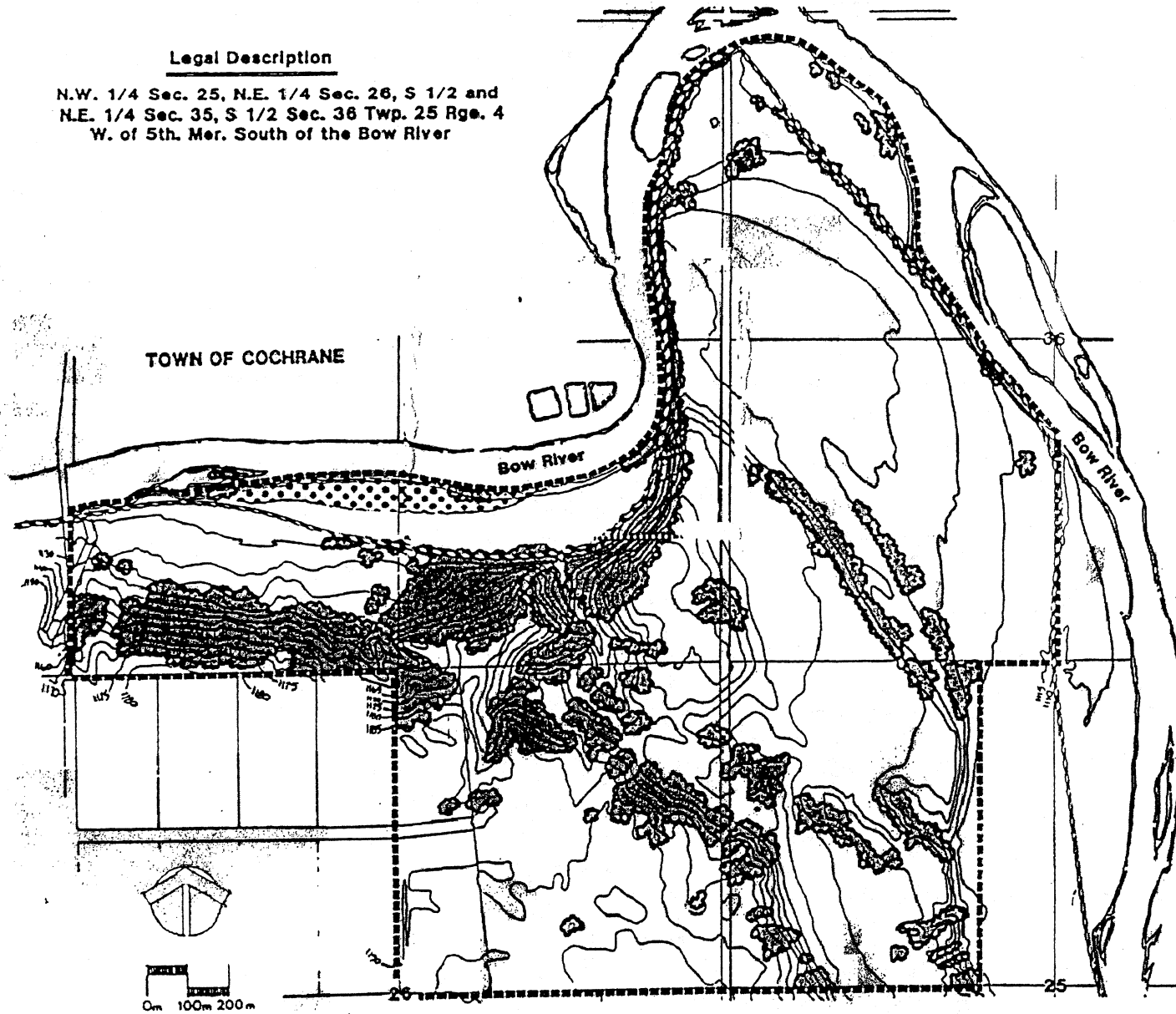
AS SHOWN

figure :

2.0

Legal Description

N.W. 1/4 Sec. 25, N.E. 1/4 Sec. 26, S 1/2 and
N.E. 1/4 Sec. 35, S 1/2 Sec. 36 Twp. 25 Rge. 4
W. of 5th. Mer. South of the Bow River



legend:

CONTOUR INTERVAL 5m

Plan Area

SOUTH RIDGE
AREA STRUCTURE PLAN

NATURAL FEATURES AND
DEVELOPMENT
CONSTRAINTS
'VEGETATION'

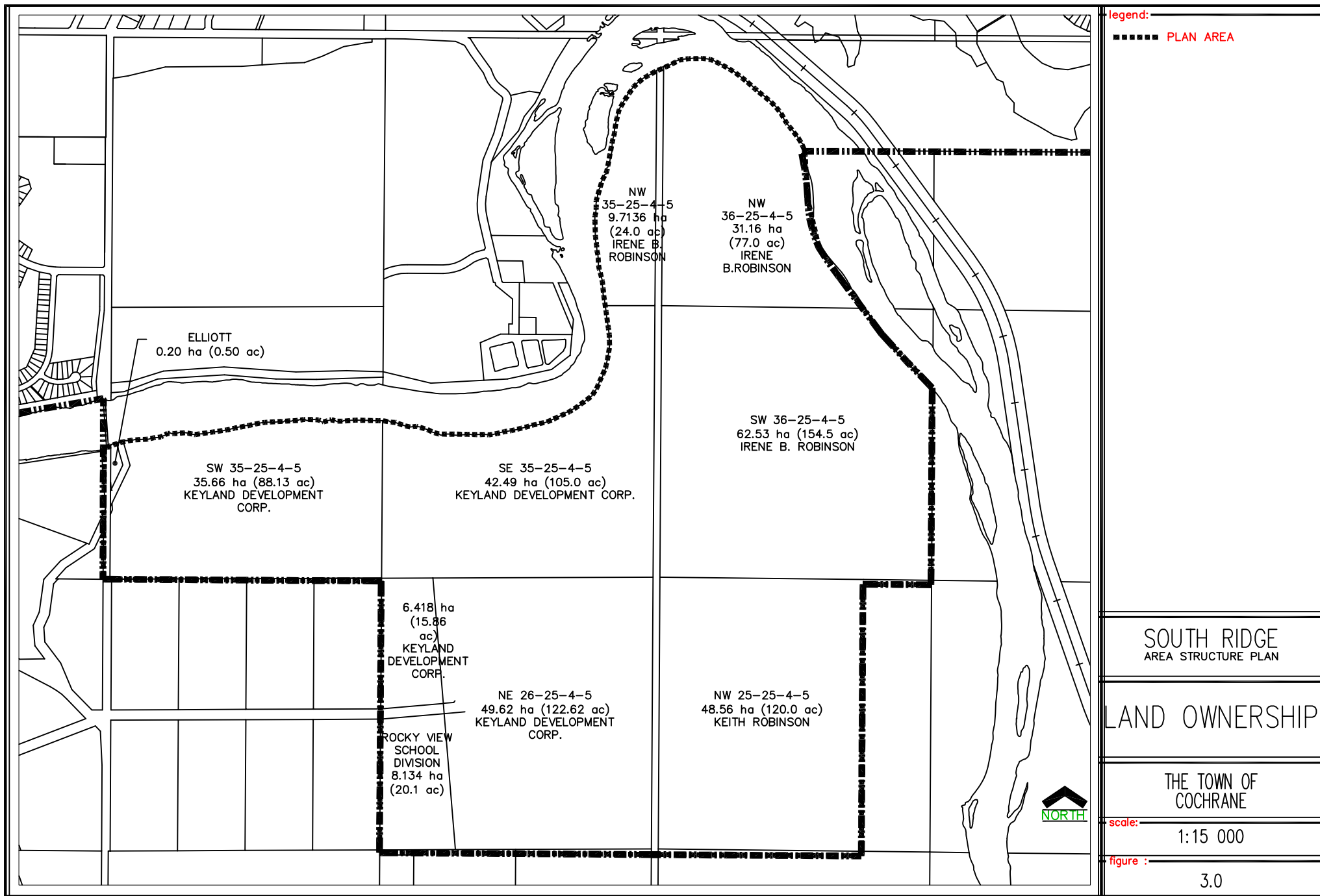
THE TOWN OF
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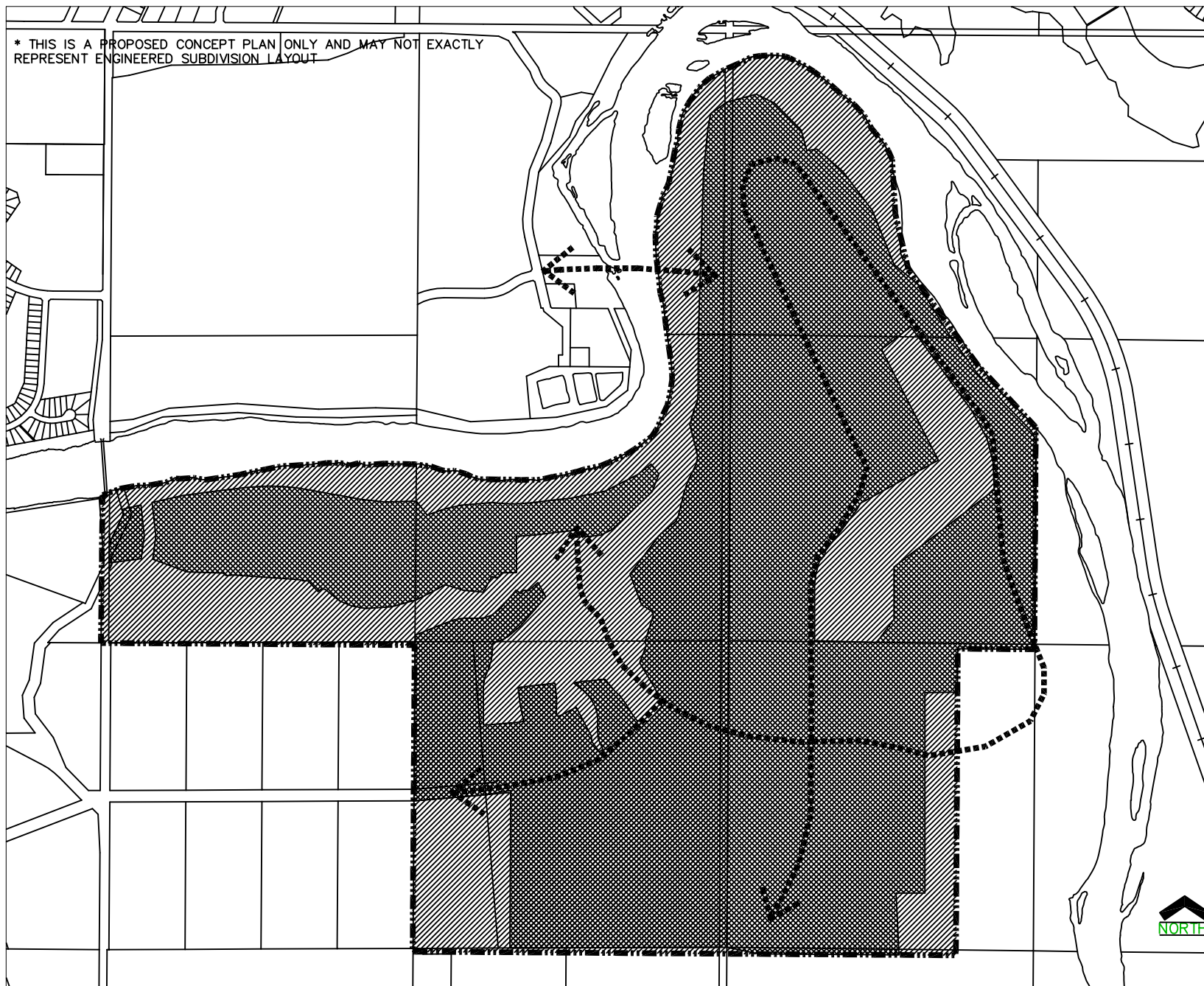
2.1



* THIS IS A PROPOSED CONCEPT PLAN ONLY AND MAY NOT EXACTLY REPRESENT ENGINEERED SUBDIVISION LAYOUT

Legend:

-  RESIDENTIAL
-  RECREATION/OPEN SPACE/
INSTITUTIONAL
-  PLAN AREA
-  COLLECTOR



SOUTH RIDGE
AREA STRUCTURE PLAN

LAND USE
CONCEPT

THE TOWN OF
COCHRANE

scale: 1:15 000

figure : 4.0

* THIS IS A PROPOSED CONCEPT PLAN ONLY AND MAY NOT EXACTLY REPRESENT ENGINEERED SUBDIVISION LAYOUT

Legend:

-  RECREATION/OPEN SPACE/INSTITUTIONAL
-  PLAN AREA
-  COLLECTOR
-  PATHWAY

SOUTH RIDGE
AREA STRUCTURE PLAN

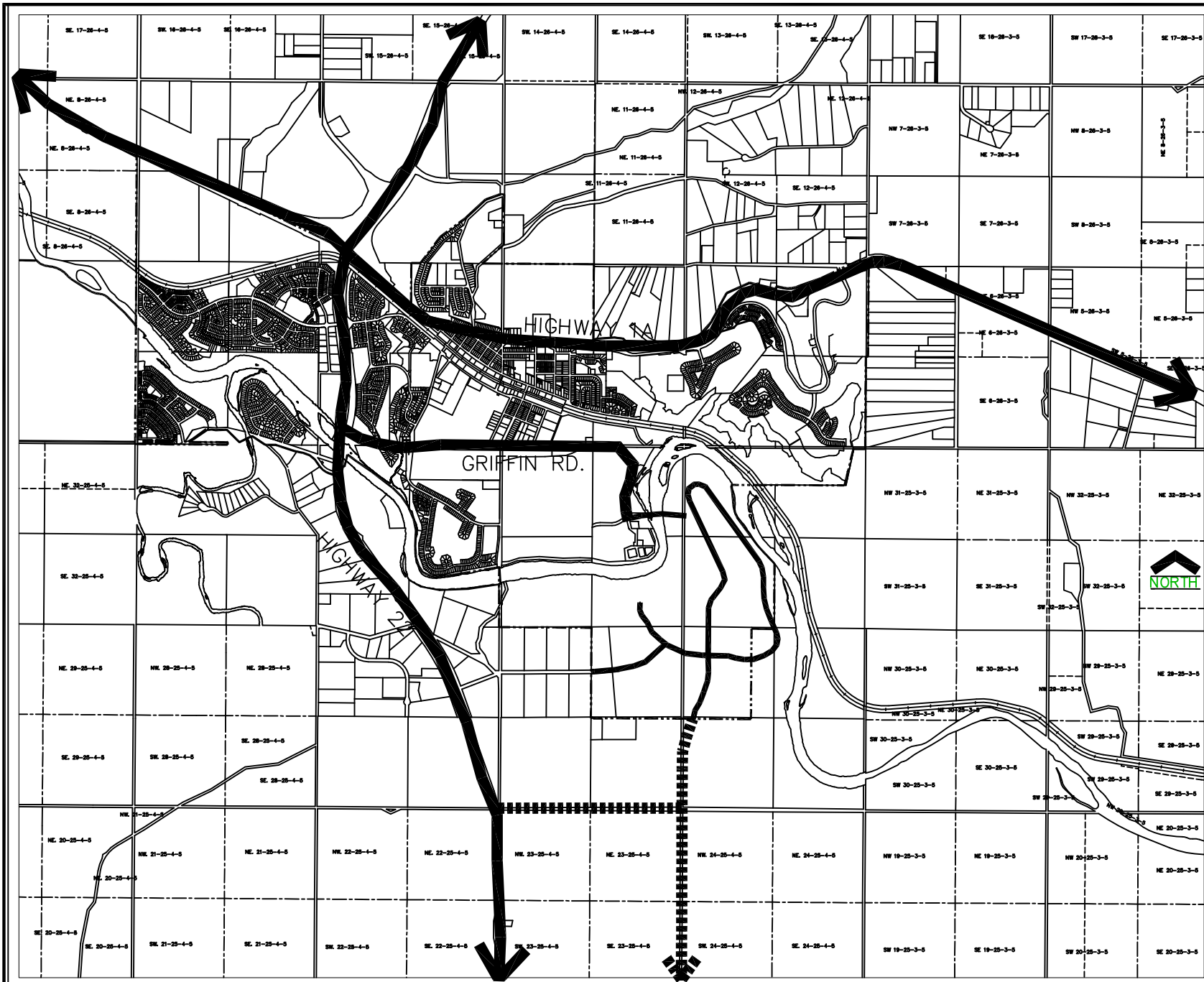
OPEN SPACE
SYSTEM

THE TOWN OF
COCHRANE



scale: N.T.S.

figure : 5.0



- Legend:
- TOWN BOUNDARY
 - ARTERIAL ROAD
 - COLLECTOR
 - POSSIBLE FUTURE ARTERIAL ROADS

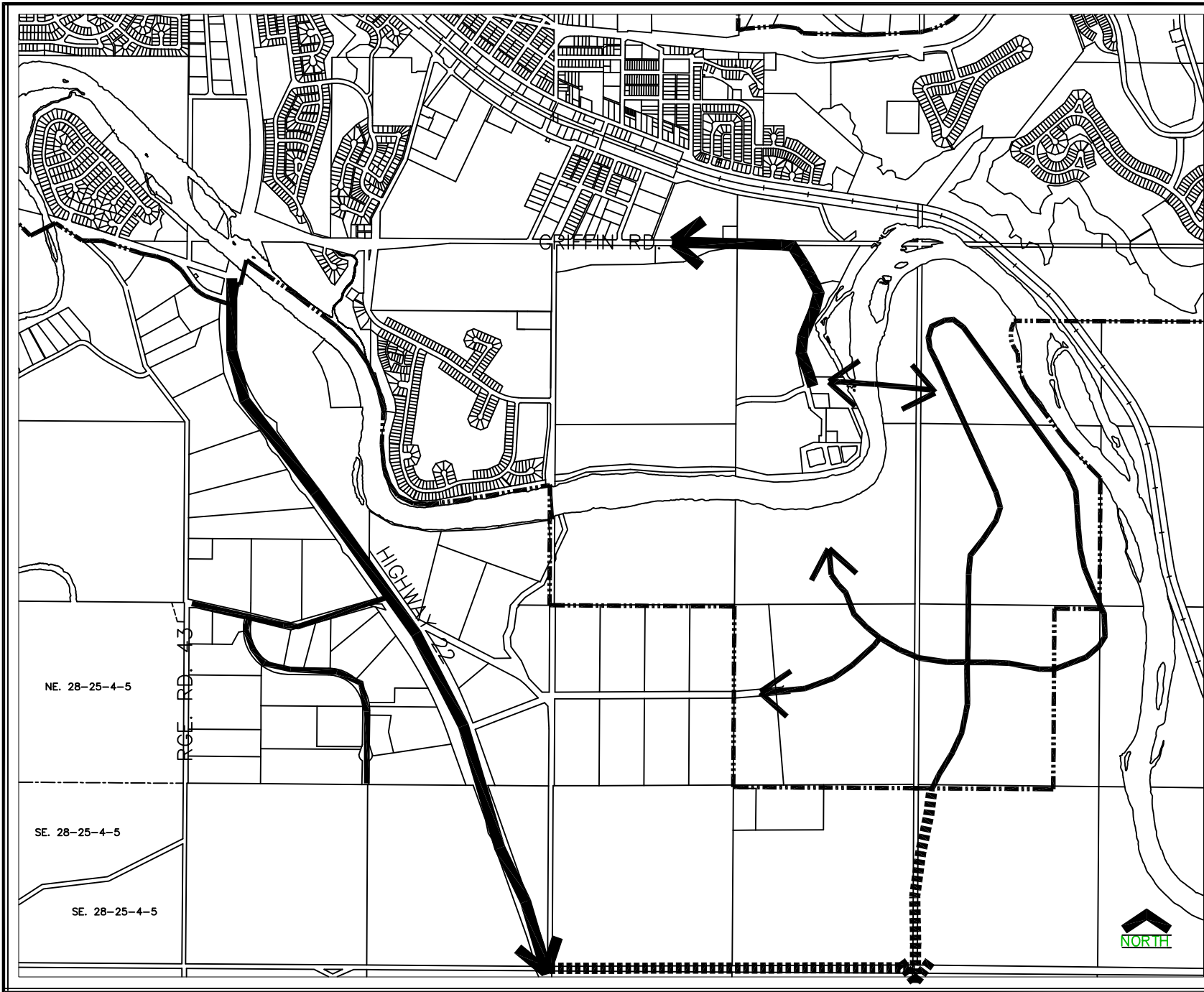
SOUTH RIDGE
AREA STRUCTURE PLAN

REGIONAL
TRANSPORTATION
SYSTEM

THE TOWN OF
COCHRANE

scale: 1:50 000

figure : 6.0



- Legend:
- TOWN BOUNDARY
 - ARTERIAL ROAD
 - COLLECTOR
 - POSSIBLE FUTURE ARTERIAL ROADS

SOUTH RIDGE
AREA STRUCTURE PLAN

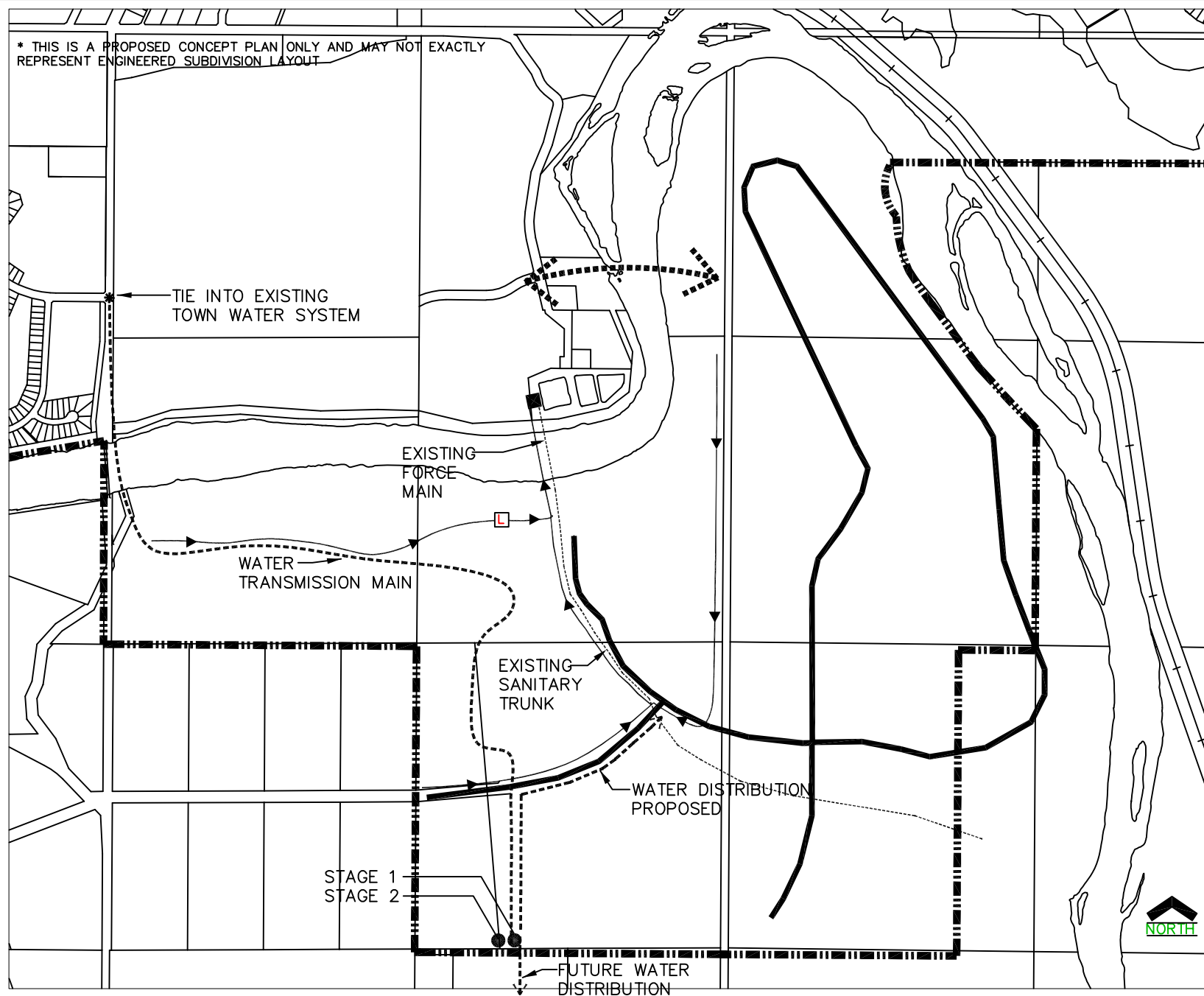
LOCAL
TRANSPORTATION
SYSTEM

THE TOWN OF
COCHRANE

scale: 1:25 000

figure : 6.1

* THIS IS A PROPOSED CONCEPT PLAN ONLY AND MAY NOT EXACTLY REPRESENT ENGINEERED SUBDIVISION LAYOUT



Legend:

