The City of
Medicine Hat

Burnside Estates AREA STRUCTURE PLAN AND PHASE 1 CONCEPTUAL SCHEME

Prepared by: URBAN SYSTEMS

October, 2000

BYLAW NO. 3304

A BYLAW OF THE CITY OF MEDICINE HAT to repeal Bylaw No. 2360, being the Burnside Estates Area Structure Plan Bylaw, as amended, and to adopt a revised Burnside Estates Area Structure Plan and Phase 1 Conceptual Scheme, and to amend Bylaw No. 3181, the City of Medicine Hat Land Use Bylaw.

WHEREAS it is deemed appropriate to adopt a revised Burnside Estates Area Structure Plan;

AND WHEREAS it is deemed appropriate, at this time, to adopt a Conceptual Scheme for the first phase of development in this area;

AND WHEREAS a revised Burnside Estates Area Structure Plan and Phase 1 Conceptual Scheme has been prepared and is attached as Schedule "A" to this Bylaw;

AND WHEREAS the revised Area Structure Plan and Phase 1 Conceptual Scheme proposes the redesignation of the lands shown on Schedule "B" to this Bylaw from UR "Urban Reserve District" and P-1 "Park and Recreation District" to R-1 "Single Family Residential District", R-2 "Low Density Residential District", R-3 "Medium Density Residential District, "P-1" "Park and Recreation District" and C-2 "Neighbourhood Commercial District" under the City of Medicine Hat Land Use Bylaw, as shown on Schedule "B" to this Bylaw;

AND WHEREAS the requirements of the ***Municipal Government Act*** S.A. 1994, Chapter M-26.1 regarding the advertising of this Bylaw have been complied with;

AND WHEREAS copies of this Bylaw and related documents were made available for inspection by the public at the office of the City Clerk as required by the ***Municipal Government Act*** S.A. 1994, Chapter M-26.1;

AND WHEREAS a public hearing with respect to this Bylaw was held in the Council Chambers at City Hall on the 19th day of June, 2000 at 6:30 p.m.;

NOW THEREFORE THE MUNICIPAL CORPORATION OF THE CITY OF MEDICINE HAT, IN COUNCIL ASSEMBLED, ENACTS AS FOLLOWS:

1. Bylaw No. 2360, being the Burnside Estates Area Structure Plan Bylaw, as amended by Bylaw No. 2988, is hereby repealed.

2. The revised Burnside Estates Area Structure Plan and Phase 1 Conceptual Scheme, attached as Schedule "A" to this Bylaw, is hereby adopted.

3. Bylaw No. 3181, being the City of Medicine Hat Land Use Bylaw, is hereby amended by redesignating the lands shown on Schedule "B" to this Bylaw from UR "Urban Reserve District" and P-1 "Park and Recreation District" to R-1 "Single Family Residential District", R-2 "Low Density Residential District", R-3 "Medium Density Residential District, P-1 "Park and Recreation District" and C-2 "Neighbourhood Commercial District", as shown on Schedule "B" to this Bylaw.

4. This Bylaw shall come into force at the beginning of the day that it is passed.

READ A FIRST TIME in open Council on May 15, 2000

READ A SECOND TIME in open Council on November 6, 2000

READ A THIRD TIME in open Council on November 6, 2000

SIGNED AND PASSED on November 7, 2000

CITY OF MEDICINE HAT ANIMO ET FIDE ALBERTA

MAYOR - TED J. GRIMM **CITY CLERK - L.P. GODIN**

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1.0 INTRODUCTION AND BACKGROUND

1.1 Plan Area and Boundaries

Located within the northwest sector of the City of Medicine Hat, the area known as Burnside Estates is comprised of 259.5 hectares (641.2 acres) of land (See Map 1: Area Context). Burnside Estates is bounded by natural and manmade features. The plan area is defined by the South Saskatchewan River to the south, a 30 metre high escarpment to the north and the Trans Canada Highway to the east (See Map 2: Plan Boundary and Ownership). The character of the river and area's physical characteristics establishes a strong sense of place that will be capitalized upon throughout the development of Burnside Estates.

1.2 History

Once known as Burnside Farms, the Burnside Estates area has been identified since 1913 as having potential for urban development. In the early 1970's a large subdivision plan was considered for the area but abandoned in favor of proceeding with development of the SE sector of the City. By the mid-1970's the area was recognized by the City of Medicine Hat as an appropriate location for a large river park and some residential development. The identification of City owned lands west of Burnside and on the south side of the river for regional park purposes allowed the Burnside area to play a lesser role in the City's open space system. This change permitted Burnside to be planned to its full potential, not only as a residential neighbourhood but as an area providing regional services to the north sector of the City.

In August 1982, the Burnside Estates Area Structure Plan was adopted by Council and a planning framework was established for future development. The economic climate of the time did not facilitate the development of the lands and the area remained vacant. In 1994, after renewed public interest in the Burnside area, a comprehensive review and update of the Burnside Estates Area Structure Plan was completed. While the overall land use concept did not change, the amendments reflected the integration of new and relevant technical information.

In 1999, Council requested a detailed planning and engineering analysis in order to proceed with the first phase of residential development. A review was then undertaken to examine land use, to establish subdivision details, and to identify specific servicing requirements for the entire Burnside Estates area. During a Design Charrette workshop held in January 2000 a design framework and preferred land use concept was established for Burnside. From the Charrette process, a concept for the area emerged that involved establishing a unique identity through subdivision layout and development standards.

1.3 Ownership

In 1991 the City of Medicine Hat acquired the majority of the Burnside area through purchase from Hat Developments. Only a small percentage of the plan area is privately held. (See Map 2)

Ownership

City of Medicine Hat	245.8 hectares
Yuill	14.2 hectares
Total	260.0 hectares (642.5 acres)

1.4 Plan Purpose

This plan replaces the policy direction as established within the 1982 (as amended) Burnside Estates Area Structure Plan. The role of this Area Structure Plan is to provide policies and development criteria that will direct future growth, development, and subdivision within the area defined as Burnside Estates. This plan identifies the type, density and location of development considered acceptable to the City of Medicine Hat.

The Burnside Estates Area Structure Plan is consistent with Section 633 of the *Municipal Government Act* which states that an area structure plan must describe:

(i) the sequence of development proposed for the area;
(ii) the land uses proposed for the area, either generally or with respect to specific parts of the area;
(iii) the density of population proposed for the area either generally or with respect to specific parts of the area, and
(iv) the general location of major transportation routes and public utilities.

The Act also states that an area structure plan may contain any other matters that council considers necessary. This plan has been adopted by by-law and therefore all future plan amendments must be completed in accordance with the requirements of the Act.

1.5 Conceptual Scheme

This area structure plan includes a detailed conceptual scheme for the first phase of development. The conceptual scheme provides detailed planning related to street and lane alignments, lot layout, and distribution of land uses. The scheme also indicates the appropriate land use districts.

2.0 CONCEPT PLAN AND PLANNING PRINCIPLES

2.1 Vision for Burnside Estates

There is common agreement that current land development practices must be revised to protect significant environmental features and ensure that quality of life aspirations are met. In response, communities have begun to manage their development requirements through sustainable technologies and neo-traditional urban design principles.

Within this context, the City of Medicine Hat has identified that Burnside Estates will be a uniquely planned and designed community that:

- Is visually appealing with an abundance of trees and open spaces.
- Has a "village feel" with an identifiable centre and a variety of building styles and residential densities.
- Is not dominated by cars but has a pedestrian scale that promotes walking and cycling.
- Preserves the water quality and ecological integrity of the South Saskatchewan River.

2.2 Planning Principles

To implement this vision, the following goals, or planning principles, were adopted:

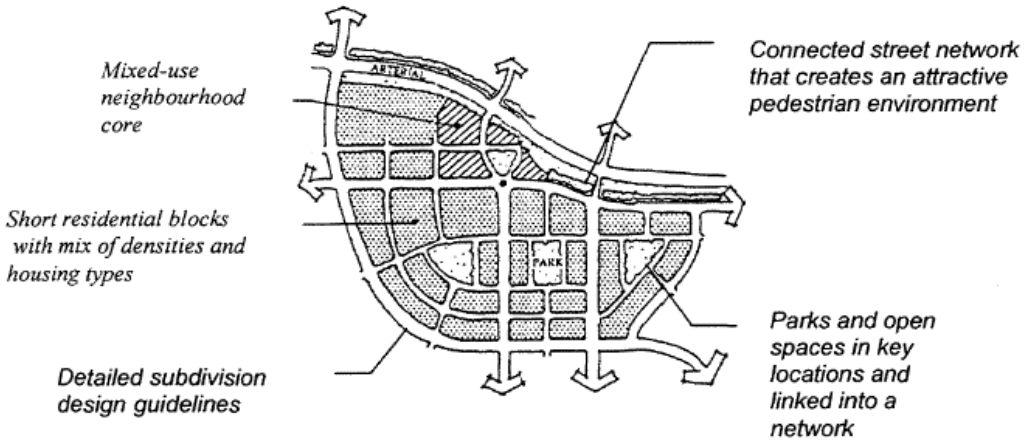
- To establish a distinct identity in Burnside Estates.
- To link Burnside Estates to the broader community.
- To maintain viable natural habitats and networks.
- To create an attractive and functional pedestrian environment.
- To explore climate-sensitive design (i.e. the use of passive solar, wind buffering).
- Where practical, to explore alternative subdivision layouts and development standards.
- Where practical, to explore green technologies (i.e. bio-filtration of stormwater).

These principles guided the preparation of the Burnside Estates land use concept and are reflected in the ASP policies and subdivision design guidelines.