- WATER DISTRIBUTION
- WATER RESERVOIR
- TOWN PUMP STATION
- SANITARY SEWER
- ⌈ SANITARY LIFT STATION
- FORCE MAIN

SOUTH RIDGE
AREA STRUCTURE PLAN

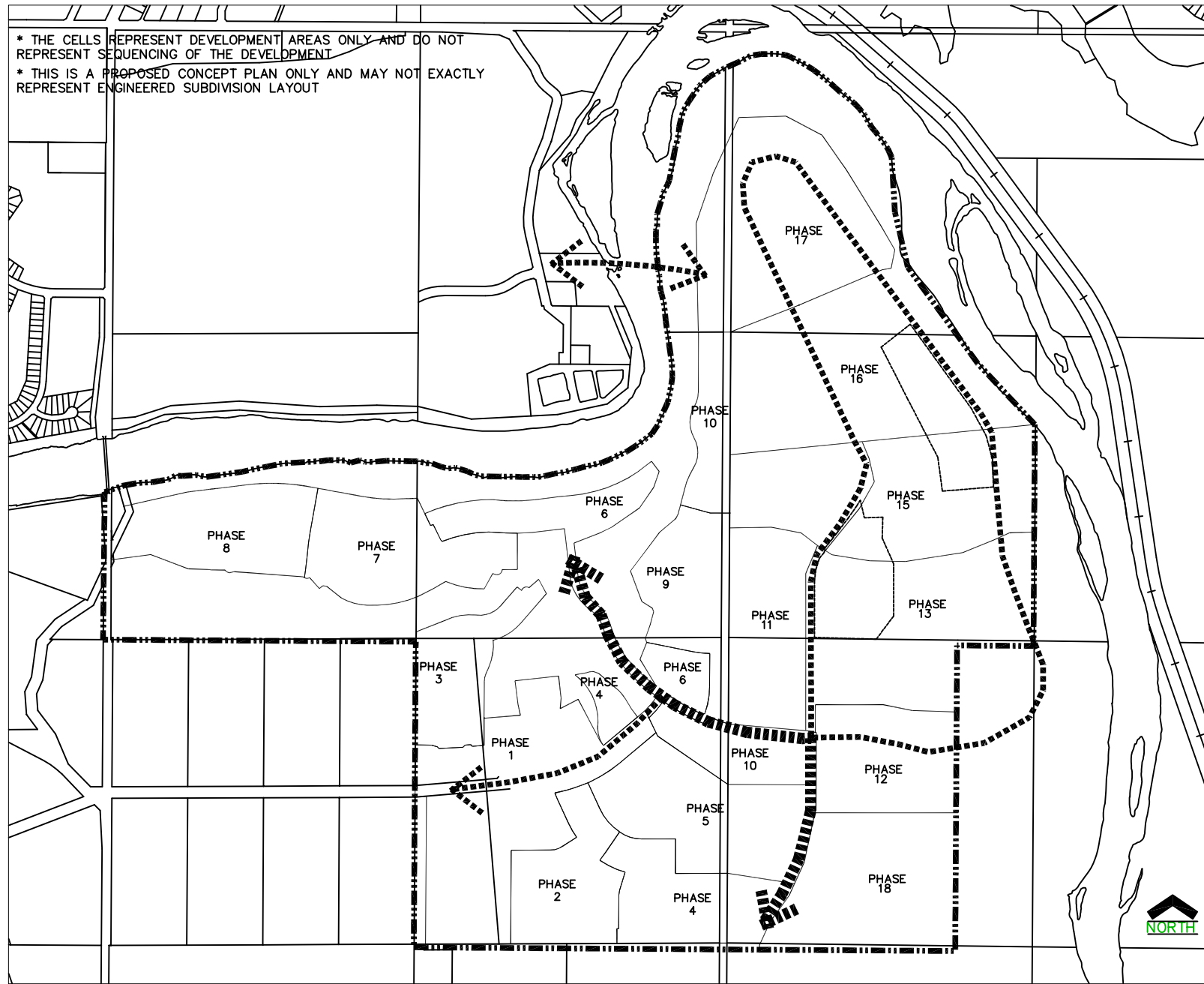
SERVICING

THE TOWN OF
COCHRANE

scale: 1:50 000

figure : 7.0

* THE CELLS REPRESENT DEVELOPMENT AREAS ONLY AND DO NOT REPRESENT SEQUENCING OF THE DEVELOPMENT
 * THIS IS A PROPOSED CONCEPT PLAN ONLY AND MAY NOT EXACTLY REPRESENT ENGINEERED SUBDIVISION LAYOUT



legend:

--- PLAN AREA

SOUTH RIDGE
 AREA STRUCTURE PLAN

DEVELOPMENT
 PHASING

THE TOWN OF
 COCHRANE

scale: 1:15 000

figure : 8.0

APPENDIX 1

RECREATION AND OPEN SPACE SYSTEM GUIDELINES

| TYPE OF RECREATION FACILITY | FUNCTION | PROVISION GUIDELINES (ha (ac.)) * | AVERAGE SIZE OF FACILITY (ha (ac.)) | APPROX. CATCHMENT AREA POPULATION | RADIUS OF AREA SERVED (km (mi.)) |
|--|-------------------------------|--|--|--|---|
| Tot Lots | Local | 0.8 (2.0) | 0.01 (0.25) - 1.6 (4.0) | Up to 1,000 | 0.2 (0.12) |
| Neighbourhood Recreation Area | Neighbourhood | 3.2 (8.0) | 2.0 (5.0) - 4.0 (10.0) | 1,000 - 3,000 | 0.8 (0.5) |
| Community Recreation Area (May be Environmental Reserve) | District, Town, and Region | 2.0 (5.0) | 40.0 (100.0) | 5,000 + | 5.0 (3.0) |
| TOTAL | | 6.0 (15.0) | - | - | - |

* Per thousand population

APPENDIX 2

ROADWAY STANDARDS

| CLASS OF ROADWAY | PRIMARY FUNCTION | NUMBER OF LANES | RIGHT-OF-WAY WIDTH | DESIGN SPEED (km/h) | TYPE OF ACCESS AND CONTROL |
|-------------------------------|--|-------------------------------|--|----------------------------|--|
| Arterial or Major | Provide for movement of local and regional through traffic and connect principal areas of the community. | 4 - 6 moving 0 parking | 36 m | 50 - 70 | No direct access to frontage; 220 m minimum spacing between intersections; No parking. |
| Primary Collector (divided) | Provide for traffic movement and access to development cells. | 2 or 4 moving 0 parking | 27.5 m | 50 | Limited direct access. |
| Primary Collector (undivided) | Provide for local traffic movement across cells and to local streets and properties. | 2 - 4 moving 0 - 2 parking | 24.25 m | 50 | Direct access to adjacent property (limited near major intersections). |
| Collector | Provide for local traffic movement and access to local streets and properties. | 2 moving 0 parking | 22 m | 50 | Direct access to adjacent property frontage. |
| Local Residential Street | Provide access to residential properties. | 2 moving 2 parking | 15 m | 50 | Direct access to adjacent property. |
| Lane | Provide rear access to residential or commercial lots. | N/A | 9 m with services; 6 m with no services | 15 - 30 | N/A |

APPENDIX 3

**MR. JOHN ROBINSON'S LETTER OF UNDERSTANDING
DATED APRIL 27, 1995**

JOHN R. ROBINSON
RR #2
Calgary, Alberta
T2P 2G5

April 27, 1995

Mr. Martin Schmitke
Chief Administrative Officer
Town of Cochrane
P.O. Box 10
Cochrane, Alberta
T0L 0W0

Dear Mr. Schmitke:

RE: Shadow Ridge ASP

As discussed at our meeting on April 26, 1995, I have reviewed the recommendations of the Town of Cochrane and M.D. of Rocky View staff regarding access through Bow Vista and offer the following comments:

- I agree with the provisions regarding responsibility for road construction and maintenance.
- Development can commence in Shadow Ridge with the proposed truck restriction on the access road. Use of the existing bridge for access is discussed elsewhere in this letter.
- I concur with the recommendation that the carriageway of the "hill" road be closed to vehicular traffic.

Tree planting is acceptable as a means of aesthetically improving access to the area, however, I have some concerns regarding the proposed placement of trees on private property. I believe the specification of a tree planting scheme is premature at this time. I would prefer to detail any tree planting in conjunction with overall landscaping of entrances to the area. I agree with the recommendation that the species of trees be finalized later.

I wish to emphasize our willingness to cooperate in the improvement of the access through Bow Vista. This is consistent with the current Shadow Ridge ASP adopted in 1987 and I accept the provisions of the revised Shadow Ridge ASP regarding transportation including Section 3.8.8 that states "Improvements to roads outside the corporate boundaries of Cochrane, necessitated by development within the Plan area, shall be the responsibility of the developers." As noted in Section 3.8 "Transportation infrastructure improvements outside the Town will be the subject of development agreements and negotiations with Alberta Transportation and Utilities, the M.D. of Rocky View and affected landowners".

Mr. Martin Schmitke
Town of Cochrane

(2)

April 27, 1995

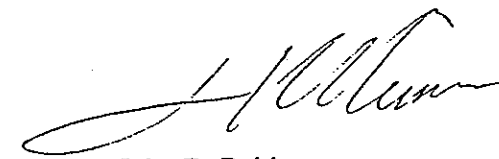
The suitability of the River Avenue bridge for use as construction access has had preliminary review by our transportation consultants. The typical average height for gravel trucks, concrete trucks and moving trucks appears to be accommodated by the 4.4m (14'-5") height restriction on the bridge. Certain large construction equipment may require a single trip permit to access the area through Bow Vista. These vehicles would remain on the site throughout each phase of construction.

The use of the bridge for construction traffic may necessitate operation of the bridge in a one-way form during the day reverting to a two-way operation during the evening. Alternatively, a single lane configuration of the bridge, with traffic signals at each end of the bridge could be used.

The revised Shadow Ridge ASP received First Reading on December 19, 1994. At that time staff were directed to address transportation concerns with the M.D. of Rocky View. It is unfortunate that after four months the M.D. of Rocky Council passed a motion on April 11, 1995 that the M.D. Council is "... not interested at this time in making any commitments".

I would like to request that the revised Shadow Ridge ASP be brought forward to the Town of Cochrane Council for consideration of Second and Third Readings. I feel that the content of the ASP provides adequately for the upgrading of the access road and the staff recommendations regarding improvements provide direction for subsequent agreements with the M.D. of Rocky View.

Yours truly,



John R. Robinson

APPENDIX 4

RIVERSONG DESIGN BRIEF



Design Brief

Tamani

COMMUNITIES

Prepared by:

Brown & Associates Planning Group

In Conjunction with:

Focus Corp.

May 28, 2010

7. NEW BUSINESS

7(c) Riversong Design Brief and Stage 1 Neighbourhood Plan

Resolution #150/06/10 Moved by Councillor Chester that Council adopts by resolution the proposed Riversong Design Brief and Stage 1 Neighbourhood Plan, dated May 28, 2010.

Amendment

Resolution #152/06/10 Moved by Councillor McFadden that Council amend Resolution #150/06/10 by including direction that Administration continue discussions with the Rocky View School Board regarding pathway access to the high school from River Heights Crescent.

Carried Unanimously

Vote on Resolution #150/06/10 as amended

Carried Unanimously

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1.0 Introduction

1.1 Policy Context and Purpose of the Design Brief

The Town of Cochrane Council adopted its new *Municipal Development Plan* (MDP) in October 2008. Under the policies of the MDP, an Area Structure Plan followed by a Neighbourhood Plan shall be prepared prior to development of new communities within Cochrane.

An Area Structure Plan provides the general policies to direct the community development, while the Neighbourhood Plan provides detailed design information and makes the connection between the Area Structure Plan policies and the built form of the community.

The *South Ridge Area Structure Plan* (SR-ASP) was adopted by Council in 1994 with amendments adopted in 2001 and 2002. Due to its age, the SR-ASP does not adequately address the objectives of the 2008 MDP or the Cochrane Sustainability Plan (CSP).

It was agreed between the Town Administration and Tamani Communities (the Developer) that rather than embarking on a full review of the SR-ASP, a Design Brief could be prepared, as an interim measure, to supplement the SR-ASP and provide an ASP level of direction, as directed by the MDP and CSP, to the already developing community and support the Riversong Stage 1 Neighbourhood Plan (RS1NP).

The purpose of this Riversong Design Brief (R-DB) is to provide general context and design details and an explanation of the key elements of the entire Riversong Community (Riversong), in support of the RS1NP.

Adoption of the Design Brief by resolution of Council will provide planning policy context for the subsequent approval decision of the RS1NP, and for subdivision and development within the boundary of the RS1NP. A revised and adopted SR-ASP is required prior to any further approvals for lands outside of the RS1NP.

1.2 Location

Riversong is located in the southwest portion of the Town of Cochrane, east of Highway 22, and immediately south of the Bow River. Figure 1 shows the location of Riversong within the Town of Cochrane. Riversong is bounded by:

- The Bow River to the north;
- An existing and operating gravel extraction operation on the east;
- Agricultural lands and future residential to the south;
- Agricultural lands and Bow Vista residential development to the west, see Figure 1.

The Town of Cochrane is in the early planning stages for the preparation of the River Heights Area Structure Plan (RH-ASP). The RH-ASP will provide policy direction, on the south and west sides of the SR-ASP. See Figure 1 for the RH-ASP area relative to Riversong.

1.2.1 Titles and Legal Descriptions

The remaining developable lands in Riversong fall under the two below noted titles:

DESCRIPTIVE PLAN 0412318

BLOCK 9

LOT 1

EXCEPTING THEREOUT:

| PLAN | NUMBER | HECTARES (ACRES) | MORE OR LESS |
|-------------|---------|------------------|--------------|
| SUBDIVISION | 0910527 | 6.820 (16.9) | |
| SUBDIVISION | 0911859 | 2.02 (5.00) | |
| SUBDIVISION | 0912151 | 6.245 (15.43) | |

EXCEPTING THEREOUT ALL MINES AND MINERALS

MERIDIAN 5 RANGE 4 TOWNSHIP 25 SECTION 35

THAT PORTION OF THE SOUTH WEST QUARTER WHICH LIES TO THE SOUTH OF THE BOW RIVER AND EAST OF THE EASTERLY LIMIT OF SAID ROADWAY AS SHOWN ON PLAN 475J CONTAINING 35.6 HECTARES (88.27 ACRES) MORE OR LESS EXCEPTING THEREOUT:

| PLAN | NUMBER | ACRES | MORE OR LESS |
|---------|--------|-------|--------------|
| ROADWAY | 4837BM | 0.04 | |

EXCEPTING THEREOUT ALL MINES AND MINERALS AND THE RIGHT TO WORK THE SAME

The other lands forming part of the RS1NP are already developed and fall under the legal descriptions:

- Rocky View School Division - Plan 0911859, Block 8, Lot 1; Area 8.938 hectares (22.09 acres) more or less.
- Town of Cochrane - Plan 0912151, Block 17, Lot 1MR; Area 0.406 hectares (1 acres) more or less.
- Private Resident Ownership - Plan 0912151, Blocks 13-16,
- Private Resident Ownership - Plan 0910527, Blocks 10-11

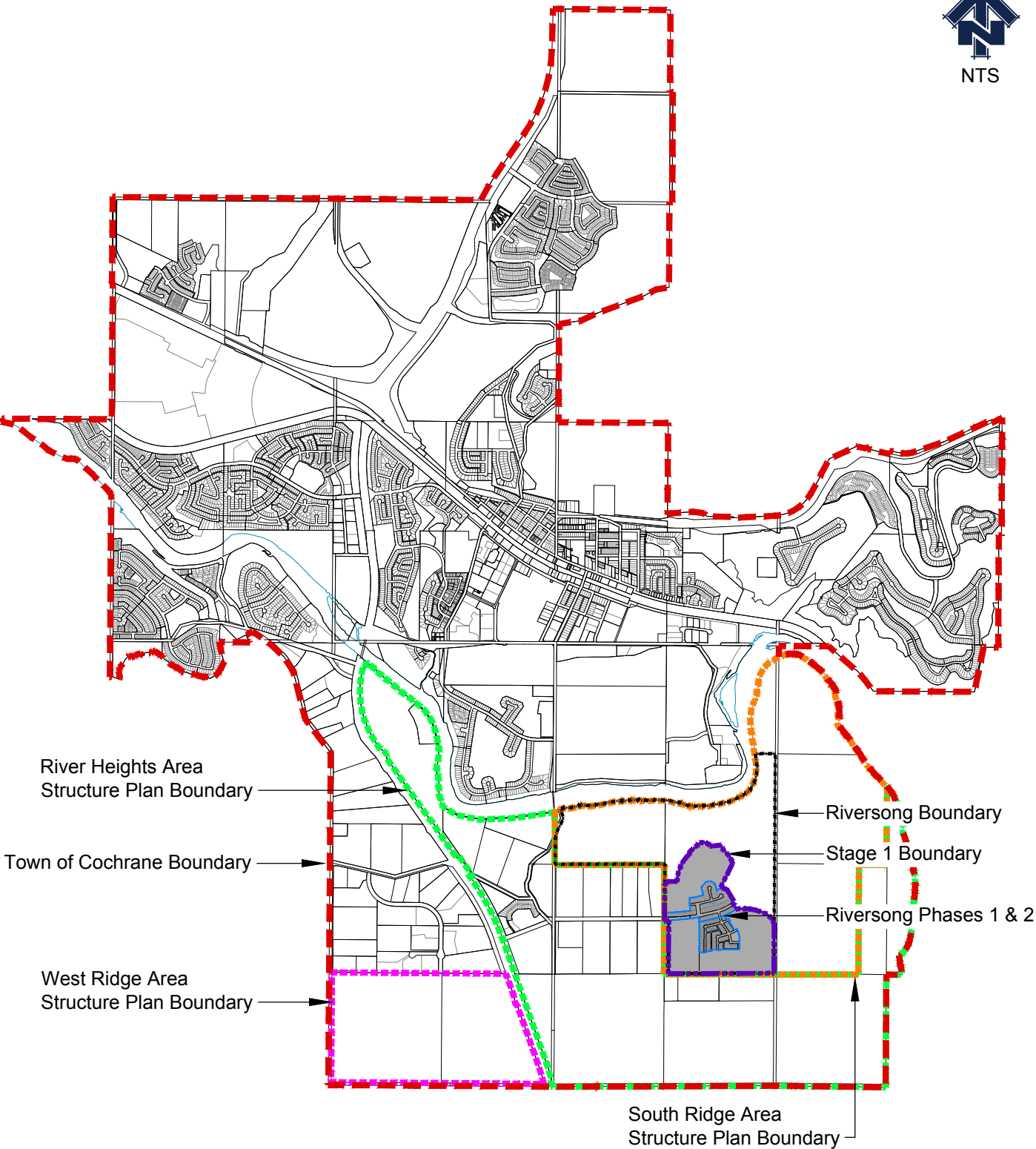


Figure 1:
Location Plan

1.2.2 Ownership

The undeveloped lands within Riversong are owned by 1300534 Alberta Ltd. These lands are managed by Tamani Communities.