2.3 Urban Design Principles

A number of urban design principles have also been adopted in order to give Burnside Estates its "village feel" and pedestrian scale. Conventional subdivision planning focuses on land use separation and efficient vehicular traffic movement but often fails to create vibrant, visually attractive and pedestrian-friendly communities. The following principles that will be applied to Burnside Estates place an emphasis on community building by re-evaluating current land subdivision standards:

- A mixed-use neighbourhood core helps provide a focus to the community and creates opportunities for social interaction. The concentration of public amenities and services in a central area will allow residents to "run into each other" while pursuing their daily needs and activities. The neighbourhood core is located within a 10-minute walk of most homes in Burnside Estates.
- A connected street network and short residential blocks give residents many opportunities for pedestrian travel between their homes and parks, schools, and other amenities. Streets are designed to be visually attractive, pedestrian-friendly and part of the public space network.
- Parks and opens spaces are strategically located to serve as local neighbourhood cores. All residents will have access to a park or open space within a 5-minute walk.
- Subdivision design guidelines ensure that the cumulative impacts of development are compatible with the community's character. Subdivision design guidelines, presented in Appendix One, are an integral part of the ASP and must be referred to by all developers.



(Drawing adapted from Peter Calthorpe, The Next American Metropolis)

Figure 1 Key Urban Design Principles

2.4 Land Use Concept

The land use concept for Burnside Estates establishes a tightly-integrated layout of key open spaces and streets. Using existing topographical features, collector roads and greenway corridors have been laid out to define individual neighbourhoods.

Each neighbourhood is built around a park whose visual presence and accessibility is emphasized by having most local roads lead to it. The perimeter of the park is reserved for narrow-lot single family houses or ground-oriented townhouses. Multi-family is considered appropriate at the base of the escarpment to benefit from the views of the river and eliminate potential visual impacts on adjacent single-family areas. Multi-family designations have also been located on both sides of Burnside Drive to create a distinct "residential boulevard" character. This adds to the housing alternatives available to prospective residents and contributes to the distinct character of the park area.

The combination of greenways, neighbourhood parks and recreational trails gives a strong green backbone to Burnside Estates and creates many opportunities for housing with views of parks and open spaces. Municipal reserve parcels and single-loading streets ensure easy public access to the river and the escarpment. The easternmost greenway is proposed to be designated as part of the Trans-Canada Trail and terminates at the River Park that could accommodate major public amenities (public parking, amphitheater, etc.).

Burnside Drive and the collector roads are designed to quickly direct traffic away from the schools and onto the residential streets. The schools/institution core reflects the alignment of Burnside Drive as recommended in the "Burnside Drive Functional Planning Study". The residential streets themselves have been laid out to maximize views of the river escarpment and allow passive solar gains for houses. Most local streets are quite short, to reduce traffic speed and make them compatible with narrower roadway widths.

An area for neighbourhood commercial development has been established at the gateway of Burnside Estates. Located on Burnside Drive near the Trans-Canada Highway interchange, the area is considered unsuitable for residential development due to traffic noise and the proximinity of utility coridors. The character and scale of commercial development in this location is particularly important in establishing the character of Burnside Estates. A small neighbourhood commercial parcel is also proposed near the western end of Burnside Drive. Both of these commercial areas will be oriented to convenience needs of residents.

The character of each street and land use type is defined within the subdivision design guidelines (see Appendix One). This ensures, for example, that lands adjacent to Burnside Drive will be developed with an upscale residential character compatible with its function as entrance to the community. Similarily, commercial areas will be

designed to enhance street character and serve as gateway or landmark features within Burnside Estates.

The following table provides a statistical breakdown of the land use concept as illustrated on Map 7.

Table 1: Area Calculation

Land Use	Area (Hectares)	Percentage of Developable Lands
Residential		
➢ Single and Two Family	111	
➢ Multi-Family	8	
Total:	120	61%
Local Commercial	2	1%
Schools & Institutional		
➢ School Sites	8	
➢ Institutional	1	
Total:	9	5%
Roads		
➢ All Roads	41	
➢ Lanes	3	
Total:	44	22%
Municipal Reserve	22	11%
Total Developable Lands	**197**	**100%**
Special Development Area	7	
Environmental Reserve	56	
Total Land Area	**260**	

* area calculations have been rounded off to the nearest whole number

2.4.1 Special Development Area

Map 7: Land Use Concept designates an area adjacent to the Trans Canada Highway / Burnside Drive interchange as Special Development Area. The westerly one third of the area is potentially constrained by noise from both the highway and the power plant as per the Community Sound Survey conducted by Fraszer Faquharson & Associates Ltd. A comprehensive review of the power plant noise emissions should

be undertaken to determine what type of development is appropriate for this portion of the site and, if necessary, what building standards will be required to allow new development. The review should incorporate future expansion needs of the power plant and any anticipated equipment changes.

The easterly two thirds of the area is constrained by a number of utility lines, both underground and overhead. A detailed analysis of this site is required to determine if the utility lines render the site undevelopable. For the purpose of this plan, the Special Development Area has not been included in the unit or population analysis nor has it been included in the phasing program.

3.0 SITE ANALYSIS AND DEVELOPMENT CONSTRAINTS

3.1 Visual Assessment

The most dramatic visual features of Burnside Estates result from the presence of the escarpments beyond the plan boundaries to the north and south. The South Saskatchewan River is not readily visible within the plan area, except from the base of the northern escarpment. Views from most housing will therefore be limited to the escarpment to the south, across the river. As a result, residents of Burnside Estates would be adversely affected by intensive recreational use (i.e. motorized vehicle trails) or infrastructure development (i.e. hydro-electric corridors) on that escarpment. The escarpments within the plan area are complemented by ravines and riverfront vegetation. These areas should be preserved and set aside as Environmental Reserve.

The impact of existing negative visual features (the highway, power plant, and utility corridors) will be difficult to remedy. The use of trees as visual buffers is appropriate but will take a long time before being effective. Alternatively, buildings along the eastern edge of the site (i.e. in the commercial designation) could be sited and designed to screen some of those infrastructures. An assessment of the significant visual features of the site are found on Map 3: Visual Analysis.

3.2 Vegetation and Wildlife

Low annual precipitation and high evaporation characterize the Medicine Hat region. The majority of the flat terrace area is currently under cultivation. Natural vegetation in the Burnside area is limited to the riverine vegetation of plains cottonwood and short native grasses that include blue grama grass and common spear grass. Vegetation on the north escarpment and adjoining lower slopes include sagebrush, buckbrush and other semi-arid plants, including the prickly pear and pin-cushion cacti.

Numerous bird and wildlife species utilize the riverine woodlands for habitat, nesting, and migratory purposes. The following bird species have been recorded:

- eastern and western kingbirds;
- blackbirds;
- doves;
- woodpeckers;
- flickers;
- kestrels;
- terns;
- sandpipers;
- killdeers;
- kingfishers;
- variety of duck species;
- Canada geese.

The riverine woodlands environment also provides cover and habitat to a variety of mammals including deer, red fox, jack rabbits, and small rodents. Rattle, bull and garter snakes have been identified in the dryer and less assessable areas of Burnside Estates.

The coulees to the north of Burnside Estates and the river edge to the south have been identified as wildlife corridors. Based on comments from the Urban Environment and Recreation Advisory Board, these corridors should be connected through a linkage to the west of the plan area, along the southern edge of the Yuill lands. Options for maintaining this linkage will need to be negotiated with the land owner at the time of subdivision.

The conservation of the riverine woodlands and the wildlife corridors are considered highly desirable in order to preserve existing habitat and to enhance the unique natural characteristics of the site for future residents and citizens of Medicine Hat.

3.3 Topography and Soils

Burnside Estates is situated on a low terrace consisting of fluvial deposited silts and sands overlying gravel. These strata are of integral and post glacial origin. The fluid deposits belong to the foremost formation of Upper Crestaceous age and are underlain by bedrock consisting of sandstone, grey shale and thin coal seams. The subsoils increase in coarseness with depth and the silt and sand strata generally extend to depths of 4 to 6 metres, where coarse, dense gravel is encountered. The silts and sands are classified as medium dense and clay seams in the deposit were confirmed as being very dry.

The slope inclination for the riverbank varies from 2:1 in the vicinity of the Trans-Canada bridge to 18:1 farther to the west and in general, these slopes are stable. However, river undercutting occurs near the bridge where a 300 metre (984 feet) long section is actively eroded with the bedrock being exposed above the river level. Other than where the bank is steep (east and west ends of the site) erosion is likely only to occur in the flatter areas if there is frequent flooding.

Major Topographical Characteristics

1) gentle to moderately steep slopes of the south facing 30 metre high escarpment separating the Burnside Heights uplands area from Burnside Estates;
2) broad transitional area at the base of the escarpment descending gently towards the river;
3) almost flat central area forming the head of the ox bow bend;
4) wooded terraces confined to a narrow edge along the river; and
5) isolated, hilly area at the extreme west end where the escarpment descends to the river.

The average elevational difference from the toe of the escarpment to the river edge is approximately 40 metres (130 feet).

The varied slope conditions throughout the site are illustrated in Map 4: Slope Analysis in four categories of grade: (1) less than 1.5%, (2) 1.5% up to 5%, (3) more than 5% but less than 15%, and (4) in excess of 15%.

There are approximately 183.6 hectare (453.8 ac) with a grade of 5% or less. The majority of the remaining lands below the escarpment are less than 15%, establishing a high development potential for almost the entire site.

3.4 Floodplain Analysis

In 1986, Alberta Environment conducted detailed hydrological studies of the South Saskatchewan River through the City of Medicine Hat. The flood risk area including delineated floodway and flood fringe areas were established and these areas are illustrated in Map 5: Development Constraints. The Medicine Hat Flood Plain Study (Alberta Environment, May 1986) established that 56 hectares of land is contained within the flood risk area of the South Saskatchewan River. The flood risk is defined as the area which would be inundated by the 1 in 100 year flood. Further delineation of the flood risk area demonstrates that 39.5 hectares can be classified as floodway where flood waters are the deepest, fastest and most destructive and 16.5 hectares are classified as the floodfringe area. In floodfringe areas, flood waters are shallower and move more slowly and development may be permitted if appropriately flood-proofed. The concept plan encourages a small percentage of the floodfringe to be utilized for development and the remainder to be designated as Environmental Reserve.