1.3 *Description of Land*

1.3.1 Natural State and Supporting Studies

Riversong consists of generally rolling, hummocky lands with a large escarpment. The southern portion of the lands, referred to as the upper bench lands, are higher and flatter than the rest of the lands. The central portions of the lands consist largely of steep escarpment slopes. North of the escarpment, the lands flatten in the lower bench area.

1.3.1.1 Geotechnical Evaluation

A Geotechnical Evaluation¹ dated August 2000 was prepared by Golder Associates Ltd. for Riversong. The report focused on addressing the Town of Cochrane requirements for developments on terrain with slopes greater than 15% and provided recommendations for:

- 1) the stability of the steep slope along the watermain alignment;
- 2) the development setbacks along the east plateau; and
- 3) the foundation conditions for the road connector between Highway 22 and River Heights Drive.

Recommendations relative to 1 and 3 above have been followed during construction for Phases 1 and 2. The recommendations relative to 2 will be addressed at a future stage.

In addition to the above, investigation of the presence of an alluvial aquifer, and strategies for mitigation should an aquifer be identified, shall be completed at the appropriate development stage for the lower bench lands.

In summary the Geotechnical Evaluation's recommendations for the Riversong have been addressed for areas that concern the RS1NP lands, and other areas will be addressed with the future development.

¹ Geotechnical Investigation For The Proposed Cochrane Crossing Development, Golder Associates Ltd., August, 2000

1.3.1.2 Historical Resource Impact Assessment

A Historical Resource Impact Assessment² (Report 80-181) was prepared for the SR-ASP by Lifeways of Canada Ltd. in 1981. The report identified five prehistoric archaeological sites, one paleontological site, and one historic site. Of these sites, four were stated to require additional investigation. Only one of these four sites (EhPo-49) was located within Riversong's boundary. This site (EhPo-49) was reviewed by Dr. Brian Reeves of Lifeways of Canada in 1998, at which time he concluded that the site was a natural formation and not a cultural feature. Dr. Reeves recommended to Alberta Community Development that mitigation requirements originally recommended be rescinded. This recommendation was approved, and a copy of the letter of approval is provided as Appendix C. No further historical resource investigations are required within Riversong.

1.3.1.3 Environmental Site Assessment

A Phase 1 Environmental Site Assessment³ (ESA) was completed by Almor Testing Services Ltd. on December 20, 1997 for the Riversong. This report concludes that no environmental contamination exists and no further investigation is required. An updated letter was provided by Almor Testing Services Ltd. dated October 12, 2006 that further supported the findings in the original report; that no further environmental investigation is required. A copy of this letter is provided as Appendix D.

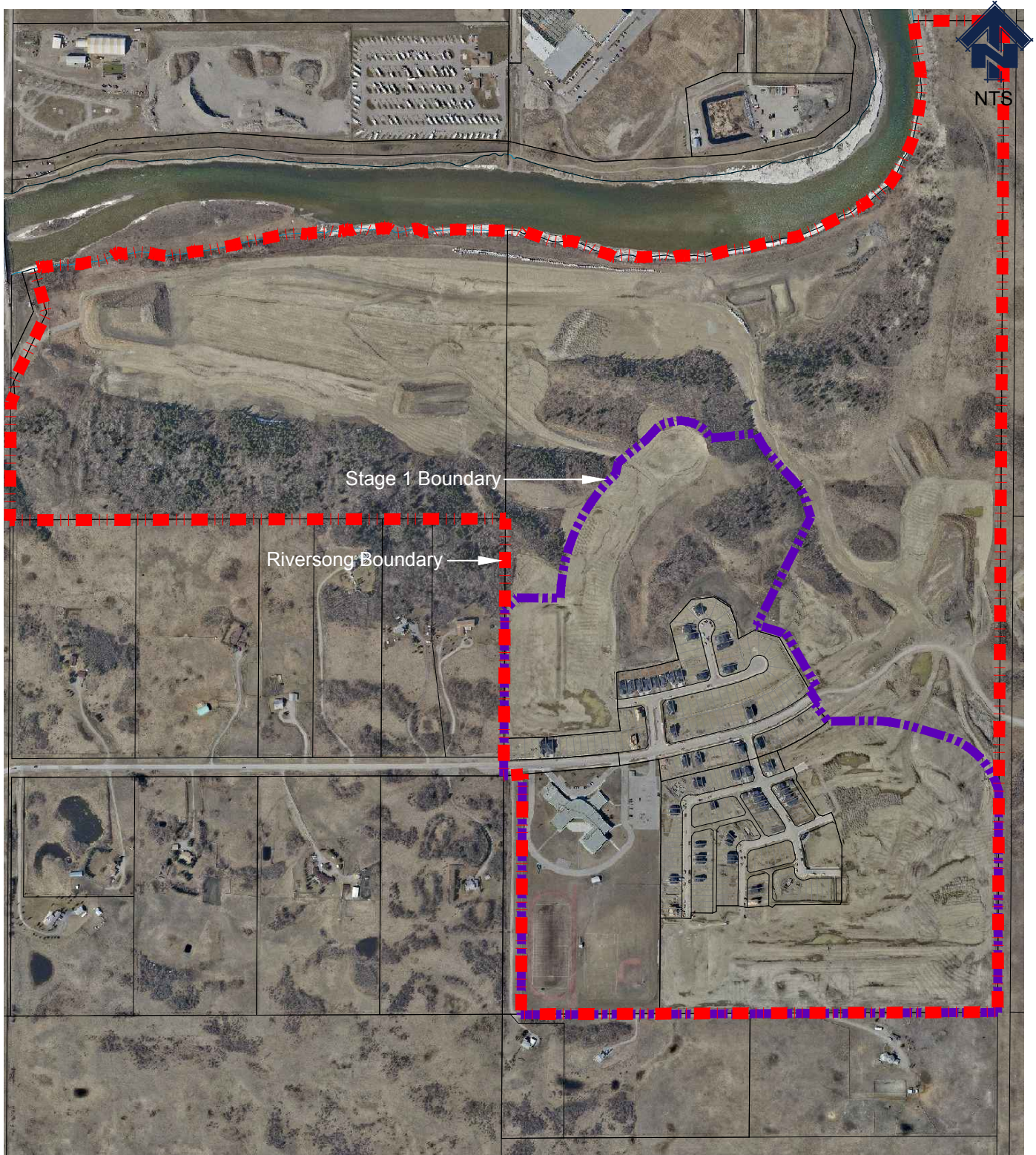
1.3.2 Existing State

The community of Riversong is currently under development with Phases 1 and 2 nearing full build-out and occupancy. Section 1.5 outlines Riversong's history of development.

With the development of Riversong Phases 1 and 2, and the anticipated imminent development of the remainder of the upper bench lands, the entire RS1NP area was rough graded by the Developer.

² Historical Resources Impact Assessment Robinson Lands, ASA Permit 80-181, Lifeways of Canada, December, 1980

³ Level One Environmental Site Assessment for Southland Development Corp., Almor Testing Services Ltd., December 20, 1997



The approval of the 2008 Municipal Development Plan provided new policy directives which have been incorporated into this Design Brief. Figure 2 illustrates the existing state of the land through an aerial photograph.

1.4 Site Constraints

1.4.1 Escarpment and Slopes

As noted in Section 1.3.2 the upper bench lands, on which the remainder of Riversong Stage 1 will be developed, have been rough graded. Therefore, there are no slopes of concern within this area. The Geotechnical Evaluation identifies slopes of 15% or greater within the future Riversong development area. Future subdivision and development will consider and respond to slopes of 15% or greater and in accordance with the policies and guidelines of the South Ridge Area Structure Plan and the Town of Cochrane.

Section 3.10 of the SR-ASP provides twelve policy directives outlining how development must occur on or adjacent to the slopes within the Plan area. These policies are still the guiding policies for development and shall be adhered to as development proceeds.

Each Neighbourhood Plan which includes development with slopes greater than 15% shall provide details of how the development adheres to these policies.

1.4.2 Gravel Extraction

The Gravel Pit adjacent to Riversong's east boundary is currently in operation. River Heights Drive shall accommodate gravel extraction traffic until such time as an alternative access route is provided.

1.4.3 Transportation Network

The existing transportation network places development limitations on the community of Riversong. Improvements to the network, as detailed in Section 5.0, will allow development to continue.

1.5 *History of Development*

The development history of Riversong began several years prior to the 2008 MDP requirement of a Neighbourhood Plan to guide subdivision approvals. Prior to the 2008 MDP, development was guided by a Concept Plan approved by Council. Phases 1 and 2 of Riversong are developed, and began development under the direction of a Concept Plan which was conditionally approved in March 7, 2001. The history of development, governing policies and approvals granted in Riversong are detailed below.

| | |
|--------------------|--|
| December 1994 | The South Ridge Area Structure Plan was adopted through Bylaw 14/94; |
| March 7, 2001 | The Crossing Concept Plan (now called Riversong) was conditionally approved; |
| August 13, 2001 | An amendment to the SR-ASP was adopted through Bylaw 18/01; |
| September 9, 2001 | An amendment to the SR-ASP was adopted through Bylaw 25/01; |
| September 25, 2006 | Bylaw 19/2006 was approved and designated Land Use throughout Riversong; |
| June 27, 2007 | An amended portion of the land use Bylaw 19/2006 was approved through Bylaw 17/2007; |
| Spring, 2008 | Construction of Riversong Phases 1 & 2 began; |
| October 14, 2008 | the Cochrane Town Council approved the new Municipal Development Plan; |
| Fall/Winter, 2008 | Riversong Phases 1 & 2 were completed and occupancy began; |
| May 2009 | The Cochrane Sustainability Plan was adopted by Resolution by the Cochrane Town Council; |
| Summer 2009 | Continued construction awaits further subdivision approvals subsequent to Design Brief and Neighbourhood Plan direction. |

2.0 *Riversong Design Elements*

The topography of Riversong is distinct and will become intertwined with Riversong's identity, as people associate Riversong with its varying topography. The upper bench lands offer future residents along the escarpment views of the Cochrane valley and the Bow River. The lower bench lands have the distinction of being adjacent to the Bow River.

The Bow River acts as the north boundary to Riversong. The land directly adjacent to the Bow River will be protected as environmental reserve. The protection of this area as public open space will allow the river banks to remain accessible to all.

The design of Riversong also allows for protection of much of the escarpment lands as environmental reserve. Pathways within and to this environmental reserve area are intended to provide access while minimizing the impact of random travel through this area.

The built form of Riversong includes developer implemented architectural controls intended to compliment the natural features of the land. The remaining lands in Riversong will continue to include architectural controls to help ensure continuity of the high standards and attention to detail.

2.1 *Pedestrian Connectivity*

Riversong's local pathway network is designed to facilitate the safe enjoyment of the community and connect residents directly to community amenities including the banks of the Bow River, the community greenspaces which will include tot lots and a community garden, and the local school and playfields. See Figure 4.

Linkages throughout the upper and lower bench lands include strategically placed walkways and pathways to connect residents safely and comfortably to all of Riversong's local amenities. Where appropriate, walkways bisect longer blocks to allow residents to gain quicker access to their destination rather than walking around an entire block. Sidewalks will be provided on both sides of all future roads to further aid in the walkability of the community.

Whether a resident wants to play in the local tot lot, walk through the natural escarpment, enjoy the pathway along the Bow River or stormpond, or walk to the local high school, the linkages are in place to ensure there will be a sidewalk, walkway or pathway for the resident to utilize.

The regional pathway network is discussed in Section 5.5.

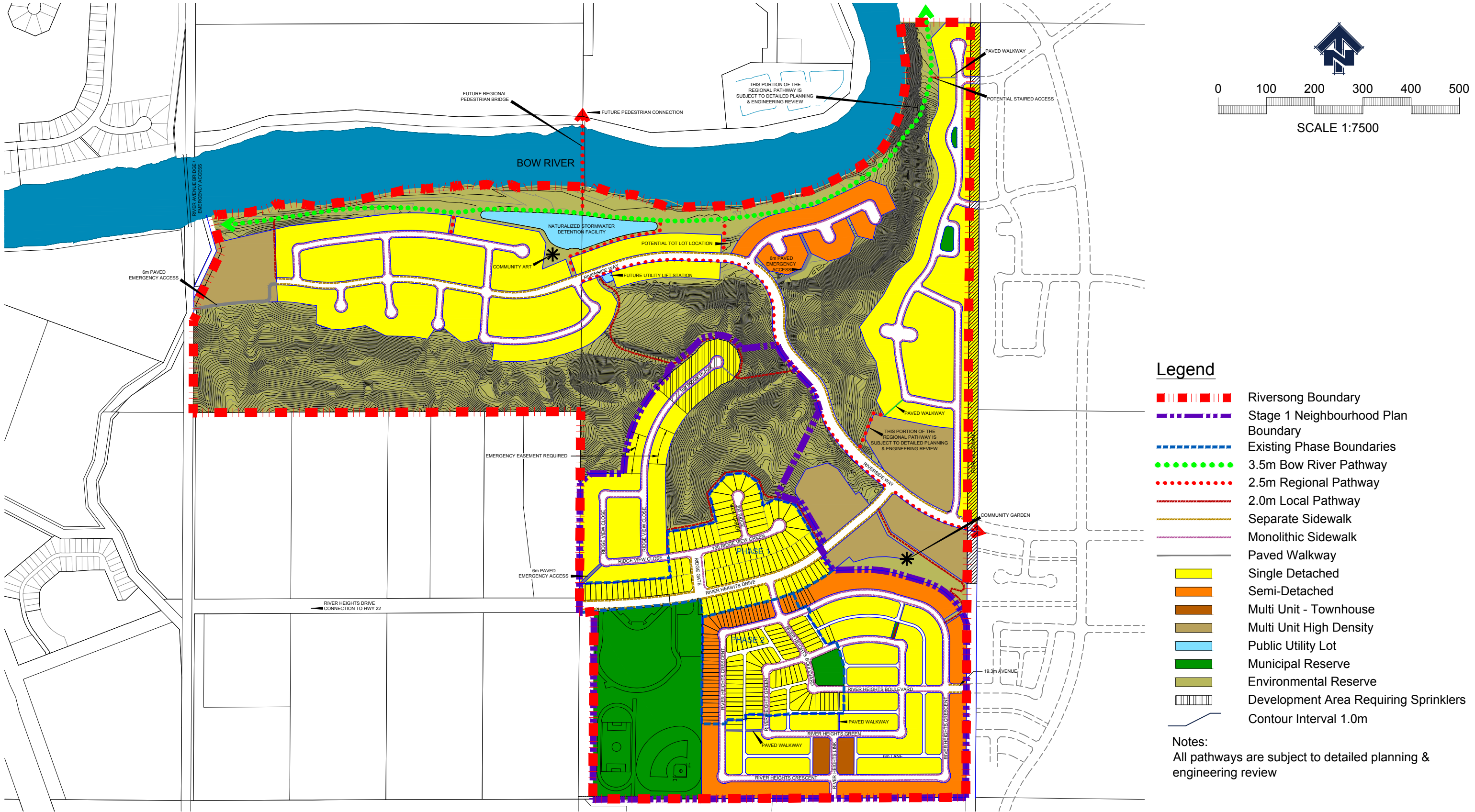
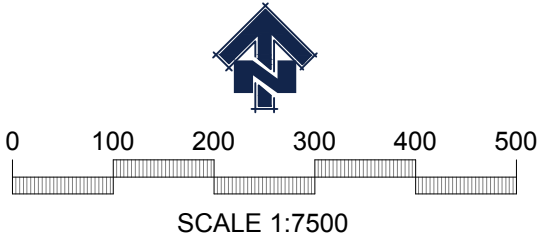
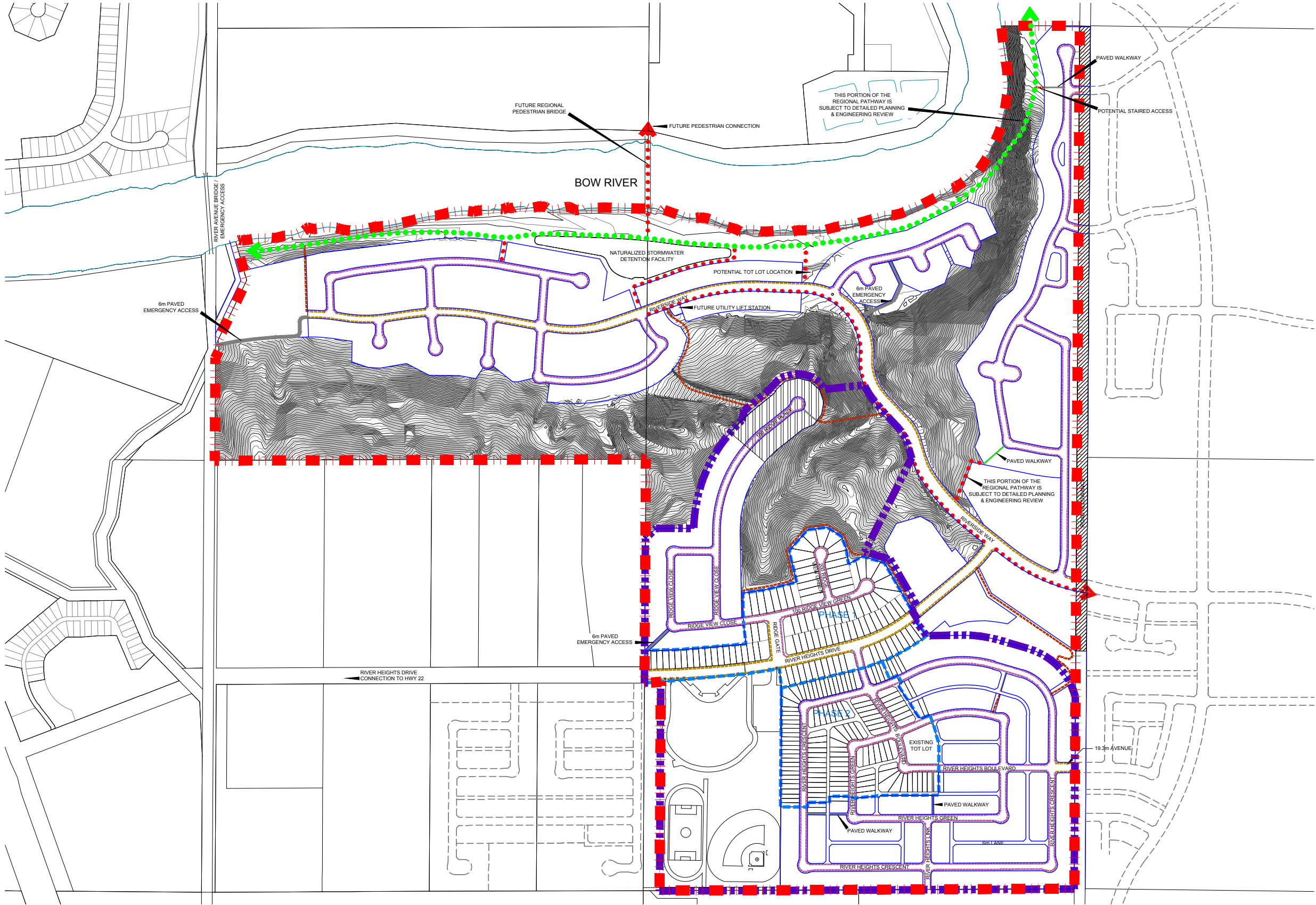


Figure 3:
Design Brief Concept Plan



Legend

- Riversong Boundary
- Stage 1 Boundary
- Existing Phase Boundaries
- 3.5m Bow River Pathway
- 2.5m Regional Pathway
- 2.0m Local Pathway
- Separate Sidewalk
- Monolithic Sidewalk
- Paved Walkway
- Contour Interval 1.0m

Notes:
All pathways are subject to detailed planning & engineering review

Figure 4:
Pedestrian Connectivity

2.2 *Local Playground*

Riversong will include two tot lot parks.

The first tot lot park is under construction in Phase 2 of Riversong Stage 1, in the upper bench lands. This 0.40 hectare (1.01 acre) park is located south of River Heights Drive. This park is centrally located within this higher density, southern residential area and is within 500 metre walking distance to all homes in this area of Riversong with the exception of the houses in the cul-de-sac at the top of the escarpment. These homes will be within 500 metre walking distance to the second tot lot park in the lower bench lands.

The second tot lot park will be located near the future storm pond in the lower bench lands. This tot lot will serve all the homes and residents in the lower bench lands. The majority of the homes in the lower bench will be within 500 metre walking distance, including the homes at the north end of the cul-de-sac in Phase 4 which are outside of the 500 metre walking distance of the first tot lot park. The homes that fall outside of the 500 metre walking distance are within a 1 kilometre catchment area.

Further discussion on open space facilities can be found in Section 3.4.

2.3 *Community Garden*

Riversong will contain a community garden to allow residents to enjoy the bounty of their own, locally grown produce as well as interact and socialize. By accommodating a community garden, Riversong directly supports the Cochrane Sustainability Plan (CSP) Pathway to the Future 5: We consume the bounty of our local economy.

The community garden is proposed to be located near the future multi-unit sites on the upper bench lands, at the easterly terminus of River Heights Drive. Residents in multi-unit developments often do not have the opportunity to plant a garden to grow their own food due to their lack of private greenspace. By placing the community garden close to the multi-unit developments, these residents will have convenient access to the site. Community gardens also become a social focus and meeting point as residents get to know each other while tending their gardens.

The final location of the community garden will be determined in conjunction with the design of these multi-unit residential sites.

2.4 *Public Art*

Riversong will include public art adjacent to the future storm pond, in the lower bench lands. This public art piece will increase the sense of place by creating a familiar icon that becomes associated with the community.

The final form and location of the public art will be determined at the Neighbourhood Plan or subdivision application stage for each phase. The public art will consist of low maintenance materials and be designed to stand up against the elements.

2.5 *Local High School*

The existing and operating Bow Valley High School, at Riversong's entrance on River Heights Drive, is a community amenity and will become an important element of the community's identity. The school offers the opportunity for residents to walk to the school for education, recreation, jobs or volunteering. Riversong's social development will grow as families become involved in school activities and meet each other on the school playfields, in the greenspaces, and on the community pathways and sidewalks.