3.5 Historical Resources

An archaeological survey of the Burnside lands was performed in 1981 and identified a single historic and six pre-historic sites of unknown value (See Map 6: Historical Sites). Amongst the sites surveyed, a campsite in the north-east corner is believed to be an extension of a larger, previously recorded tipi-ring site since destroyed by highway construction. Future subdivision will be required to meet the historical assessment and review requirements of the Historical Resources Act.

3.6 Utility / Pipeline Corridor and Gas Well Sites

A number of pipeline and transmission rights of way transverse the plan area. A City owned gas pipeline traverses east to west through the upper plateau and a number of transmission and pipeline rights of way are concentrated in the south east corner of the plan area adjacent to the Trans Canada Highway. The City owned pipeline will be relocated along a proposed collector road and the right-of-way will be used as part of the recreational trail system. This area has been identified as a Public Utility Lot in the land use concept (See Map 7: Land Use Concept).

Five gas wells are located within the plan area. Two wells are located within the Flood Risk Area (near the old farmstead) and were abandoned in the mid 1990's. These wells are situated in the Environmental Reserve and any proposed residential development within the flood fringe may be affected by AEUB setback requirements from these abandoned wells. Three other gas wells are located adjacent to the toe of the escarpment slope. In order to protect wells and adjacent developments, the setbacks from these wells will be accommodated within Municipal Reserve parcels.

4.0 ENVIRONMENTAL PROTECTION AND SETBACK REQUIREMENTS

4.1 Environmental Protection and Setback Requirements - Background

The character and sense of place of Burnside Estates will be established through the preservation of natural and topographic features and important wildlife corridors. The defining natural features of the site include the 30 metre high escarpment (which is contained within the Burnside Heights Area Structure Plan), the riverine environment and flood risk area of the South Saskatchewan River and the large flat terrace bounded in between these features. In addition to natural features there are a number of setback requirements that must be addressed and reflected within future development.

4.2 Objectives

i) To protect significant environmental features through sensitive design and setback requirements.

ii) To preserve and enhance the natural environment for future generations.

iii) To ensure that future development is adequately protected from known hazards.

4.3 Policies

4.3.1 Environment

a) The requirements for the preparation of environmental impact assessments and or environmental audits shall be directed by the City of Medicine Hat Land Use Bylaw.

b) New development and or subdivision should incorporate methods to design with nature by including:

- Retention of as much natural vegetation as possible;
- Maintaining natural contours through road and pathway design and lot patterns;
- Protection of significant environmental features such as:
  - major drainage courses;
  - sloped areas;
  - areas that contribute to the overall ecological diversity;
  - areas that support hydrological functions (i.e. springs);
  - wildlife corridors.

c) Areas designated as Environmental Reserve that contain natural habitat, cottonwood stands or environmentally sensitive sites shall be protected in their natural state.

d) Areas designated as Environmental Reserve that do not contain areas as defined in policy 4.3.1(c), shall be left in their natural state or utilized for the purpose of a public park.

e) The incorporation of a public pathway system and associated facilities within lands designated as Environmental Reserve shall be considered appropriate. In areas as described in policy 4.3.1(c), pathway proposals may require the preparation of an environmental impact assessment study.

f) Appropriate noise attenuation methodologies shall be required in high impact areas.

4.3.2 Flood Risk Area

a) The designated floodway of the South Saskatchewan River shall be dedicated as Environmental Reserve and used in its natural state or as a public park.

b) Subdivision and development within the designated flood fringe of the South Saskatchewan River may be considered appropriate according to the following criteria:

- the lands have been identified as appropriate for subdivision and development on Map 7: Land Use Concept;
- suitable flood proofing techniques are utilized in accordance with the City of Medicine Hat Guidelines for Flood Proofing and the Land Use Bylaw.

c) Lands contained within the designated flood fringe but not considered appropriate for subdivision and development, as defined in policy 4.3.2(b) shall be designated as Environmental Reserve and shall be used in their natural state or as a public park.

4.3.3 Setback Requirements (AEUB)

a) Subdivision or development shall not occur within 100 metres of active or 22 metres of abandoned gas wells. Development within a lesser distance may be permitted provided written approval has been received from the Alberta Energy and Utilities Board prior to subdivision approval.

b) Setback areas as described in policy 4.3.3(a) shall be integrated within the public open space network.

c) Subdivision and development adjacent to the toe of the escarpment shall be required to submit a geotechnical assessment of the subsurface characteristics of the land including information on susceptibility to slumping, subsidence, and development setback requirements.

5.0 RESIDENTIAL DEVELOPMENT

5.1 Residential Development Background

The vision for Burnside Estates is to create a livable and walkable residential environment. The concept for residential development is to ensure a comfortable pedestrian environment through the incorporation of alternative subdivision and road standards. Strong connections between open space and residential development will reinforce the pedestrian oriented character of the community. The commitment to design guidelines for subdivision, roads, and housing design will ensure that Burnside Estates will develop a high living environment and strong sense of place.

Since the predominate land use within the Burnside plan area is residential development – the form and scale of housing will be responsible for establishing the community's character. Of the total developable land in Burnside Estates, 61% will be utilized for housing. In order to provide a range of housing opportunities, residential development is envisioned to be a combination of single and multi-family housing.

It is anticipated that Burnside Estates will accommodate approximately 2,170 dwelling units and a population of 5,210 people. The ultimate number of dwelling units and population will depend on market conditions and demand for the various types of housing units that will potentially be made available.

5.2 Objectives

i) To ensure that all residential subdivision and development achieves high quality design.

ii) To ensure that alternative and innovative approaches to subdivision and housing development can be incorporated within the Burnside Estates area.

iii) To encourage a range of housing types in order to establish choice and affordability.

5.3 Policies

5.3.1 Policies - General

a) All residential development should demonstrate consistency with the Design Guidelines found in Appendix One of this plan.

b) The location of single family and multi-family land uses should be consistent with Map 7: Land Use Concept.

c) Single family development should range from 10 to 12 units per gross hectare and multi family development should range from 30 to 50 units per net hectare.

d) No other form of higher density residential development will be encouraged in locations adjacent to parks and open space other than ground oriented town housing and narrow lot single family.

e) Subdivision layout should maximize views, solar orientation, access to riverfront features, and respect the natural topography.

f) Street and lot layout should be oriented to a grid system in proximity to the center of the plan area. River front areas should be less formal in character and designed to accommodate a variety of subdivision layouts (i.e. cul-de-sacs and crescents).

g) The exact location and mixture of dwelling types, both single and multi-family, will be determined at conceptual scheme stage.

5.3.2 Multi-Family

a) In order to be responsive to changing market conditions, the need for additional multi-family sites can be evaluated at conceptual scheme stage, provided the changes in density have been accommodated with the growth management policies of the City's Municipal Development Plan.

b) Multi-family development fronting onto Burnside Drive and neighbourhood parks shall be required to utilize back lanes in order access parking facilities.

c) Multi-family development shall occur along Burnside Drive in accordance with Map 7: Land Use Concept.

5.3.3 Special Development Area

a) The area identified on Map 7: Land Use Concept as the Special Development Area is constrained by topography, utility corridors, transmission rights-of-way, and access. Development may be considered appropriate for multi-family development provided these issues are addressed to the satisfaction of the City.

6.0 COMMERCIAL DEVELOPMENT

6.1 Background

Commercial development within the Burnside Area Structure Plan is intended to provide neighbourhood commercial services to area residents. A total of 2.3 hectares (5.7 acres) are designated as appropriate for commercial uses. The purpose of the commercial areas is to provide convenience services that do not compete with the uses and role of downtown Medicine Hat. Commercial development on Burnside Drive will act as a gateway to the community.

6.2 Objectives

i) To provide a range of commercial uses oriented to the convenience needs of residents.

ii) To ensure a high quality of design and detailing for all commercial development and signage.

6.3 Policies

a) Neighbourhood Commercial land uses shall be directed to locations as established on Map 7: Land Use Concept.

b) All commercial uses must demonstrate consistency with the Design Guidelines contained within this plan (Appendix One).

c) Neighbourhood Commercial uses shall be oriented to the retail, service, and business needs of the adjacent residential community.

d) Commercial uses within Burnside Estates shall not compete with the function and role of the downtown.

e) The design and character of buildings and signage shall be oriented to the community context. Uses, structures, and signage designed to attract highway commercial traffic shall not be permitted.

7.0 PARKS AND OPEN SPACE

7.1 Parks and Open Space - Background

The community of Burnside Estates will be developed with open spaces and parks as a primary consideration. Rather than establishing parks in spaces left-over from the subdivision process, neighbourhood parks will be located first – prior to the layout of residential lots and roads. Parks are considered special places that serve as a focal point for the community and additionally serve to enhance the site's natural features. Linear open spaces in the form of greenway corridors and recreational trails serve to link the schools and parks in the community core to the Environmental Reserve lands adjacent to the South Saskatchewan River. It is envisioned that the eastern most greenway corridor will eventually be part of the Trans-Canada Trail system and provide recreational access to the River.

A total of 22 hectares (11%) of land, exclusive of school sites, will be designated as Municipal Reserve and will be used as internal parks and greenspaces. Flood prone lands adjacent to the South Saskatchewan River have been designated as Environmental Reserve and will contribute significantly to the open space and recreational amenities of the community. Map 7: Land Use Concept shows the location of two riverfront parks complete with parking facilities that will be developed adjacent to the river corridor in order to provide access to the general public. Open space and parks constitute 30% of the total land area when Municipal and Environmental Reserves are totaled together.

7.2 Objectives

i) To ensure that green spaces are integrated within subdivision design and serve to function as both community focal points and enhance natural features.

ii) To create significant recreational and pedestrian linkages across Burnside Estates.