2.6 *Crime Prevention Through Environmental Design*

Crime prevention through environmental design (CPTED) is an important component of community design.

CPTED occurs when the built environment helps to reduce the incidence of crime and the fear of crime occurring. The Cochrane MDP provides eight basic criteria for addressing CPTED. Each Riversong Neighbourhood Plan shall address CPTED and provide details of how safety is enhanced.

2.7 *Affordable Housing*

Riversong includes a variety of housing forms, sizes and price ranges. To further ensure that housing is available to all income levels, the developer commits to working with the Cochrane Society for Housing Options to determine an appropriate location and form of affordable housing within one of the multi-unit sites on the upper bench lands. Care will be taken to ensure the housing will be integrated seamlessly within the community of Riversong. The form and management will be co-ordinated with the Cochrane Society for Housing Options. Further detail will be provided in the Neighbourhood Plan that addresses these lands.

2.8 *Transit Oriented Design*

Transit Oriented Design (TOD) ensures that the connections are in place to allow residents to utilize alternative forms of transportation. Whether residents want to walk or cycle to community amenities or access public transportation, strong pedestrian connections should be in place to facilitate their safety and comfort.

Riversong supports TOD through the incorporation of a future public transit route. See Section 5.4 and Figures 8 and 9 for further information. TOD is further supported in Riversong through the well thought out pedestrian connections, as noted in Section 2.1 and Figure 4. Although the Town of Cochrane does not currently have a public transportation system, it anticipates its future inception as part of its responsible growth management.

3.0 *Land Use*

The community of Riversong comprises approximately 140.32 hectares (346.74 acres) of land. The land use within Riversong is primarily residential. Land use amendments are proposed to:

- Amend a portion of existing add two blocks of Residential Multi-Unit Dwelling District (R-3) area to Riversong with the intention to provide townhouse development, and;
- Amend a portion of existing Residential High Density Multi-Unit Dwelling District (R-M) to Residential Single and Two Dwelling District (R-2) with the intent to provide additional semi-detached housing

These land use amendments are discussed in greater detail in the Riversong Stage 1 Neighbourhood Plan, and applied for under a separate Land Use Amendment application.

Aside from the above noted amendments, the Design Brief is consistent with the land use pattern as per the SR-ASP Land Use Concept, and the approved Land Use as per Bylaw 19/2006 and the amendments approved with Bylaw 17/2007. Figure 3 illustrates the general land uses of low density residential, high density multi-unit residential, public service lots (storm pond) and open spaces.

3.1 *Residential*

A variety of dwelling units will be available within Riversong including single detached housing, semi-detached, townhouse and multi-dwelling units and affordable housing.

The RS1NP provides a diverse range of housing styles, at varying sizes and affordability levels, within the Residential Single-Detached Dwelling District (R-1). Riversong's topography provides the opportunity for large view-offering estate lots along the escarpments and higher density, single detached laned lots on the relatively flatter lands south of River Heights Drive. Narrow lot, laned lots, front-drive lots and estate lots will be available in Riversong within the R-1 district.

Semi-detached dwellings and townhouses, accommodated within Residential Single and Two Dwelling District (R-2) and Residential Multi-Unit Dwelling District (R-3) respectively, will also be available within Riversong Stage 1. The existing land use provides for a future R-2 development cell in the lower bench area.

Riversong includes several Residential High Density Multi-Unit Dwelling District (R-M) sites. The anticipated density on these sites is 30 units per acre with a maximum density allowed under the *Town of Cochrane Land Use Bylaw 01/2004* (LUB) of 60 units per acre. Given the varying topography and natural features of the land in Riversong, these sites will require further investigation to determine their densities at the time of development.

3.2 *Commercial*

During the preparation of this Design Brief and the Riversong Stage 1 Neighbourhood Plan, consideration was given to the feasibility of including commercial development in the continuation of the development of Riversong.

Commercial land use was not included within the 2001 Concept Plan that guided the development of Phases 1 and 2. The Cochrane Planning Commission (CPC) and Town Council endorsed this decision at meetings in 2006, and it was determined commercial development would be more feasible elsewhere within the *South Ridge Area Structure Plan* (SR-ASP) area.

One place commercial development might have been considered is the west entrance to Riversong, close to the Bow Valley High School, along River Heights Drive. However, this area has already been developed as residential. Therefore, alternate nearby commercial locations were identified and evaluated for their proximity and accessibility to Riversong. These areas include commercial locations elsewhere in the eastern portions of the SR-ASP area and in the upcoming River Heights Area Structure Plan (RH-ASP) area.

The Town of Cochrane *Transportation Update Plan 2009*, prepared by Urban Systems identifies a future major north/south arterial road through this area and to eventually connect to downtown Cochrane via a new bridge crossing over the Bow River. See Transportation Network Stage 4 on Figure 6. By design, this road will see a much larger traffic volume than the collector roads in Riversong. Local commercial development would likely be more successful adjacent to this arterial road, while still within close walking distance to much of Riversong.

Commercial needs of Riversong residents will be further met through lands proposed for development for highway commercial uses at the intersection of Highway 22 and River Heights Drive. This proposed commercial site is located less than 1 kilometre to the west of Riversong. Residents will pass this site as they enter and exit Riversong, making it a convenient commercial location. This site is included in the RH-ASP and has the opportunity to become a commercial node offering both highway and local commercial services. Additional opportunities may exist elsewhere in the RH-ASP for the provision of local commercial uses.

3.3 *Institutional*

The Riversong community includes a high school site, with associated playfields. Bow Valley High School is currently operating on this site. This school serves the Town of Cochrane and surrounding areas. A school within a community is a valuable amenity. The school provides a social focus for residents and will draw families to the community.

3.4 *Open Space*

The SR-ASP identifies that ‘the varied topography and vegetation coupled with the Bow River forming a strong edge on much of the perimeter of the Plan area provides opportunities for open spaces with a wide range of character⁴’. The community of Riversong builds upon the natural features of the topography and protects them as amenities. The floodway lands and the natural escarpment will be protected as environmental reserve. Vegetation and wildlife will be left in their natural state throughout the environmental reserve area.

The open space system will be linked through a pathway and trail network that provides connectivity while minimizing the impact on the environmental reserve. Residents will be able to walk, jog or cycle throughout the community from the higher, southern lands of Riversong to the Bow River through the sidewalks, pathways and trails which will offer multiple route options. A regional pathway will provide access to the Bow River as well as continue along Riverside Way to the west side of the

⁴ South Ridge Area Structure Plan, December 1994, page 8

community. This will allow future urban development on the west side of Riversong to access the regional pathway and the Bow River. Figure 4 illustrates Riversong's pedestrian connectivity.

The table below identifies the Municipal Reserve (MR) dedication requirements and current allocations in Riversong.

Overall Riversong Municipal Reserve (MR) Allocation

| | (ha) | (ac) |
|-------------------------------|--------------|---------------|
| Overall Riversong Area | 140.24 | 346.53 |
| Environmental Reserve | <u>49.19</u> | <u>121.55</u> |
| Net Developable Area | 91.05 | 224.98 |
| 10% MR Requirement | 9.11 | 22.50 |
| <u>MR Dedications:</u> | | |
| Bow Valley High School Site | 8.97 | 22.16 |
| Phase 2 Tot Lot & Linear Park | <u>0.44</u> | <u>1.09</u> |
| Total MR Allocated | 9.41 | 23.25 |
| MR Overdedication | 0.30 | 0.75 |

4.0 Density

The SR-ASP identifies a target density of 17.3 units per hectare (7.0 units per acre) with a permitted range of 5 units per hectare (2 units per acre) to 25 units per hectare (10 units per acre). Subsequent to the adoption of the SR-ASP, the 2008 MDP has prescribed a minimum density requirement of 19.8 units per hectare (8.0 units per acre).

Riversong will endeavour to provide a minimum overall density meeting the MDP requirement of 19.8 units per hectare (8.0 units per acre). The community will be developed in stages. Some stages may exceed or fall short of the target density; however the overall community density will target to meet the 2008 MDP requirements. All density calculations are to be calculated on the basis of dwelling units per gross developable area, as per Section 8.3.6(b) of the MDP.

5.0 *Transportation*

5.1 *Constraints*

5.1.1 **Topography**

The escarpment and natural topography of Riversong put limitations on the transportation network and connectivity. The design of the transportation network respects the topography of the land by minimizing the impact on the escarpment, resulting in limited vehicular connectivity in some areas of Riversong. The Bow River also creates a natural boundary on the north side of the community, impeding access from this direction.

5.1.2 **Ownership**

Separate ownership of the lands on the west and east side of Riversong adds constraint to the transportation network.

Riversong is not directly adjacent to Highway 22, but it relies upon this highway as the permanent access route to and from the community, via River Heights Drive. There are several landowners between the west side of Riversong and Highway 22. This creates challenges on the timing and financing of upgrading River Heights Drive to improve the access into Riversong.

The gravel extraction operation on the east boundary of Riversong also falls under different ownership. River Heights Drive currently accommodates the gravel trucks entering and exiting the site due to the limited transportation connectivity throughout the entire area. Traffic volumes through Riversong must consider the gravel extraction operation.

5.1.3 **Access**

Riversong is situated immediately south of the Bow River, and approximately one kilometre east of Highway 22. The permanent access into Riversong is from Highway 22 via River Heights Drive.

River Heights Drive is identified in the *Transportation Update Plan 2009* as a major collector. As this road currently utilizes ditches rather than curb and gutter for stormwater management, it will be referenced as a rural collector for discussion purposes. River Heights Drive is a rural collector up to Riversong's west boundary. At the entry point into Riversong, River Heights Drive changes to a 21 metre collector standard road.

River Heights Drive terminates at the proposed Riverside Way. Riverside Way, if approved, will provide access into Riversong's lower bench area and to future urban development to the east of Riversong. This future development, to the east of Riversong, will not occur until the existing gravel extraction operation ceases.

The *Transportation Update Plan 2009*⁵ identifies a major arterial road running north/south, in the SR-ASP lands to the east of Riversong, which will provide an additional connection to Highway 22, and a potential future second bridge crossing of the Bow River. Each of these will provide improved access to Riversong. Additional discussion of the potential future bridge can be found in Section 5.2.4.2.

5.2 *Thresholds*

The existing and future transportation networks are identified in Figures 5 and 6. These Figures are based on the *Transportation Update Plan 2009* prepared by Urban Systems under the direction of the Town of Cochrane.

5.2.1 **Current Intersection of Highway 22 and River Heights Drive**

An *Intersection Traffic Study*⁶ (ITS) completed by Focus Corporation, determined that the intersection of Highway 22 and River Heights Drive currently operates at an overall Level of Service A. However, the westbound right and left turning movements operate at a Level of Service C.

The ITS has determined that based on existing traffic volumes, the intersection at Highway 22 and River Heights Drive is capable of accommodating the traffic volumes of an additional 50 residential units, or equivalent for commercial/industrial development while maintaining the existing level of service.

With an additional 50 residential units:

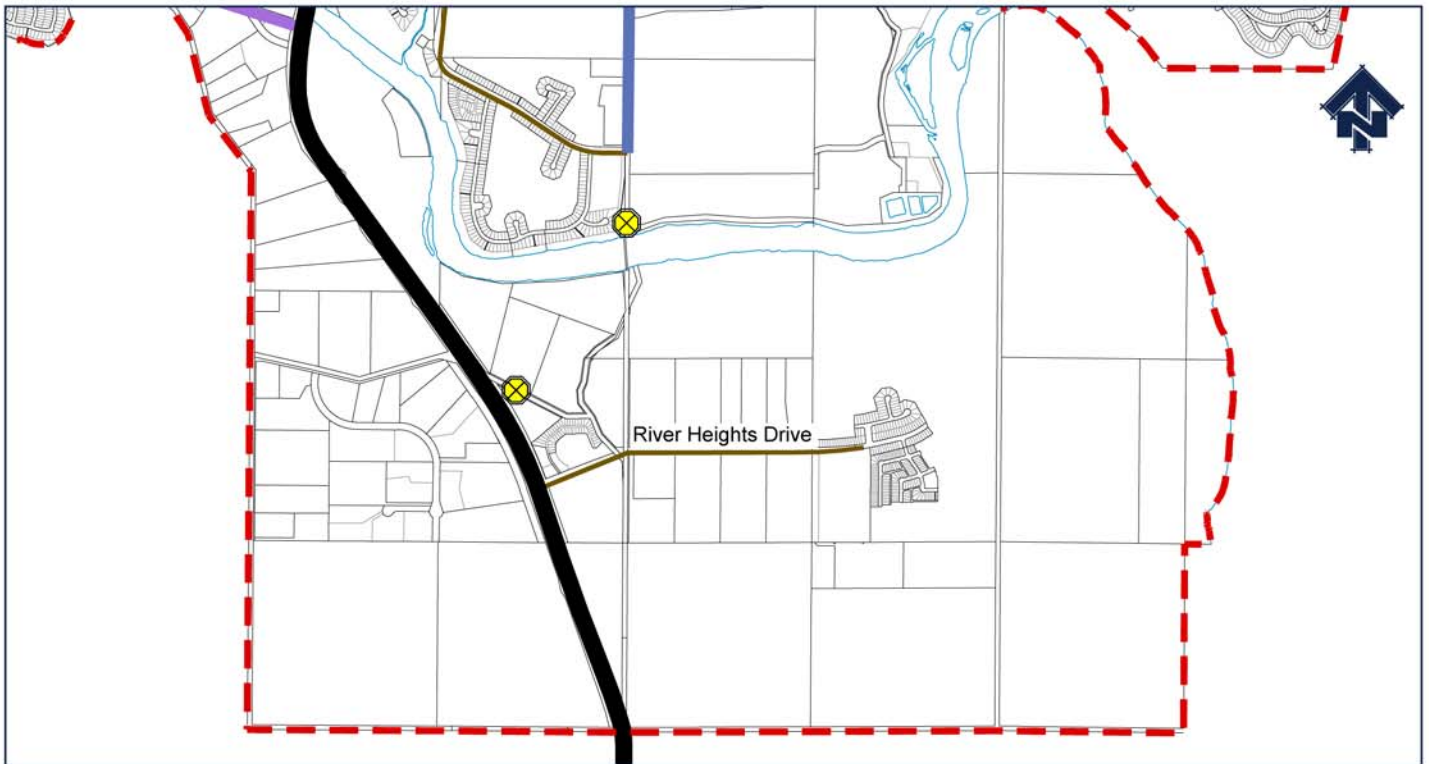
- Overall Level of Service: The ITS shows the Highway 22/River Heights Drive intersection, with an additional 50 units would maintain an overall Level of Service A, with individual movements operating at Level of Service C during peak periods.
- Specific Level of Service: The ITS shows that the Highway 22/River Heights Drive intersection can accommodate an

⁵ Town of Cochrane Transportation Update Plan 2009, Urban Systems, April 2009

⁶ Intersection Traffic Study, Focus Corporation, February 17, 2010

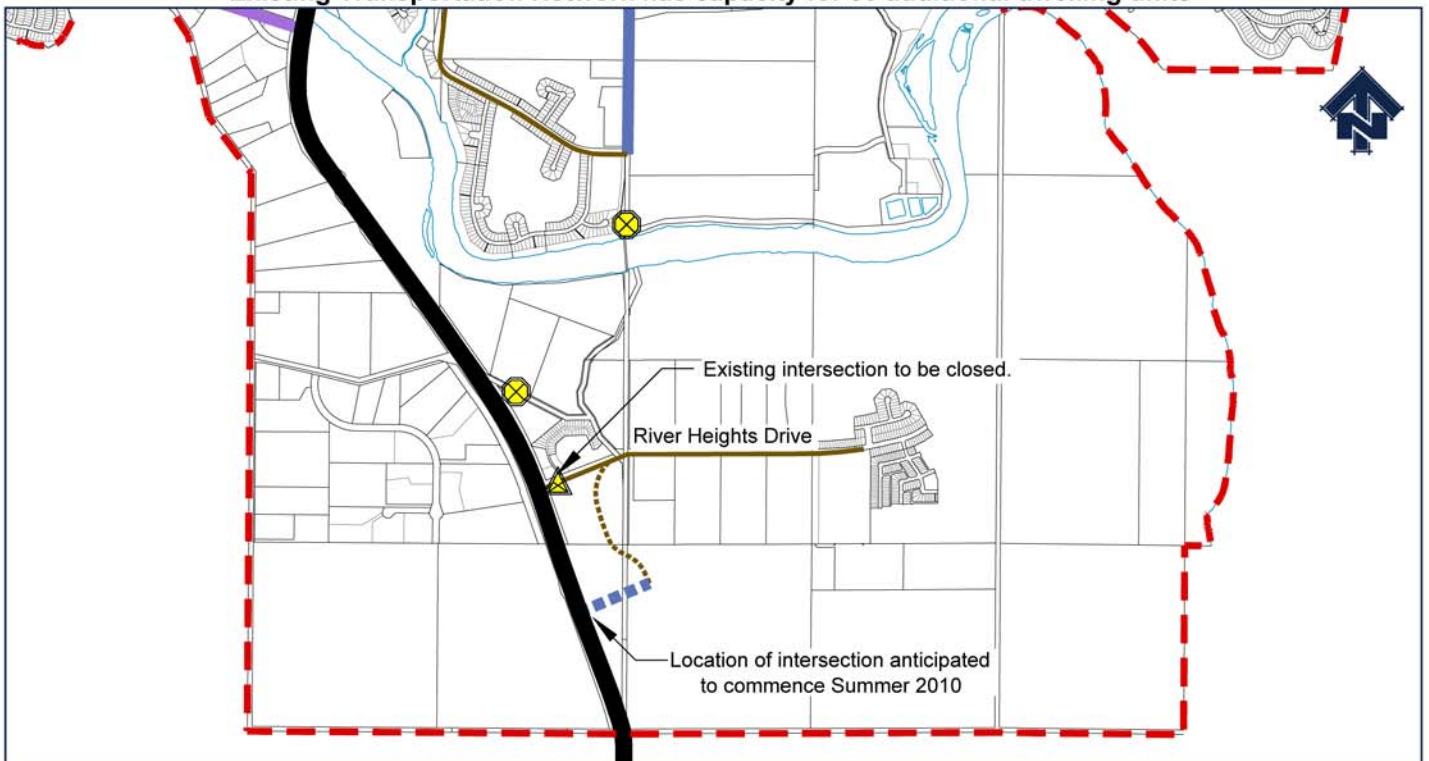
additional 50 residential units and maintain peak period westbound left and right movements at a Level of Service C.

Alberta Transportation has informed the Town of Cochrane Planning Department that a Level of Service less than C would not be acceptable at this intersection.



Transportation Network Stage 1

Existing Transportation Network has capacity for 50 additional dwelling units



Transportation Network Stage 2

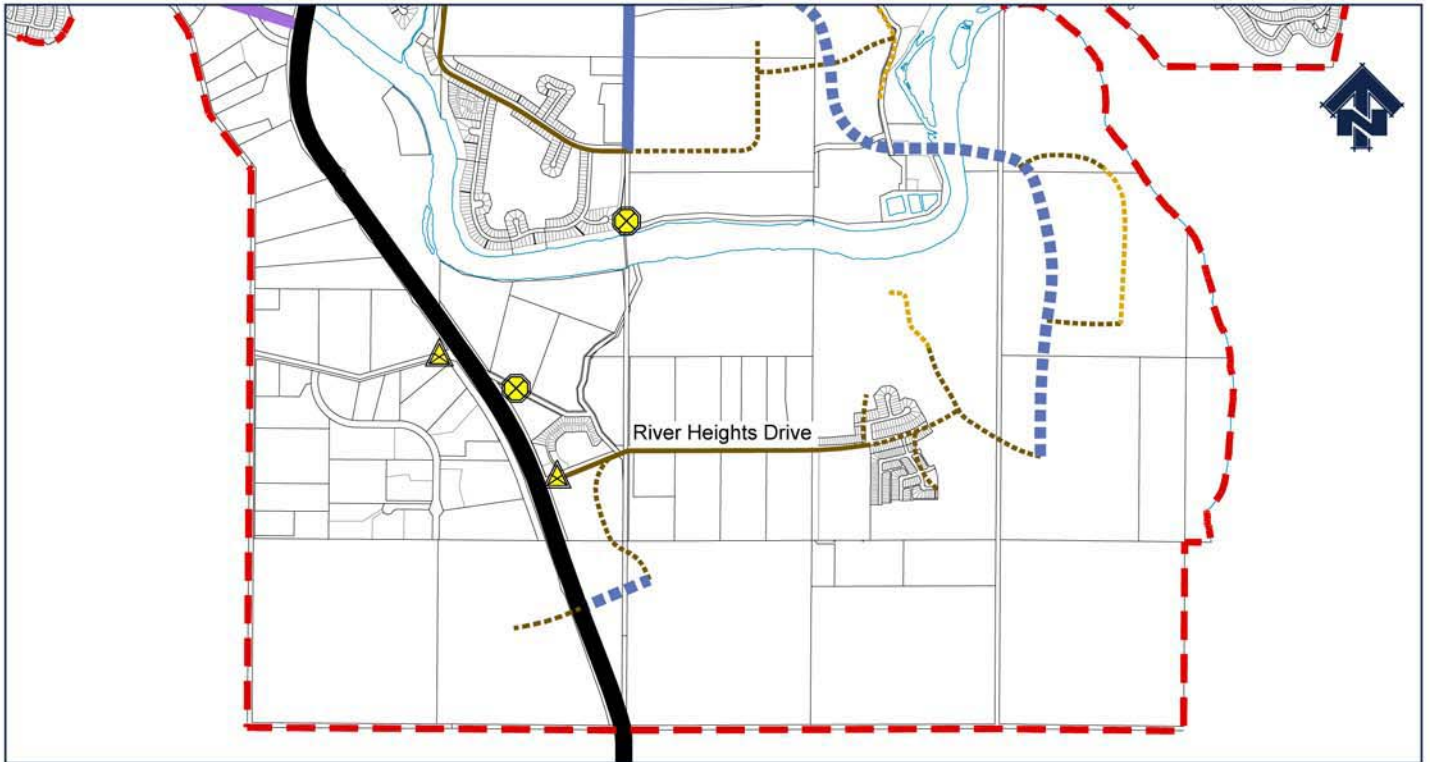
Spring 2010 Construction of new intersection will increase the capacity of the Transportation Network and allow 880 additional dwelling units to be constructed.