7.3 Policies

a) Parks, open spaces, greenway corridors and recreational trails will be developed in locations as directed by Map 7: Land Use Concept.

b) The development of parks, open spaces and pathways should demonstrate consistency with the Design Guidelines of this plan (Appendix One).

c) Neighbourhood parks should have an area of at least 0.5 hectares.

d) Official designation of the easternmost greenway corridor as a portion of the Trans-Canada trail system will be encouraged.

e) The establishment of two riverfront parks with parking facilities and other needed amenities as identified on Map 7: Land Use Concept is considered appropriate provided development is flood proofed to the satisfaction of the City.

f) Traffic calming measures shall be required where greenways cross collector roads.

g) Where collector roads are incorporated as part of the recreational network, the width of the public right of way should be extended to accommodate recreational uses and additional plantings.

h) Incorporation of a recreational trail will be encouraged in the vicinity of the right-of-way of gas pipeline 831 1024 when that pipeline is relocated. The location of the trail will be as per Map 7: Land Use Concept.

8.0 SCHOOLS AND INSTITUTIONAL

8.1 Background

Two school sites have been identified in order to serve the Burnside Estates community. The combined area of the school sites is 7.7 hectares. School access is achieved from main arterial intersections and a collector road running parallel to Burnside Drive. This layout avoids the impact of school related traffic on residential pockets. A 1.3 hectare site has been designated for institutional uses. Schools, institutional uses and open spaces have been oriented to become the core area of the community.

8.2 Objectives

i) To ensure that the educational needs of the community are accommodated.

ii) To allow an area for institutional land uses.

8.3 Policies

a) The location of school and institutional uses shall be determined in accordance with Map 7: Land Use Concept.

b) The exact size of school parcels should be determined in consultation with the school board at conceptual scheme. Alterations to the size of school parcels can be accommodated without an amendment to this plan.

9.0 TRANSPORTATION AND ROADS

9.1 Transportation and Roads - Background

The proposed transportation network for the Burnside Estates development has been examined in the past through previous studies. These include a servicing study prepared in 1998 by Reid Crowther and Partners Ltd., as well as a functional study prepared in 1999 by UMA titled "The Burnside Drive Functional Planning Study – Final Report".

The proposed road network is structured around the proposed Burnside Drive, which is to be a four lane, divided arterial road that passes roughly through the middle of the overall site. Burnside Drive connects to the Trans-Canada Highway at its east end, and to the future Burnside Heights neighbourhood at its west end. The function of Burnside Drive is to effectively and efficiently move traffic into and out of the neighbourhood.

A network of collector roads intersect with Burnside Drive at three locations, and extend throughout the neighbourhood. The function of these roads is to allow relatively large volumes of traffic to circulate throughout the neighbourhood, and to easily access Burnside Drive.

Residences are to be accessed by local roads. Rear lanes are to be provided in some areas.

9.2 Objectives

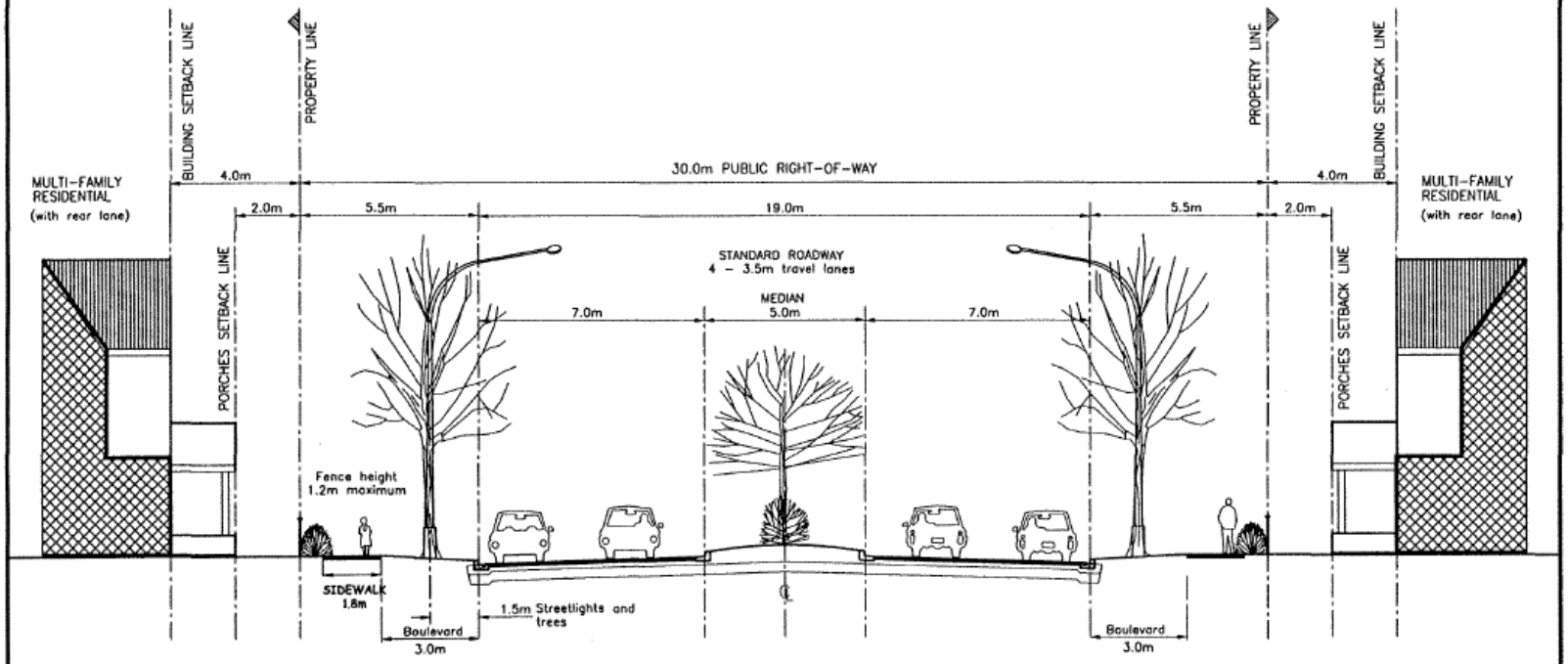
i) To provide for the safe and efficient movement of vehicle throughout the neighbourhood.