Legend:

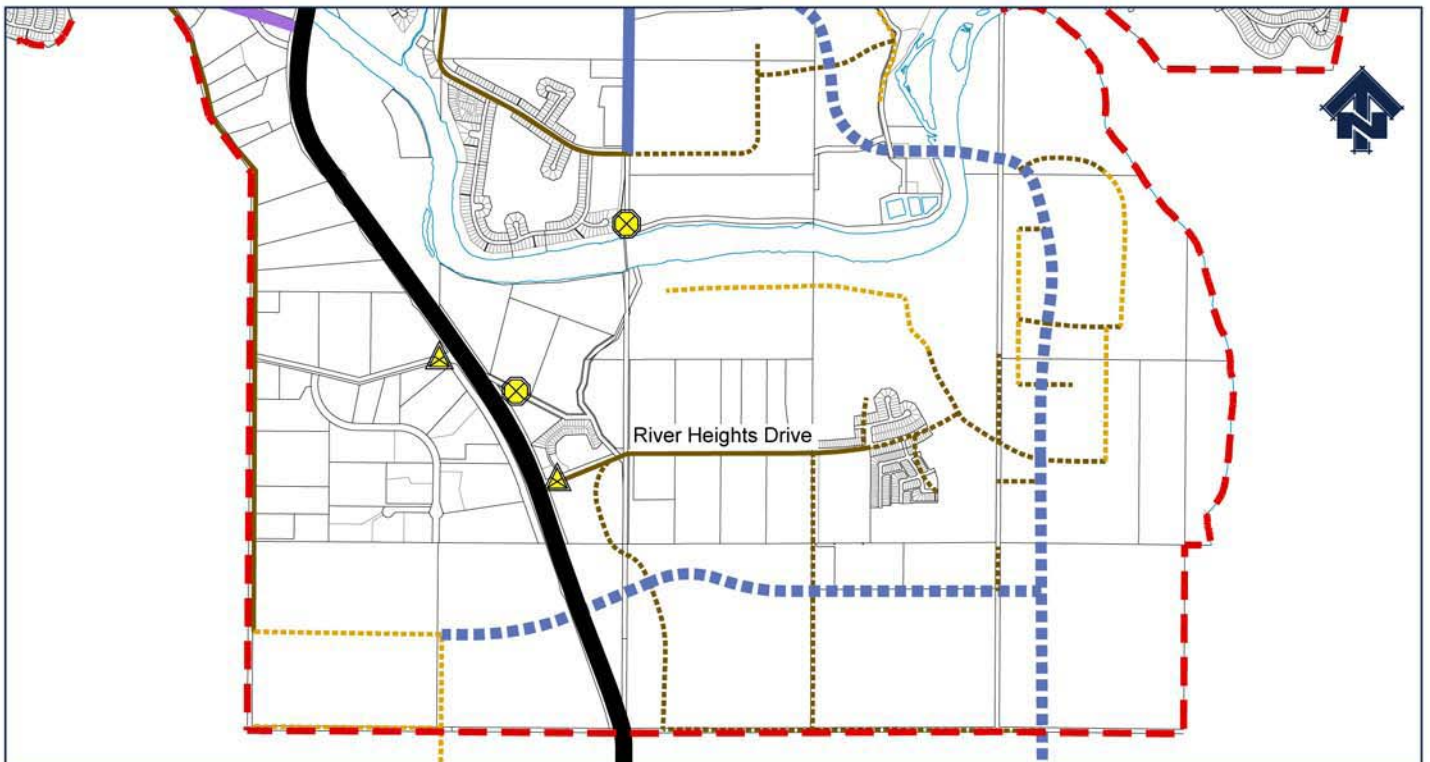
- Provincial Highway (Existing)
- Major Arterial (Existing)
- Minor Arterial (Existing)
- Major Collector (Existing)
- Major Arterial (Future)
- Major Collector (Future)

Figure 5:
Stages 1 & 2 of the
Transportation Network



Transportation Network Stage 3

2016 Recommended Future Road Network as per the Town of Cochrane Transportation Plan update 2009



Transportation Network Stage 4

2026 Recommended Future Road Network as per the Town of Cochrane Transportation Plan update 2009

Legend:

- | | |
|-------------------------------|--------------------------|
| Provincial Highway (Existing) | Major Arterial (Future) |
| Major Arterial (Existing) | Minor Arterial (Future) |
| Minor Arterial (Existing) | Major Collector (Future) |
| Major Collector (Existing) | Minor Collector (Future) |
| Minor Collector (Existing) | |

Figure 6:

Stages 3 & 4 of the
Transportation Network

5.2.2 Planned Intersection of Highway 22 and River Heights Drive

A new intersection for Highway 22 and River Heights Drive is planned. This new intersection will be constructed 550± metres south of the existing intersection, and will be fully channelled with future signalization as required. Private land ownership exists between the locations of the existing intersection and proposed intersection. A connection through this private land will be required to connect the new intersection with the existing River Heights Drive. This agreement is currently under discussion and close to resolution. Once this agreement is in place, and the new intersection is constructed, the intersection capacity constraints on the transportation network serving Riversong will be eliminated.

It is anticipated that the new intersection will commence construction during the summer of 2010. The existing Highway 22 and River Heights Drive intersection will either be closed or left intact as an emergency access only. This decision will be made by the Town of Cochrane and Alberta Transportation.

5.2.2.1 Planned River Heights Drive Re-Alignment

As noted in Section 3.2.2, due to the relocation of the existing intersection approximately 550m± south, a portion of River Heights Drive must be re-aligned to access the new intersection. The construction of the re-aligned portion of River Heights Drive will enable development to surpass the 50 additional units that the existing intersection can support.

Registration of subdivision in Riversong, beyond 50 additional units, will not be supported by the Town until such time as an agreement in relation to the River Heights Drive re-alignment is provided to the Town.

5.2.3 River Heights Drive

In accordance with the *Intersection Traffic Study*, River Heights Drive has a capacity to serve up to 10,000 vehicles per day (two way traffic).

The ITS has determined that based on existing traffic volumes, River Heights Drive is capable of accommodating the traffic volumes of an additional 880 residential units, or equivalent for commercial/industrial development.

It is noted that at present, River Heights Drive operates at a Level of Service A. With the traffic volumes of an additional 880 residential units, or equivalent for commercial/industrial development, this level of service will be maintained.

At such time when development surpasses the additional 880 residential units, or equivalent for commercial/industrial development, the Level of Service of River Heights Drive will be reduced. At this time, the development of additional routing or upgrading of River Heights Drive will be required.

While this limitation does not affect the development of the Riversong Stage 1 Neighbourhood Plan area, the Town of Cochrane will not approve the subdivision of any residential parcels, or development permits for any commercial/industrial developments that would exceed the additional 880 residential units, or equivalent for commercial /industrial development, prior to the upgrading of River Heights Drive or the development of an alternate permanent access.

Should improvements to River Heights Drive be required, the first developer requiring it shall front end the improvements while being entitled to 100% recoveries based on frontage obligations from lands adjacent to River Heights Drive. The Town will work with the Developer to set up the recovery mechanism.

5.2.4 Access

Riversong currently has a permanent access in place via River Heights Drive and Highway 22. This access will soon be enhanced by the planned new intersection of River Heights Drive and Highway 22, as discussed in Section 5.2.2.

5.2.4.1 Emergency Access (External) via River Avenue Bridge

Emergency access will be provided to Riversong via the River Avenue Bridge. See Figure 7. An all weather access road through Riversong's lower bench lands will connect River Avenue Bridge to River Heights Drive.

As per verification from Alberta Transportation to the Town of Cochrane Engineering Department, and the existing weight limit sign, River Avenue Bridge has the capacity to carry up to 40 tons, which will accommodate the heaviest emergency response vehicle. Therefore River Avenue Bridge can be utilized as an

emergency access while remaining closed to public vehicular traffic.

It is important to note that the River Avenue Bridge remains under the jurisdiction of Alberta Transportation. Alberta Transportation has agreed to the use of River Avenue Bridge as an emergency access into Riversong. This agreement letter can be found in Appendix G. An agreement shall be made between the developer and Alberta Transportation relative to the maintenance and use of the bridge.

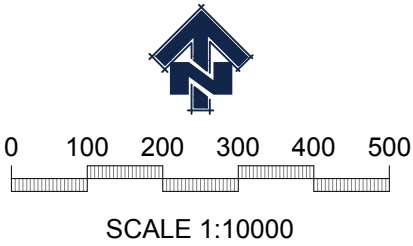
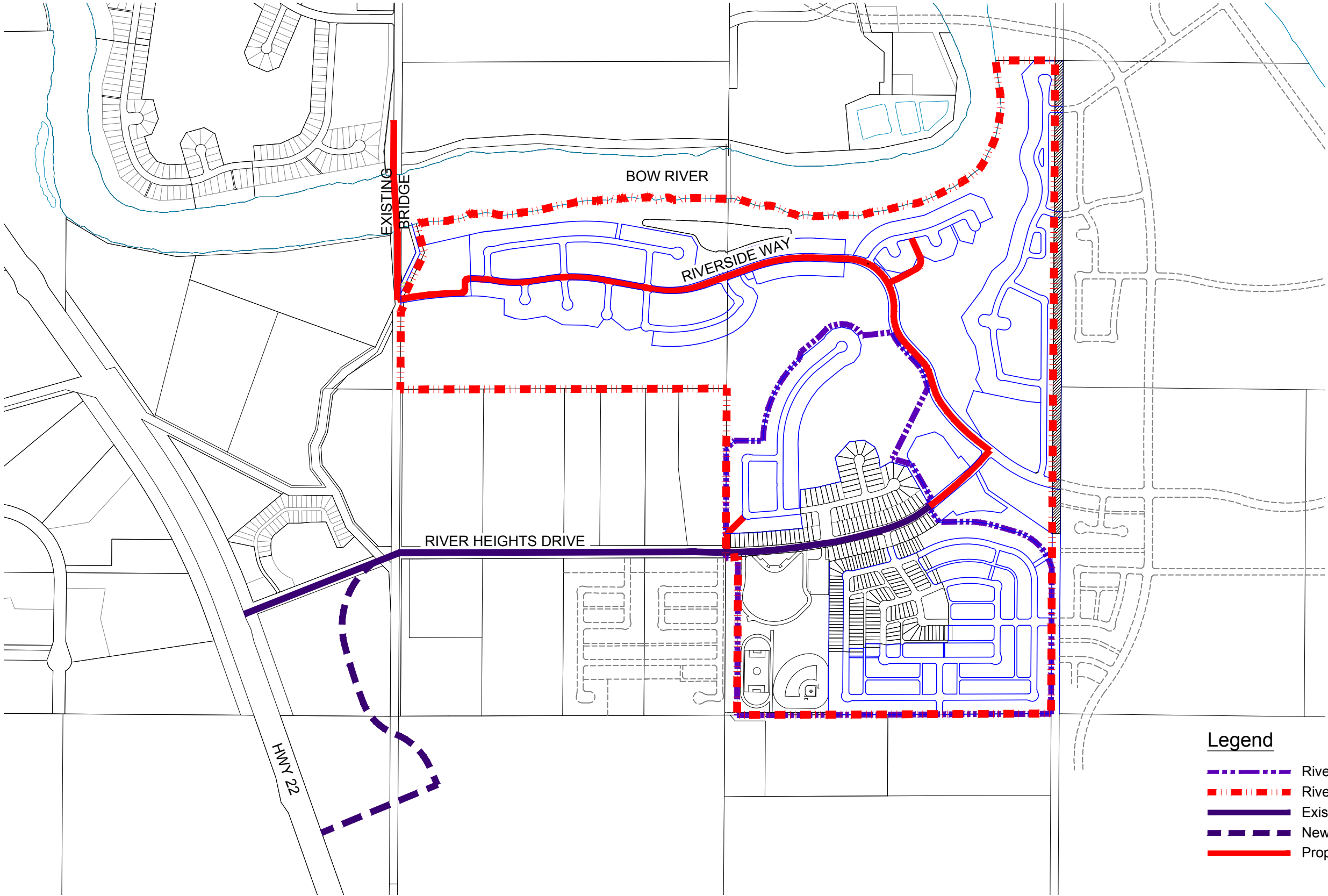
5.2.4.2 Future Bridge

A second permanent bridge crossing of the Bow River has been identified in the MDP and the SR-ASP. The approximate location of this new bridge has been identified northeast of Riversong, within the SR-ASP lands.

The timing and construction of the new bridge will be guided by the policies of the MDP. Sections 9.3.1(j) – (l) of the MDP state that:

- (j) In accordance with the Town of Cochrane Analysis of Future Bow River Crossings: Planning Study, as amended from time to time, a new Bow River bridge shall be constructed and the existing River Avenue bridge shall be converted to a pedestrian crossing and emergency access.
- (k) Design and construction costs for bridges (pedestrian and vehicular) required to serve lands south of the Bow River shall be collected through offsite levies or other appropriate financial strategies.
- (l) The Town shall determine when design, construction, and completion of any bridges are to occur.⁷

⁷ Town of Cochrane, Municipal Development Plan, October 2008, Section 9.3.1 (j) – (l), page 43



- Legend**
- Riversong Stage 1 Neighbourhood Plan Boundary
 - Riversong Boundary
 - Existing Access
 - New Access to commence Constructed Summer 2010
 - Proposed Emergency Access Route

Figure 7:
Emergency Access Routes

5.3 *Internal Road Network*

5.3.1 Road Hierarchy

Riversong's internal road network consists of two collector roads, River Heights Drive and Riverside Way, and multiple residential roads.

An internal road review was preformed by D.A. Watt and detailed in a letter report⁸ dated October 3, 2007. The letter report evaluates both the short and the long term traffic scenarios.

The short term traffic scenario is based on the existing surrounding development, the RS1NP development, and the current road network comprising a single route into the development from Highway 22 via River Heights Drive. See Stage 1 of Figure 5.

The long term scenario is based on complete build-out of Riversong and all internal roads, full build-out of other future developments in the area, the New East-West arterial road, New North-South arterial road, future North-South collector west of the school site and the proposed New Bridge being in place. See Figure 6.

The result of the traffic review was to recommend that:

- 1) Riverside Way be designed and built as a Modified Collector Road (Cross-Section in Appendix E);
- 2) River Heights Boulevard from River Heights Drive to River Heights Crescent, where it runs parallel to the east boundary of Riversong be designed and built as a 15m Modified Residential Road (Cross-Section in Appendix F);
- 3) River Heights Boulevard from the end of the recommended Modified Residential Road to the east boundary of Riversong, be designed and built as a 19.3m Avenue Road⁹ (City of Calgary Alternative Street Design Standard).

⁸ Riversong Development, Cochrane – Road Standard Review, D.A.Watt Consulting, February 3, 2005

⁹ The City of Calgary Design Guidelines for Subdivision Servicing, August 2004, Appendix II-B, Sheet 21

The purpose of recommendation number 1 is to increase the capacity of Riverside Way by providing wider driving lanes and no parking lanes along this road.

The purpose of recommendation number 2 is to increase the capacity of River Heights Boulevard by also providing wider driving lanes and no parking lanes. This will allow transit to utilize these roads. Further engineering review has determined that this cross-section must also include additional width to accommodate a waterline. The full cross-section is 27.0 metres wide and accommodates D.A.Watt's recommendations as well as the engineering requirements. This cross-section can be found in Appendix 'E'.

These conclusions have been acknowledged by the developer and will be implemented into the future construction in Riversong.

5.3.2 Culs-de-Sac

The internal road network of Riversong respects the natural topography of the land. The natural topography provides challenges to the opportunity of providing a grid like street design with a high level of connectivity. To mitigate the connectivity limitation of the culs-de-sac walkways near the ends of the culs-de-sac, or open ended culs-de-sac are provided to create greater efficiency in the pedestrian network.

It is recommended that the maximum length of a cul-de-sac be 200 metres. A cul-de-sac longer than 200 metres must provide either an emergency access or an automatic sprinkler system installed in all residences past the 200 metre distance. The sprinkler system must be installed and maintained in accordance with the *Alberta Building Code*.

5.3.3 Emergency Access (Internal)

All internal emergency accesses shall be constructed to support an emergency vehicle and be paved to a width of 6 metres. The exact location of emergency accesses will be determined for individual phases at the subdivision application stage.

5.4 *Transit System*

5.4.1 Public Transportation

In anticipation that the Town of Cochrane will be implementing a public transportation system, Riversong makes provisions for a transit route in its plan.

Figure 8 identifies both the ultimate and interim public transportation route.

The ultimate public transportation route through Riversong would be River Heights Drive to Riverside Way. A bus turnaround must be provided at the north end of Riverside Way, in the lower bench lands, to allow the bus to turnaround and head back up Riverside Way, and ultimately continue east once future urban development occurs. It is anticipated that with this future urban development, a north/south arterial road will run adjacent to Riversong's east boundary. The continuation of the bus route along this arterial road will provide 400 metre walking distance access to the residences in the east/northeast portion of Riversong.

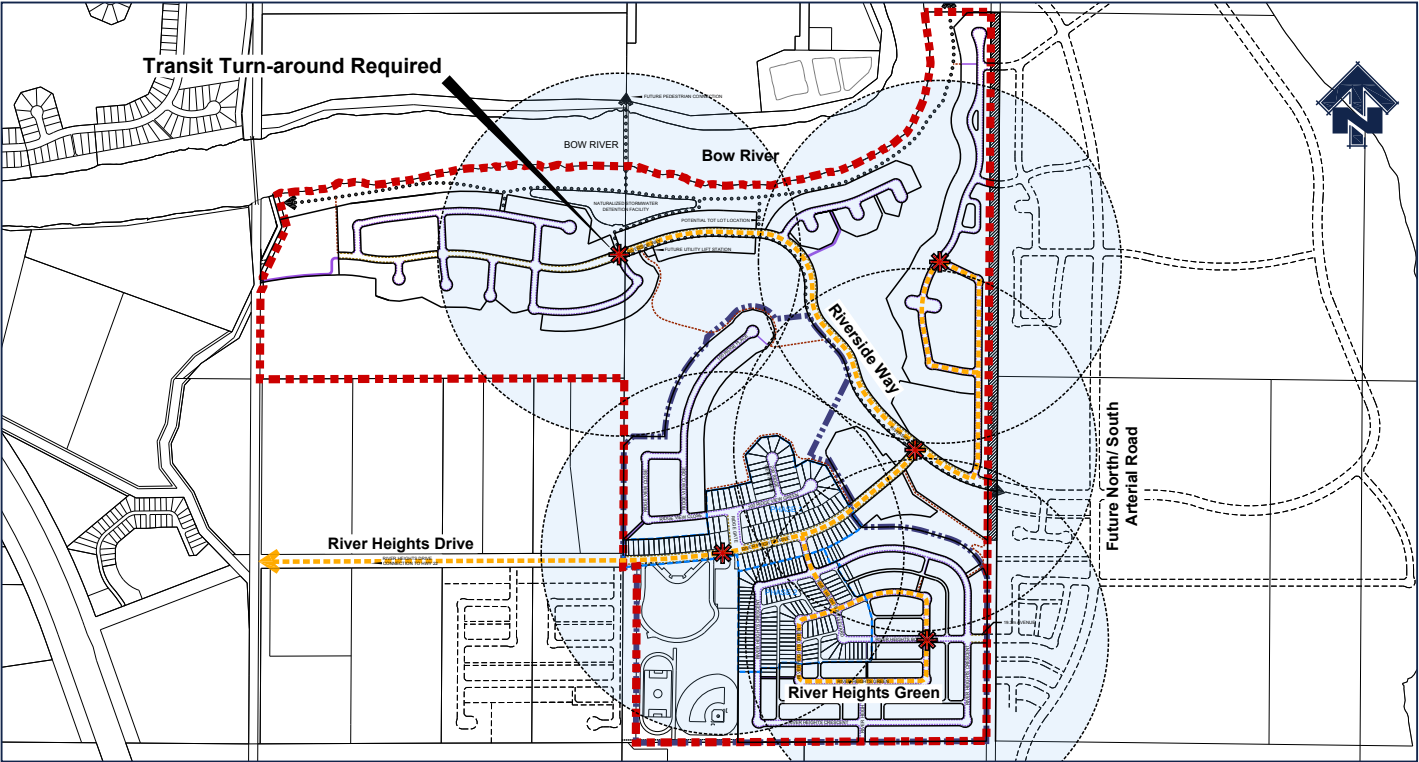
The interim public transportation route, also identified in Figure 8 utilizes River Height Drive to River Heights Boulevard. The route then loops around River Heights Green to then exit Riversong along the same route it entered on. Once Riverside Way and the northeast portion of Riversong are developed an interim bus route will be implemented along these roads until the ultimate route can be realized.

The public transportation route and bus stops identified in Figure 8 will provide more than 95% of all residents less than 400 metre walking distance to a bus stop. Final location of bus stops will be determined to the satisfaction of the Town of Cochrane at the subdivision application stage.

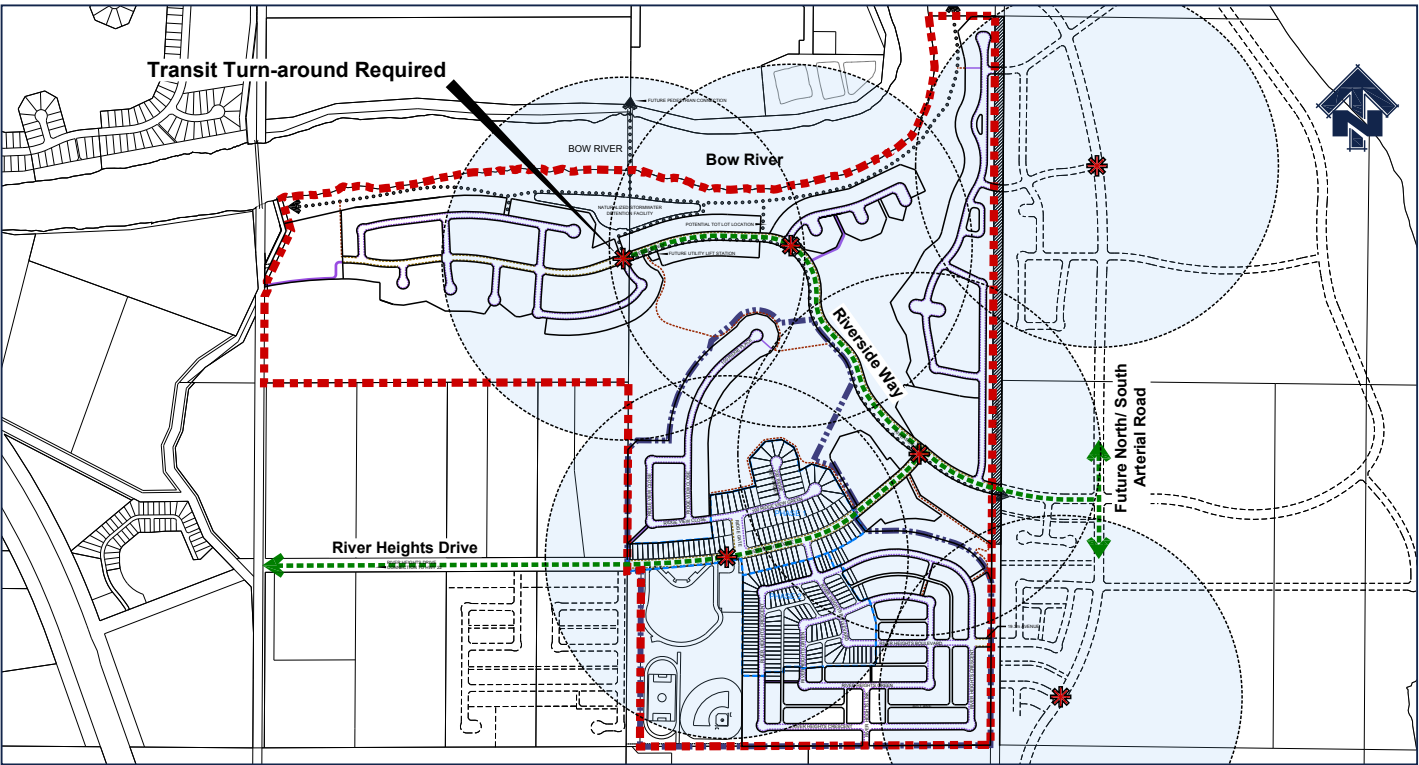
5.4.2 School Bus Transportation

The anticipated school bus transportation route is illustrated on Figure 9. This route utilizes some residential standard roads.

The school bus transportation route as illustrated on Figure 9 will provide all children with maximum 400 metre walking distance to school bus stops.



Interim Transit Bus Route

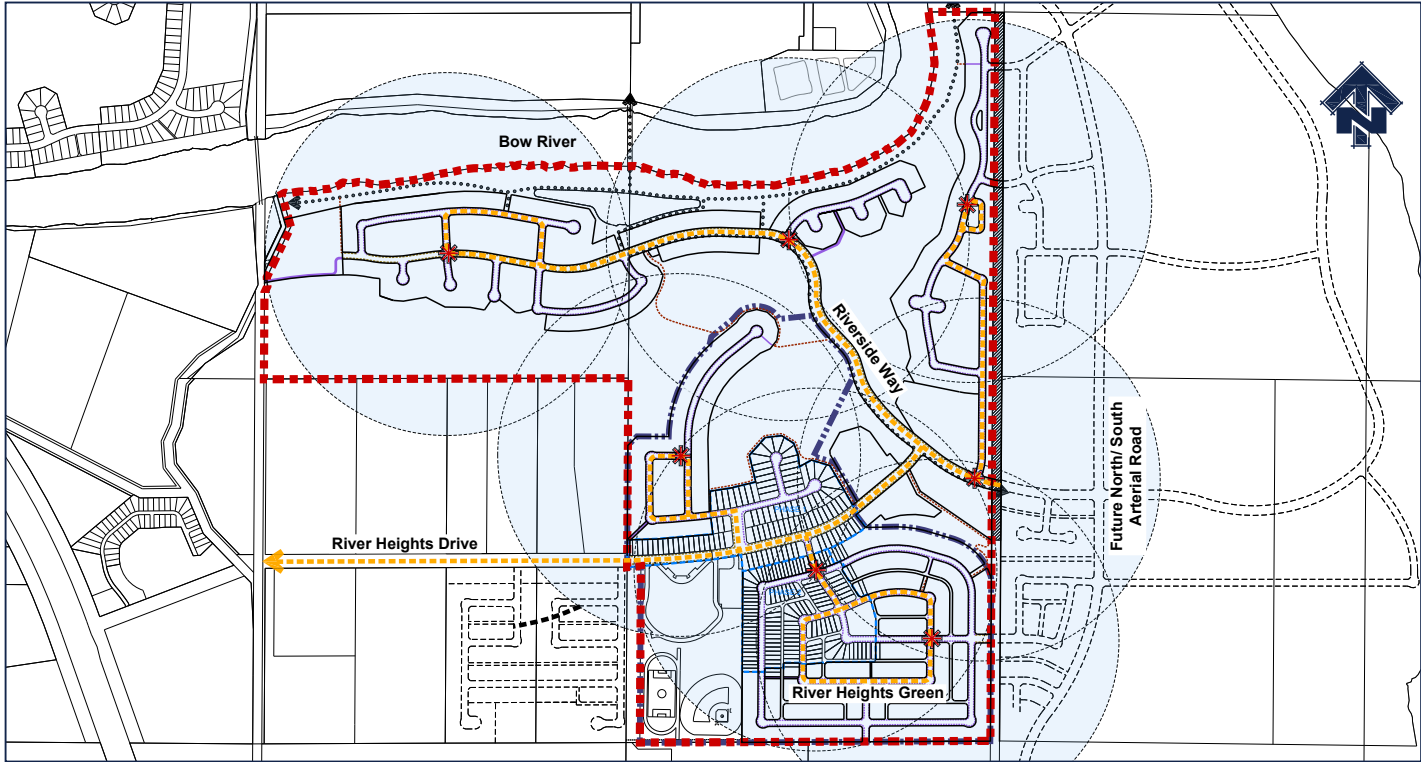


Ultimate Transit Bus Route

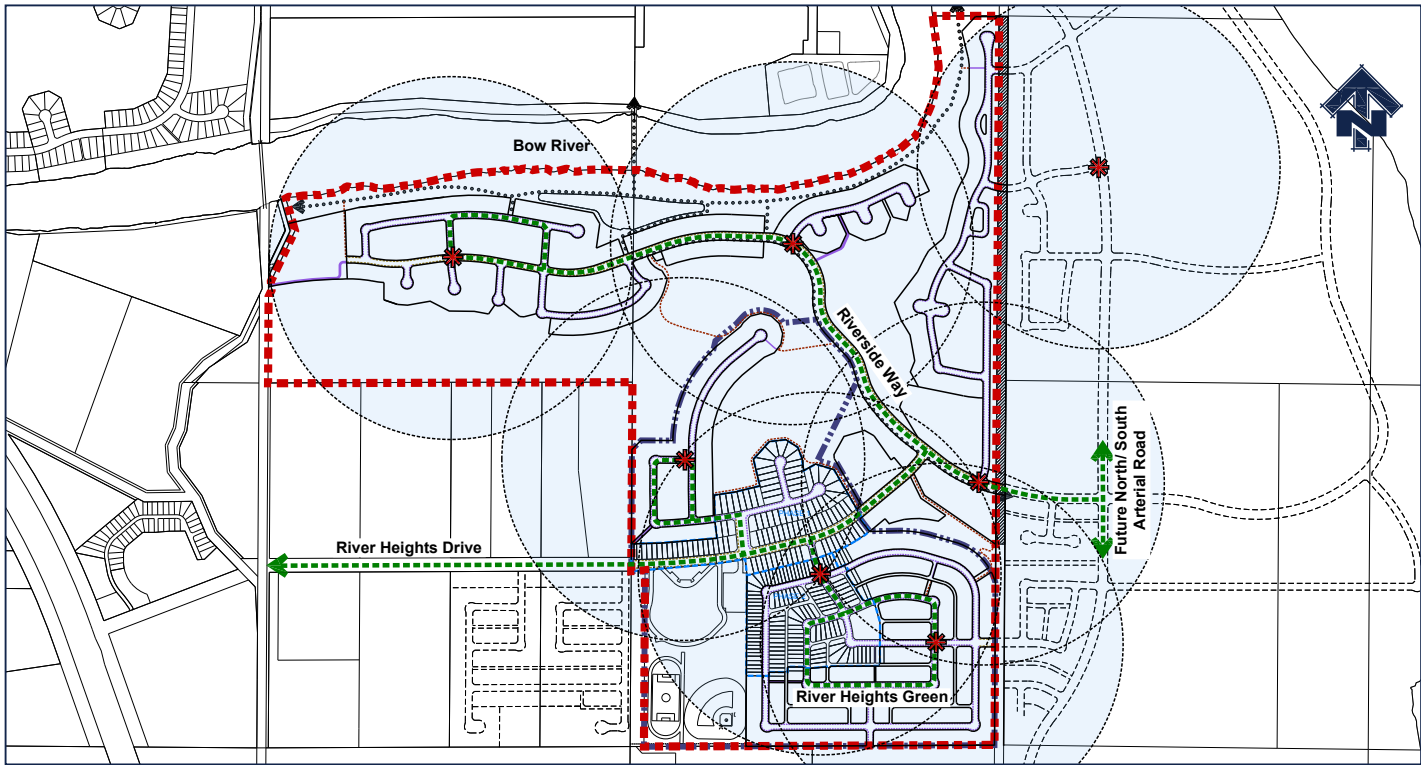


- Legend:
- Riversong Stage 1 Boundary
 - Riversong Boundary
 - Existing Phase Boundary
 - Interim Bus Route
 - Ultimate Bus Route
 - * Transit Bus Stop Locations
 - 400m Walking Distance

Figure 8:
Public Transportation
Route



Interim School Bus Route



Ultimate School Bus Route



- Legend:
- Riversong Stage 1 Boundary
 - Riversong Boundary
 - Existing Phase Boundary
 - Interim Bus Route
 - Ultimate Bus Route

- ✱ School Bus Stop Locations
- 400m Walking Distance

Figure 9:
School Bus
Transportation Route

5.5 *Regional Pedestrian Network*

A regional pathway will be constructed along Riverside Way, bringing pedestrian traffic from the upper bench lands down to the Bow River. Once in the lower bench lands, the regional path will continue along the entire south bank of the Bow River, inside Riversong's boundary. The pathways along the river will be 3.5m wide in conjunction with the Town of Cochrane's river pathway guidelines. Future development will then connect to this pathway and it will continue east and west.

The 3.5m wide Bow River pathway is in conjunction with Cochrane's future Open Space Plan. Also anticipated to be identified in the future Open Space Plan is a future regional pedestrian bridge crossing of the Bow River. The location of this bridge is anticipated to be such that it will connect the Spray Lakes Recreation Centre to all of the lands south of the Bow River. This future regional pedestrian bridge will not only benefit all of the developments and communities in this area south of the Bow River, but increase the pedestrian connectivity of the entire Town of Cochrane.

6.0 *Utility Servicing*

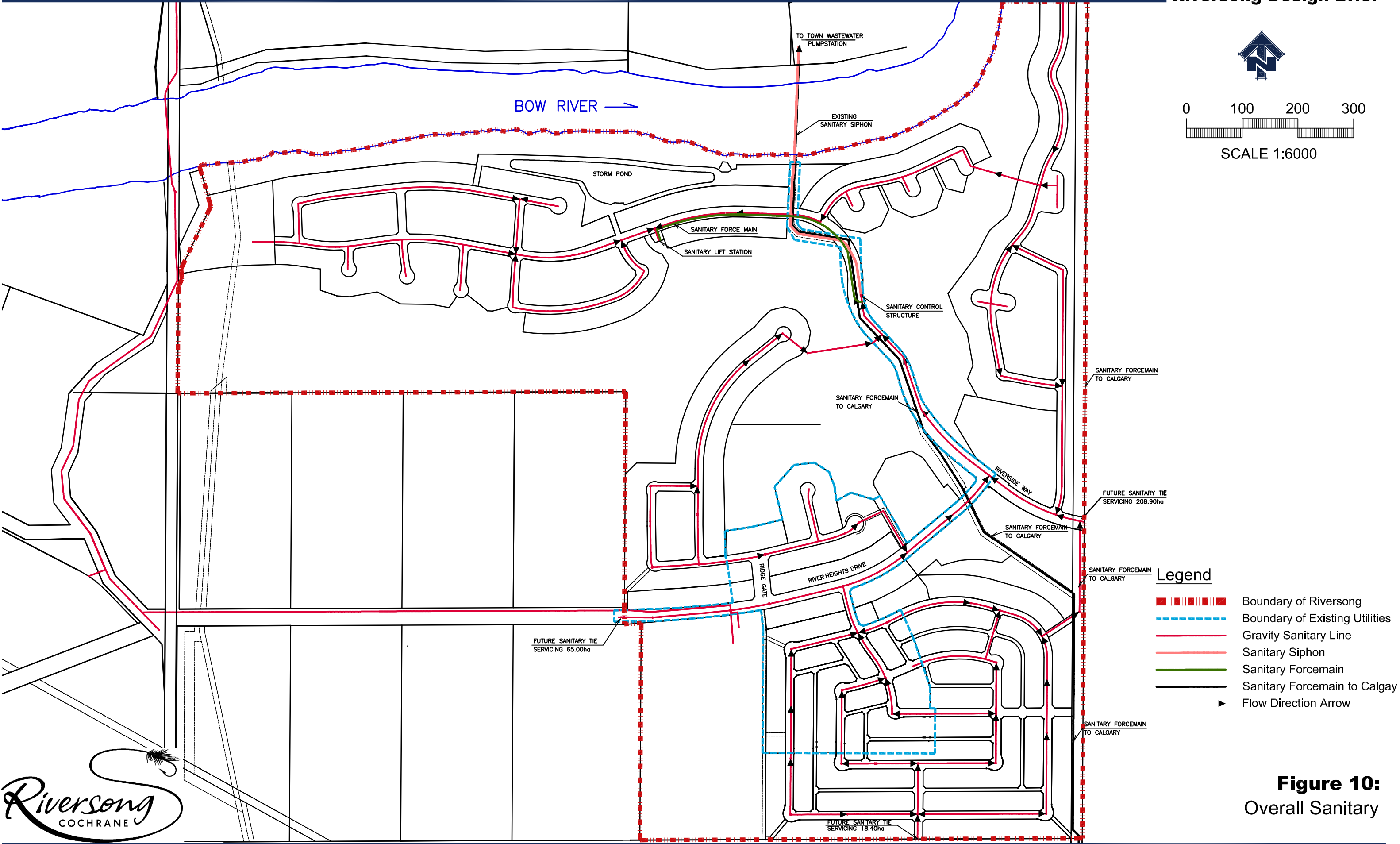
6.1 *Sanitary Servicing*

Sanitary servicing for the community of Riversong is provided by twin sanitary siphon pipes under the Bow River that tie to the existing Town Wastewater Pumping Station. The sanitary siphon was completed and put into service by the Developer as part of Riversong Phase 1. The siphon has been designed in accordance with the Town of Cochrane Sewer Master Plan and has capacity to service all the Riversong development lands as well as future adjacent tributary development lands. The proposed sanitary sewer network is shown in Figure 10, benefiting lands are shown in Figure 11.

The upper, southern area of Riversong, including the existing High School, Phases 1 & 2, and the Stage 1 Neighbourhood Plan area, is serviced by gravity mains flowing to the existing sanitary sewer trunk and siphon in Riverside Way. Existing stubbs at the west development boundary in River Heights Drive has capacity to provide service for a design area of 65.0ha as shown as area 'A' in Figure 11. The sanitary gravity network will also be extended through the Stage 1 Neighbourhood Plan area and stubbs will provide service to design area 'B' comprised of 18.40ha to the south. Additionally, the existing sanitary main in Riverside Way will be extended to the east boundary to service the Stage 1 Neighbourhood Plan area and an additional 208.90ha of land to the east shown as area 'C' in Figures 11.

The development in the northern, lower bench area, along the banks of the Bow River will be serviced via gravity sanitary lines to a lift station. The lift station will connect to the existing sanitary siphon via force main. The existing sanitary control structure was designed to accommodate the future forcemain connection and flow as shown in Figure 10. The location of the lift station will be determined in conjunction with future Neighbourhood Plan areas and has been conceptually shown in Figure 10.

The Riversong development area is bisected by the existing Town of Cochrane to City of Calgary Sanitary Forcemain and Utility Right-of-Way, extending up Riverside Way to the east boundary before traversing the east boundary before changing direction to the south. No physical modifications are proposed for this force main.



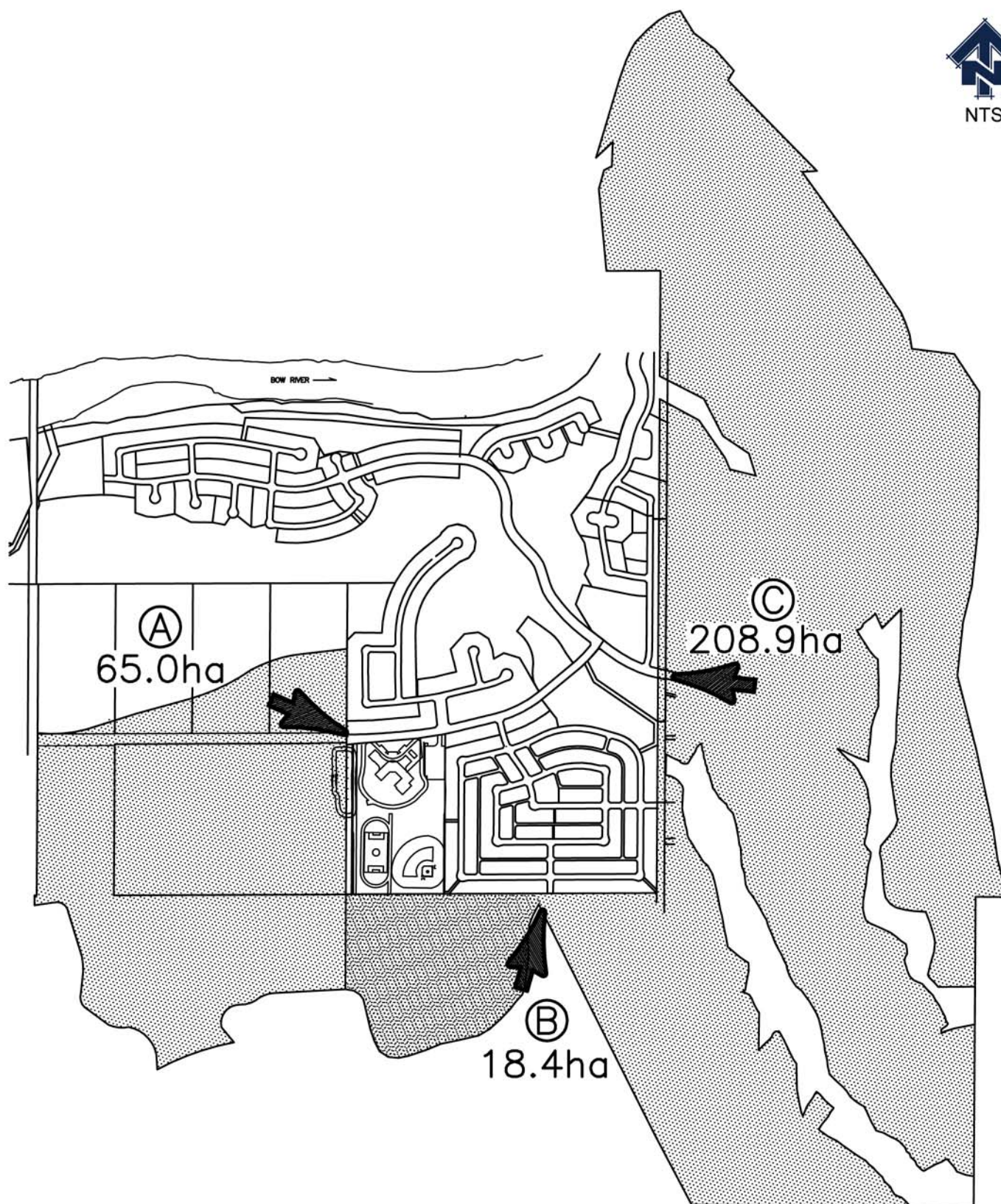


Figure 11:
Benefiting Sanitary Area

6.2 *Water Distribution*

Water servicing for the existing Riversong Phases 1 & 2 and the High School is provided by two water mains in River Heights Drive from the existing River Heights Reservoir and Pump Station. The proposed water system distribution concept is shown on Figure 12 and is an extension of the existing watermain distribution network in the existing Phase 1 and Phase 2 development areas. The proposed staging of development takes into account the need to maintain a looped water system for security of supply.

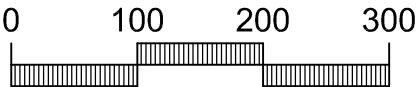
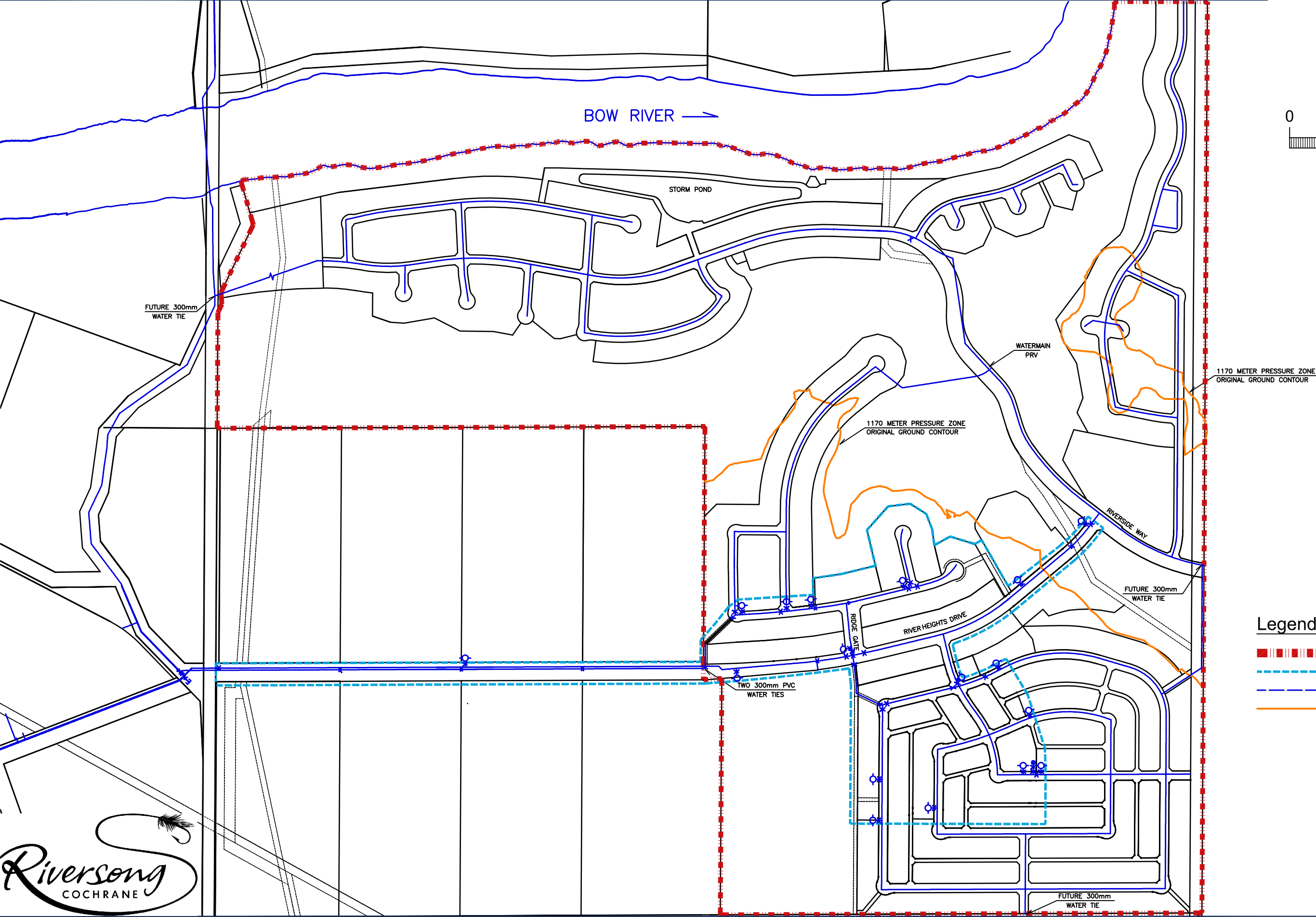
Distribution mains will extend through Riversong on a grid system as shown in Figure 12, and in accordance with the Town of Cochrane Water System Master Plan. Stubs for servicing of future developments will be provided to the east in Riverside Way & River Heights Blvd and to the south in River Heights Link. All internal valve and hydrant coverage will be provided in accordance with City of Calgary and Town of Cochrane requirements.

The southern, upper area of Riversong, including the existing High School, Phases 1 & 2, and the Stage 1 Neighbourhood Plan area, is within the River Heights water pressure zone (Elev 1170 to 1210). The watermain in Riverside Way will include a pressure reducing valve (PRV) assembly and stub, after the looping tie to Phase 4, to provide service to the future development area in the development in the northern, lower bench which is in the Main Town pressure zone (Elev 1130 to 1170). The existing 1170 meter contour has been highlighted in Figure 12 for reference. The lower bench will also tie to the existing water main at the bridge crossing the Bow River on River Heights Rise. This tie will be required with the initial development on the lower bench in accordance with City of Calgary design guidelines to maintain a looped water system for security of supply.

6.3 *Stormwater Management*

The stormwater management concept for Riversong has been identified in the report entitled *Staged Master Drainage Plan for Cochrane Crossing* (SMDP) by Westhoff Engineering Resources, Inc. (Nov 2005). As set out in this SMDP the existing topography of Riversong will facilitate drainage to a conventional storm water storage facility located adjacent to the Bow River as shown in Figure 13. The storm water management facility will outfall to the Bow River.

The Riversong development area will be serviced by conventional minor (pipe) and major (surface) drainage systems which will convey drainage to the above storm water storage facilities. The proposed storm sewer network is shown in Figure 13.



SCALE 1:6000

Legend

- Boundary of Riversong
- Boundary of Existing Utilities
- Watermain
- Pressure Zone 1170meters
- Fire Hydrant with Valve
- Valve
- Park Water Service
- Pipe Cap



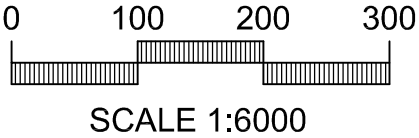
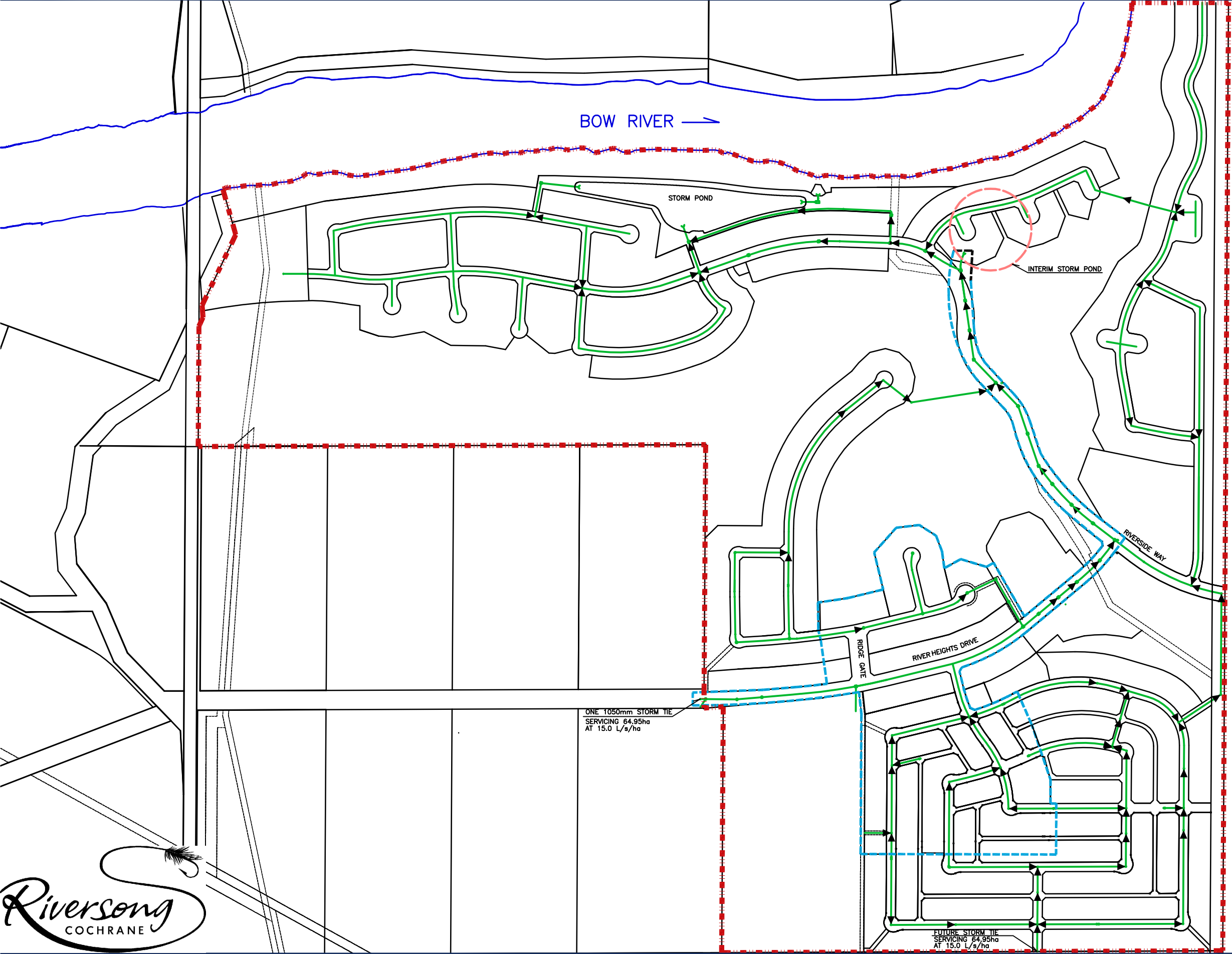
Figure 12:
Overall Water

The southern, upper area of Riversong, including the existing High School, Phases 1 & 2, and the Stage 1 Neighbourhood Plan area, is serviced by gravity mains flowing to the existing storm sewer trunk in Riverside Way. The existing storm trunk discharges to an interim storm pond that was designed and approved to service Phases 1 & 2 of Riversong only. Further development in Riversong will require the construction of the ultimate storm water management facility and outfall and the extension of the storm trunk. The location of the interim storm pond is shown in Figure 13. Upon completion of the ultimate storm water management facility, outfall and the extension of the storm trunk the interim storm pond will be taken out of service and the area will be rehabilitated, graded and incorporated in the future development of the lower bench area.

The existing network is stubbed at the west development boundary on River Heights Drive to provide service for a future storm pond discharge at pre-development rates. A design area of 64.95ha to the west of Riversong is shown in Figure 14 as area 'A'. The storm gravity network will also be extended through the Stage 1 Neighbourhood Plan area and stubbed to provide service for a future storm pond discharge at pre-development rates. This design area consists of 16.9ha to the south of Riversong and is labelled as area 'C' in Figure 14. Both of these areas, 'A' & 'C' have a unit discharge rate of 15.0 litres per second per hectare.

The storm sewer pipe system will drain to the storm water storage facilities via the existing storm trunk in Riverside Way, constructed by the Developer as part of Riversong Phase 1. The trunk will be extended along Riverside Way to the storm water storage facility, as per the Riversong Phase 2 Off-site Storm Trunk design drawings prepared by Focus.

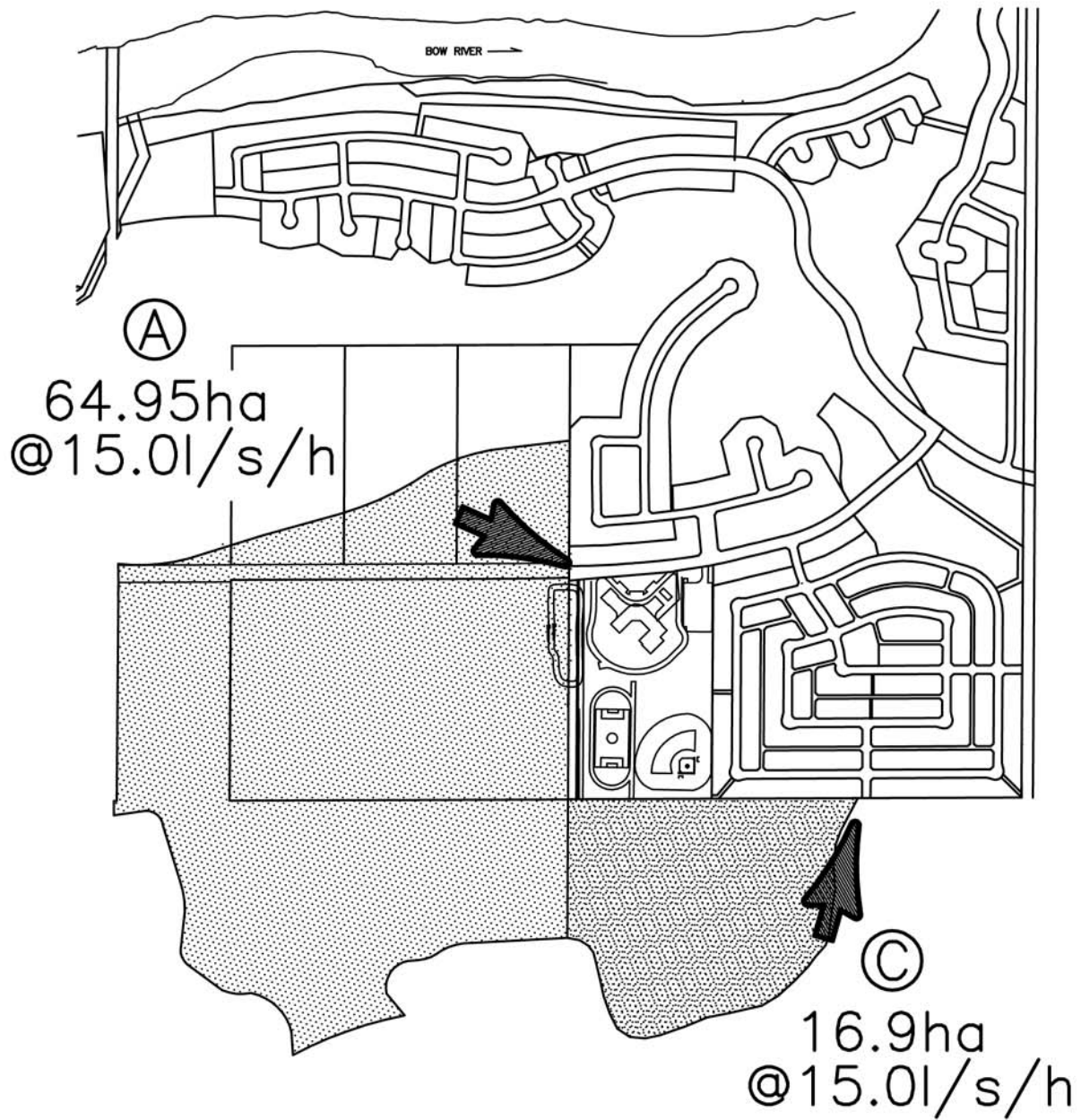
Subsequent to the approval of the Riversong Stage 1 Neighbourhood Plan, a development permit application can be made to facilitate the construction of the stormwater management facilities.



- Legend**
- Boundary of Riversong
 - Boundary of Existing Utilities
 - Storm Line
 - Flow Direction Arrow



Figure 13:
Overall Storm



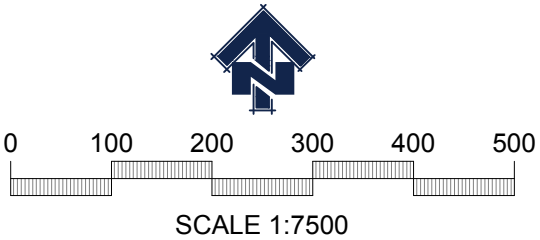
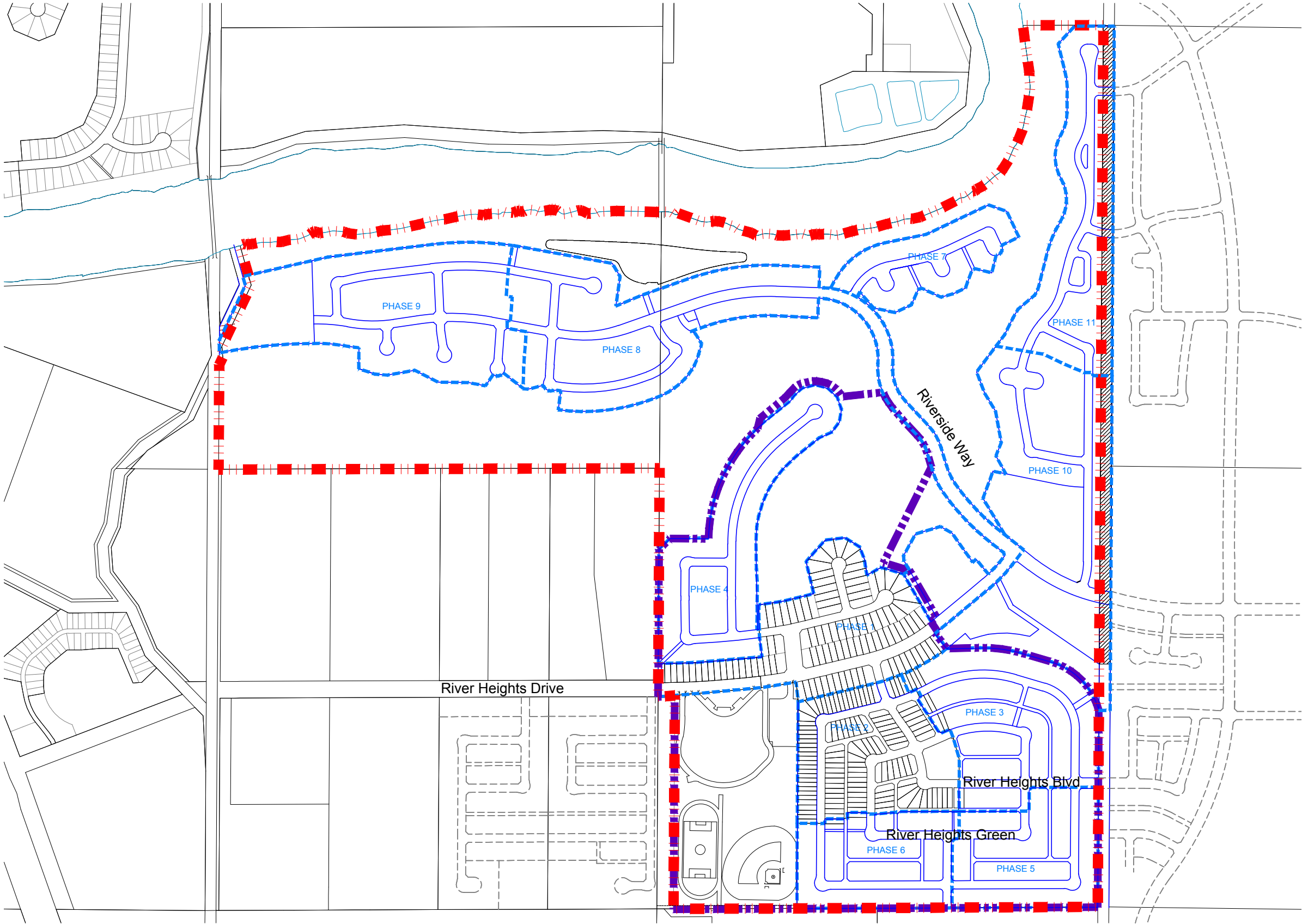
6.4 *Shallow Utilities*

Shallow utility servicing to Riversong will be provided by extension of existing facilities in the adjacent Phase 1 and Phase 2 development areas. All power, telephone, and cable television distribution systems will be constructed underground within the subject area.

7.0 *Phasing*

7.1 *Phasing Plan*

The anticipated Riversong Phasing Plan is illustrated in Figure 15. The Phasing is largely dictated by market conditions and servicing. Development will generally proceed from the upper bench lands northwards to the lower bench, then move east to west. It is anticipated that the east side of Riversong will be developed after the lower bench lands. Unforeseen events or changes in market conditions could result in changes to the phasing order.



- Legend**
- Riversong Boundary
 - Stage 1 Neighbourhood Plan Boundary
 - Phase Boundaries



Figure 15:
Phasing Plan

8.0 Cochrane Sustainability Plan

The Cochrane Sustainability Plan was adopted by Council in May 2009. The plan provides thirteen (13) Pathways to the Future to help guide future development within Cochrane. These pathways are grouped into 4 categories.

8.1 We Build a Culture of Responsibility

Pathway 1: *We are a socially responsible and empowered community.*

Riversong is a community built on natural amenities, extensive sidewalk and pathway connections, greenspaces including tot lots and a community garden, and a local high school site. Providing outlets for social interact such as a community garden and the school site, will help residents of Riversong develop a strong sense of ownership toward their community. Ownership of the environment generates the desire to act responsibly and to protect and help direct its future. Residents of Riversong will feel connected to Cochrane through their enjoyment of their surroundings, and therefore empowered to become a voice in Cochrane's future.

The local high school site offers the opportunity for parents and students to volunteer in classrooms, sporting and other school events thereby becoming more involved in the community. Residents will have the opportunity to interact and socialize at local sporting events, art shows and school festivals.

8.2 We are Responsible Citizens of the Planet

Pathway 2: *We treat water as a precious resource.*

Pathway 3: *We use energy responsibly and innovatively.*

Pathway 4: *We contribute to the solution on climate change.*

The community of Riversong will target a density level that conforms to the 19.3 units per hectare (8.0 units per acre) required by the MDP. Higher density communities are more environmentally responsible than lower density communities as there is less land form disturbance for servicing, less vehicular impact (shorter drive times and reduced road construction), and greater opportunity for residents to use alternate forms of transportation.

The developer has and will continue to encourage energy efficient homes within Riversong that employ innovative technology to reduce energy consumption, such as low flush toilets, energy efficient lighting, and energy star rated appliances.

Riversong has and will continue to develop under the guidelines of a proper Stormwater Management Plan to ensure the stormwater runoff quality meets Provincial standards prior to entering the Bow River.

8.3 We Live Locally

Pathway 5: *We consume the bounty of our local economy.*

Pathway 6: *Our local economy is healthy and diverse.*

Pathway 7: *Everyone has an opportunity to pursue their potential in Cochrane.*

Pathway 8: *We are a caring community that lives and celebrates together.*

The community of Riversong will provide homes for approximately 5200 new residents to Cochrane. These residents will utilize the nearby commercial centres as well as the downtown core for their shopping, entertainment and service needs. The continued development of the community will help provide jobs to local trades and services.

Riversong will include a community garden. This community garden will be located to provide residents of multi-unit developments the opportunity to plant a garden and enjoy the bounty of their own locally grown produce.

The local school site will provide educational needs, jobs and volunteering opportunities for Riversong residents. Sporting events, school concerts, festivals and art shows will provide residents with the opportunity to socialize and celebrate together; thereby providing a social focus for the community.

8.4 Cochrane is a Complete Community

Pathway 9: *Everyone has a roof over their head.*

Pathway 10: *There's enough room for everything a community should have.*

Pathway 11: *Wherever you are in Cochrane, you're close and connected.*

Pathway 12: *There are diverse options for getting around.*

Pathway 13: *We build Cochrane on the strengths of our natural and cultural heritage.*

Riversong provides residents with a diverse range of housing options. The lifecycle housing provided in Riversong will allow a resident to live their entire life within the community that offers housing appropriate for all stages of life and income levels. Section 3.1 provides further information on the housing variety available in Riversong.

The developer of Riversong also commits to working with the Cochrane Society for Housing Options to provide affordable housing within

Riversong. The form and management of the housing will be determined in conjunction with the Cochrane Society for Housing Options at the time of development.

The extensive sidewalk, walkway and pathway system in Riversong offer residents with multiple choices for getting around their community. The natural escarpment is a significant feature of the community and will be left in its natural state. Walkways will be provided in locations that allow pedestrian access but cause minimal impact to the escarpment. Although a portion of the community is already developed, sidewalks will be placed on both sides of the street throughout the remainder of the community to aid in the walkability of the community.

The local school provides opportunities for education, jobs and volunteering within the Riversong community.

Public art will be erected adjacent to the storm pond near the banks of the Bow River. This art piece will provide a sense of place to residents as they become familiar with this feature and identify it as part of their community.

9.0 Sustainability Matrix

The Town of Cochrane MDP provides a sustainability matrix in Appendix I. The matrix is intended to inspire new developments to evaluate how the development contributes to Cochrane and the positive and negative impacts it will have on surrounding communities. The section below details how Riversong addresses the five (5) Planning Principles of Section 3.1 in the MDP in the form of the Sustainability Matrix from Appendix I.

2.1.1

Principle 1:

Responsible Growth Management

“Responsible growth management demands that the Town make every effort to meet the needs of a growing population, in an ecologically-aware and efficient manner, using limited natural, human, built, and financial resources”.

- a. Riversong meets the Town’s Responsible Growth Management goals by providing a new community for future residents of the Town of Cochrane through a logical extension of existing infrastructure and utility servicing thereby using limited built and financial resources.
- b. Riversong conforms to the 2008 MDP housing mix policy 8.4.3(a), by providing a range of housing forms. By introducing townhouses, as well as continuing to offer narrow lot homes, semi-detached homes, front-drive garage homes, and estate level housing, Riversong offers lifecycle housing achievable to multiple income ranges.
- c. By ensuring the community of Riversong meets the density levels identified in the 2008 MDP, the community will be meeting the needs of a growing population in an ecologically-aware and efficient manner.
- d. A substantial sidewalk and pathway system will link current and future residents with the abundance of natural open spaces. There is a significant amount of environmental reserve throughout Riversong. The natural ecology of the environmental reserve area will remain intact. The design of the community respects the natural escarpment thereby reducing the impact on the natural topography. In this manner, the community embraces the natural topography of the land and utilizes this feature as an amenity for the community.

2.1.2**Principle 2:****Social & Cultural Well Being**

“Social well-being and a high quality of life is a reflection of living in a community that creates a safe, healthy, and comfortable environment in which to live, work and play.”

- a. Riversong is a community that provides an abundance of greenspace and close proximity to the Bow River. Well connected sidewalks and walking paths will provide the opportunity for residents to venture outdoors to exercise and enjoy these natural amenities. The active presence of the residents within the community will augment the social development of the community. Opportunities for interaction with the outdoors will potentially provide residents with a connection to their environment, thereby increasing their quality of life.
- b. Riversong will include a community garden. A community garden allows residents who do not have access to private greenspace to plant a garden and grow their own produce. A community garden not only increases the quality of life of these residents, but also provides an opportunity for social interaction and increased community spirit.
- c. The existing and operating public high-school site provides local education and the opportunity for residents to walk to school. The school will become a social focus point in the community as residents become involved with the school through participation and attendance at sporting events, art shows and school fairs. The school will also provide jobs and volunteering opportunities providing the potential for residents to work where they live.

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| <p>2.1.3 Principle 3: Environmental Stewardship <i>“Environmental stewardship highlights the Town’s commitment to careful and responsible management of our natural resources and ecological assets”</i></p> | <ul style="list-style-type: none"> a. The community of Riversong provides an abundance of environmental reserve, preserving the existing vegetation and wildlife habitats within the Plan boundary. The preservation of existing conditions within the environmental reserve will help maintain the local air quality. The topography of Riversong is a beautiful natural feature of the community that has been respected with the community design. b. As mentioned in Section 2.1.2 a community garden will be provided in Riversong which further supports environmental stewardship. |
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| <p>2.1.4 Principle 4: Economic Vitality <i>“Economic vitality provides the foundation for a healthy, diverse, active, prosperous, and resilient economy.”</i></p> | <ul style="list-style-type: none"> a. The anticipated number of residential units with the community of Riversong is 1930. The approximate projected population (based on 3.0 people per household in single family and semi-detached housing, and 2.1 people per household in the townhouse and multi-family housing) is 5219 people. This additional population will support local business which will encourage industries and new employers to base themselves in Cochrane as well as provide significant residential property tax revenue to the Town. b. While the community of Riversong does not include commercial development, there are commercial developments approved within close proximity to Riversong along Highway 22. The residential base of Riversong will aid in the sustainability of these commercial developments. See Section 3.5 for further discussion on nearby commercial sites. |
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| <p>2.1.5 Principle 5: Community Engagement <i>“Community engagement builds trust, ensures accountability, and improves the quality of decision making as the public plays a valuable role in the formulation of plans and developing services.”</i></p> | <p>a. The community of Riversong has been partially developed and is currently home to many residents. At the onset of development, the public was consulted with the proposed Riversong design and layout. This document is being prepared outside of the typical development process of a community. The residents and neighbouring residents of Riversong are aware of Riversong’s approved land use designations as identified in the SR-ASP as well as the community design as it has been featured in the sales centres which they visited during the decision process to purchase a home in this particular community.</p> <p>b. Although the future development of Riversong will meet the new Town policies in regards to density, the developer wants to ensure that the community continues to develop with design and land uses similar to the original Concept Plan to ensure that existing residents will see their community develop as per their expectations when they decided to build and invest in Riversong.</p> |
|---|---|

10.0 *Implementation*

The Riversong Design Brief has outlined how Riversong will develop as a complete and sustainable community in accordance with a comprehensively planned community design and supporting implementation and servicing strategies. Key results of sound community planning will include:

- accessible pedestrian networks;
- lifecycle and affordable housing;
- institutional uses;
- proximity to future commercial developments;
- abundant open spaces;
- tot lot parks;
- community garden;
- public art;
- proper access;
- crime prevention through environmental design;
- densities that target the 2008 MDP requirements.

The Riversong Design Brief is consistent with the vision and guiding principles of the Cochrane Sustainability Plan and the Municipal Development Plan.

Council adoption of the Riversong Design Brief will establish a policy framework consistent with the Sustainability Plan and the MDP and support future ASP amendments, neighbourhood planning and the subdivision and development of the Riversong community.

APPENDIX A: BYLAW 19/2006

TOWN OF COCHRANE

BYLAW NUMBER 19/2006

Being a Bylaw amending the Land Use Bylaw for the Town of Cochrane, in the Province of Alberta.

Whereas: pursuant to Section 639 of the *Municipal Government Act*, Revised Statutes of Alberta, 2000, Chapter M-26, and amendments thereto, the Council of the Town of Cochrane in the Province of Alberta has adopted Land Use Bylaw No.01/2004, as amended;

And Whereas: the Council deems it desirable to amend Land Use Bylaw No. 01/2004, as amended;

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

1. Section 10.2.0 (Land Use Map) of Land Use Bylaw No. 01/2004 is amended by redesignating Lot 1, Block 9, Plan 041 2318 and portions of the SW ¼ of 35-25-4 W5M from Urban Reserve (UR), Residential Single-Detached Dwelling District (R-1), Residential Single and Two-Dwelling District (R-2), Residential High Density Multi Unit Dwelling District (R-M) and Local Commercial District (C) to Residential Single Detached Dwelling District (R-1), Residential Single and Two Dwelling District (R-2), Residential High Density Multi-Unit Dwelling District (R-M) and Public Service District (PS) as shown on Schedule 'A' and attached to and forming part of this Bylaw.
2. This Bylaw comes into full force and effect upon the date of third and final reading.


First Reading: June 26, 2006

Second Reading: September 25, 2006

Third Reading: September 25, 2006



Mayor/Deputy Mayor



Municipal Clerk



APPENDIX B: BYLAW 17/2007

TOWN OF COCHRANE
BYLAW NUMBER 17/2007

Being a Bylaw amending the Land Use Bylaw
for the Town of Cochrane, in the Province of Alberta

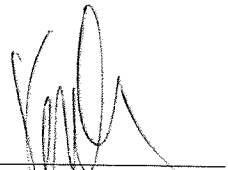
WHEREAS pursuant to Section 639 of the *Municipal Government Act*, Revised Statutes of Alberta, 2000, Chapter M-26, and amendments thereto, the Council of the Town of Cochrane in the Province of Alberta has adopted Land Use Bylaw No.01/2004, as amended;

AND WHEREAS the Council deems it desirable to amend Land Use Bylaw No. 01/2004, as amended;


NOW THEREFORE the Council, duly assembled, hereby enacts as follows:

1. Section 10.2.0 (Land Use Map) of Land Use Bylaw No. 01/2004 is amended by redesignating portions of Lot 1, Block 9, Plan 041 2318 from Residential Single Detached Dwelling District (R-1) to Residential Single and Two-Dwelling District (R-2) and Residential High Density Multi Unit Dwelling District as shown on Exhibit 1.1 and attached to and forming part of this Bylaw.
2. This Bylaw comes into full force and effect upon the date of third and final reading.

Read a first time May 14, 2007
Read a second time June 25, 2007
Read a third time June 25, 2007



Mayor



Municipal Clerk

REC FIND

APPENDIX C: HISTORICAL RESOURCE IMPACT ASSESSEMENT CLEARANCE LETTER



Cultural Facilities and
Historical Resources Division
Office of the Assistant
Deputy Minister

Old St. Stephen's College
8820 - 112 Street
Edmonton, Alberta
Canada T6G 2P8

Telephone 403/431-2300
Fax 403/427-5598

April 2, 1998

Our File: 80-181

Mr. Ken Brisbin:
Brisbin and Sentic Ltd.
220-5403 Crowchild Trail N.W.
Calgary, Alberta
T3B 4Z1

Dear Mr. Brisbin:

SUBJECT: SOUTHLAND DEVELOPMENT CORP. - SHADOW RIDGE SUBDIVISION
MITIGATION REQUIREMENTS, ARCHAEOLOGICAL SITE EhPo-49
HISTORICAL RESOURCES ACT REQUIREMENTS

I recently received a letter (March 16, 1998) from your consultant Brian Reeves, written in response to outstanding requirements for mitigation at archaeological site EhPo-49 (Permit 80-181).

In his letter, Mr. Reeves has indicated that he revisited the site, and determined that in fact it is a natural formation of loose cobble sized rocks, rather than a cultural feature. Based on this inspection Mr. Reeves has recommended that the mitigation requirements for site EhPo-49 be rescinded.

I concur with this recommendation. Consequently, Alberta Community Development has no further concerns with or objections to development proceeding on the captioned subdivision.

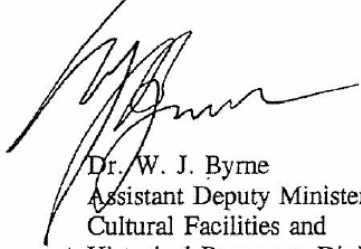
Should you require additional information or have any questions regarding our Department's review of this project, please contact Barry Newton of the Historic Sites Service, (431-2330, Historical Resources Division, Alberta Community Development, 8820-112 Street, Edmonton, Alberta, T6G 2P8, or Fax 427-3956.

...cont.

Mr. Ken Brisbin
April 2, 1998
Page 2

On behalf of Alberta Community Development, I would like to thank you for your cooperation in our endeavour to conserve Alberta's past.

Sincerely,



Dr. W. J. Byrne
Assistant Deputy Minister
Cultural Facilities and
Historical Resources Division

cc: **Brian Reeves**, Lifeways of Canada Ltd.
J. W. Ives, Archaeology and Ethnology Section, P.M.A.
Barry Newton, Historic Sites Service, SUB 97.80-181.RES

APPENDIX D: ENVIRONMENTAL SITE ASSESSMENT LETTER UPDATE



ALMOR TESTING SERVICES LTD.

7505 - 40 STREET S.E., CALGARY, AB T2C 2H5 PHONE (403) 236-8880 • FAX (403) 236-1707

2006 10 12

86-042-03-1

Keyland Development Corporation
Box 68022 - 28 Crowfoot Terrace NW
Calgary, Alberta
T3G 3N8

Attention: Mr. Raymond Smith Sr.

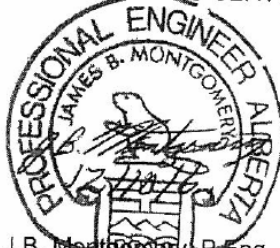
Re: Level I Environmental Site Assessment Update
Cochrane Crossing
Portions of S ½ of Sec 35, Twp 25, Rge 4, W5M and
NE ¼ of Sec 26, Twp 25, Rge 4, W5M
Cochrane, Alberta

This letter confirms we were retained to conduct an updated Phase I Environmental Site Assessment (ESA), for the above noted site. A Level I ESA was completed in January, 1998, by Almor. The surface and subsoils in the acreage area have not been compromised, since the initial observations and review. Rough Grading construction in the north portion was completed and no environmental hazards were encountered at the site. The mobile home services in the northwest corner of the site requires removal of the associated water well and septic tank. Attached are site plans of the area.

It is our opinion that no significant environmental impairment exists on the subject site. Further environmental investigation is not required, at this time.

We trust this meets with your present requirements.

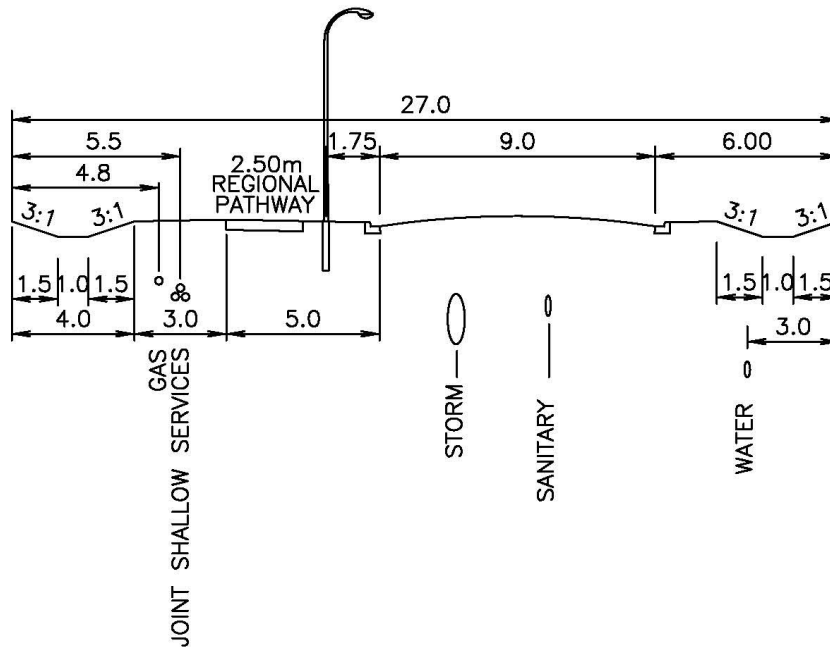
Respectfully submitted,
ALMOR TESTING SERVICES LTD.



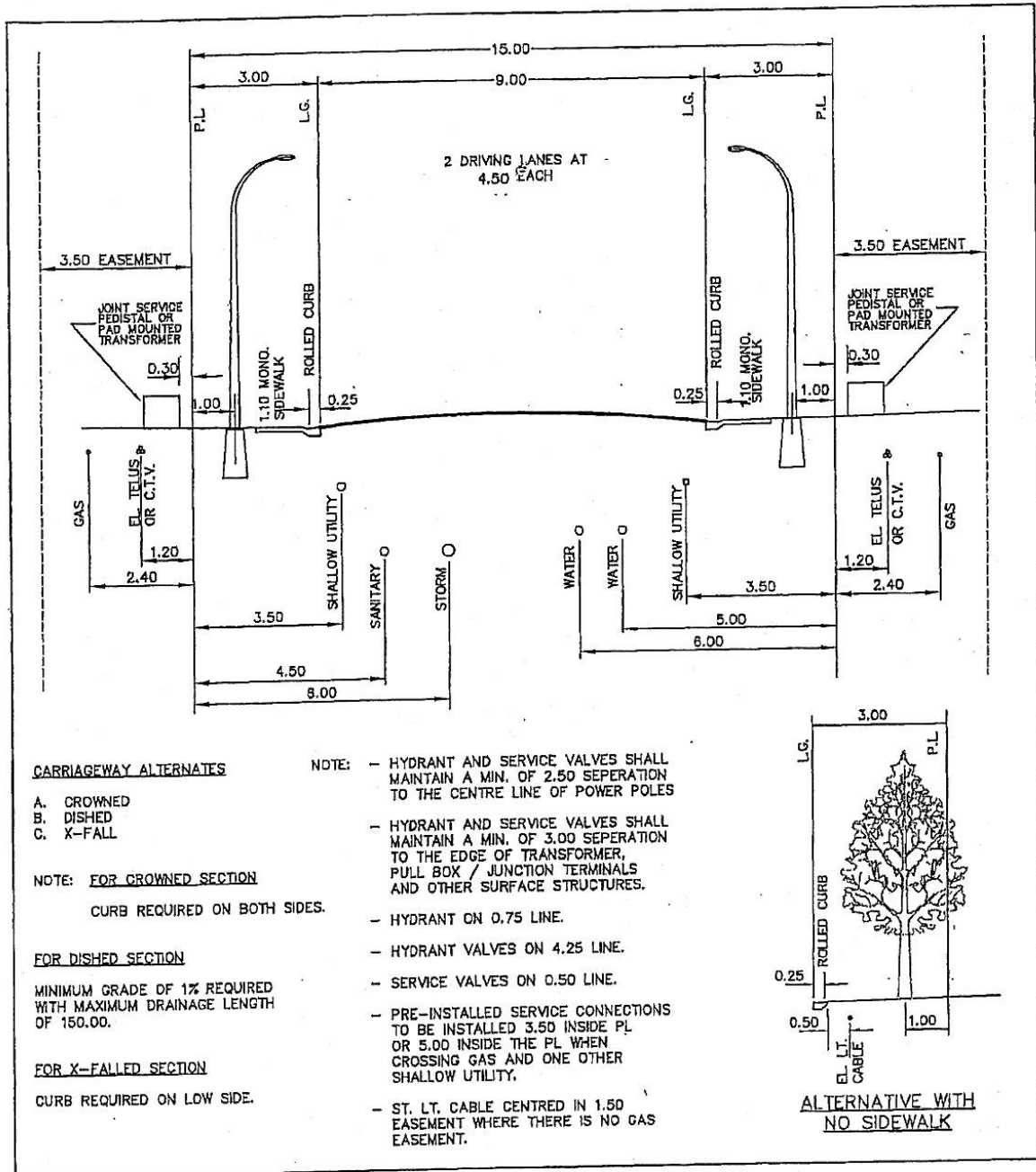
J.B. Montgomery, P.Eng.
JBM:ms:A01785

* APEGGA Permit to Practice #P2260

APPENDIX E: MODIFIED COLLECTOR ROAD CROSS-SECTION



CROSS SECTION
RIVERSIDE WAY
RIVERSIDE HEIGHTS DRIVE TO RIVERSIDE COURT

APPENDIX F: MODIFIED RESIDENTIAL ROAD CROSS-SECTION

APPENDIX G: LETTER FROM ALBERTA TRANSPORTATION RE: RIVER AVENUE BRIDGE



Regional Services
SOUTHERN REGION

2nd Floor, 803 Manning Road NE
Calgary Alberta T2E 7M8

Toll-Free Connection
Outside Edmonton - Dial 310-0000
Telephone 403/297-6311
Fax 403/297-7682
www.trans.gov.ab.ca

Our File: Cochrane-137

May 4, 2010

Mr. Reg Jans
Focus Corporation
100, 6131 - 6 Street SE
Calgary AB T2H 1L9

Dear Mr. Jans:

**RE: PROPOSED USE OF RIVER AVENUE BRIDGE
BOW RIVER, EAST OF HIGHWAY 22**

Regarding your email inquiry for emergency vehicle access to this bridge, Alberta Transportation can confirm that the bridge is able to be used for emergency access to the Riversong community. This clarification was previously provided to the Town of Cochrane by the department's bridge section in an email dated March 29, 2010.

This bridge is on a local road in the Town of Cochrane. Although Alberta Transportation has continued to be involved with this bridge structure (for example providing technical assistance when a water line was added in 2007) the Town of Cochrane is the responsible road authority and the bridge is under the control and management of the Town of Cochrane.

If you have any questions, please contact this office.

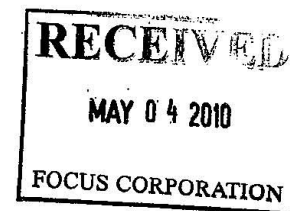
Yours truly,

A handwritten signature in cursive script, appearing to read "Trevor Richelhof".

For Trevor Richelhof
Development and Planning Technologist

TBR/fm

cc: Mr. Kurt Alksne - Town of Cochrane



R:\URBAN\CO\cochrane\cochrane-137.doc

7000 / 7000 5 5592#

NOTIFICATION BY

7000 / 7000 5 7000 0707 50 1270