ii) To meet the engineering standards of the City of Medicine Hat.

9.3 Policies

a) Arterial, collector, local, and laneway roads are to be designed and constructed in accordance with the requirements of the City of Medicine Hat, the design guidelines found in Appendix One, and the road cross-sections provided in this plan.

b) The road layout illustrated in Map 7: Land Use Concept is conceptual and requires further transportation analysis. The layout of roads may be amended at conceptual scheme without amending this plan.



BURNSIDE DRIVE
(URBAN ARTERIAL)

City of
Medicine Hat

BURNSIDE ESTATES
Area Structure Plan

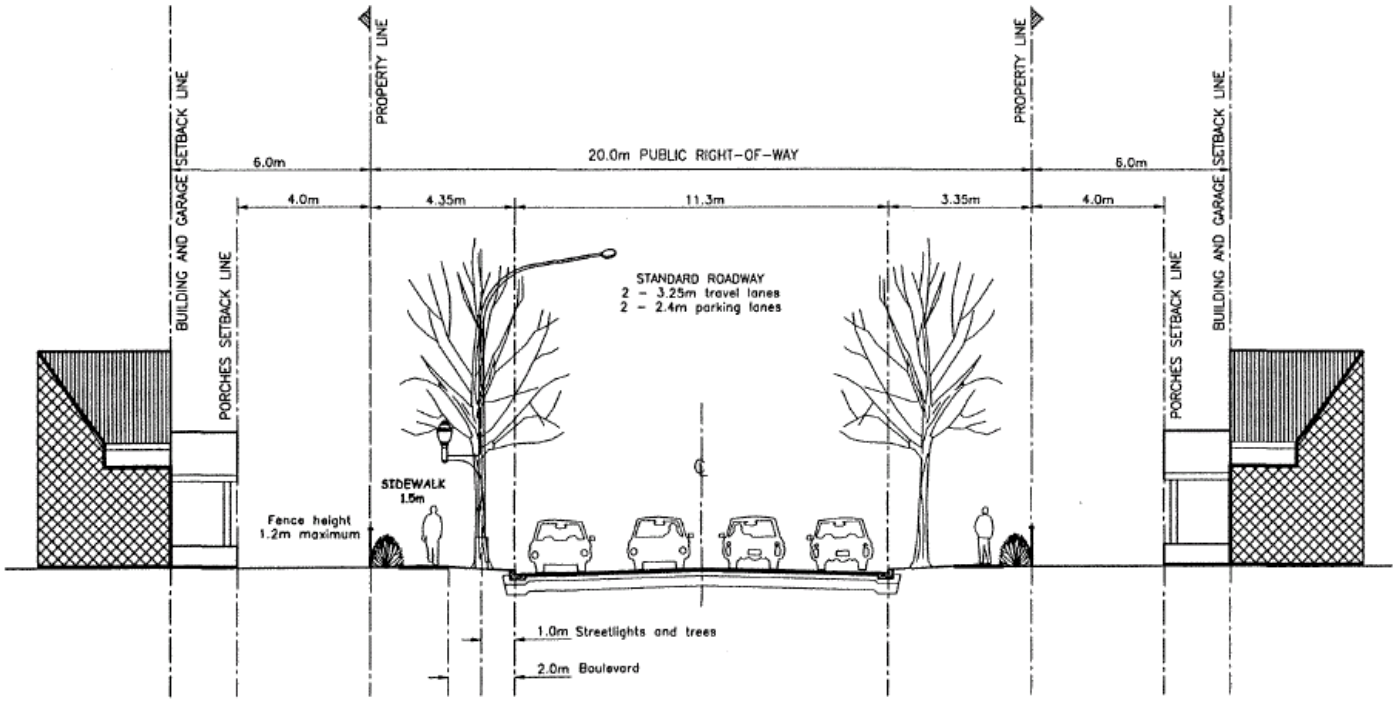
Typical Section No. 1

BURNSIDE DRIVE
(Urban Arterial)

NOT TO SCALE

PROJECT No.: 4195501.2
DATE: October 2000

prepared by:
URBANSYSTEMS



COLLECTOR RESIDENTIAL ROADS

City of
Medicine Hat

BURNSIDE ESTATES
Area Structure Plan

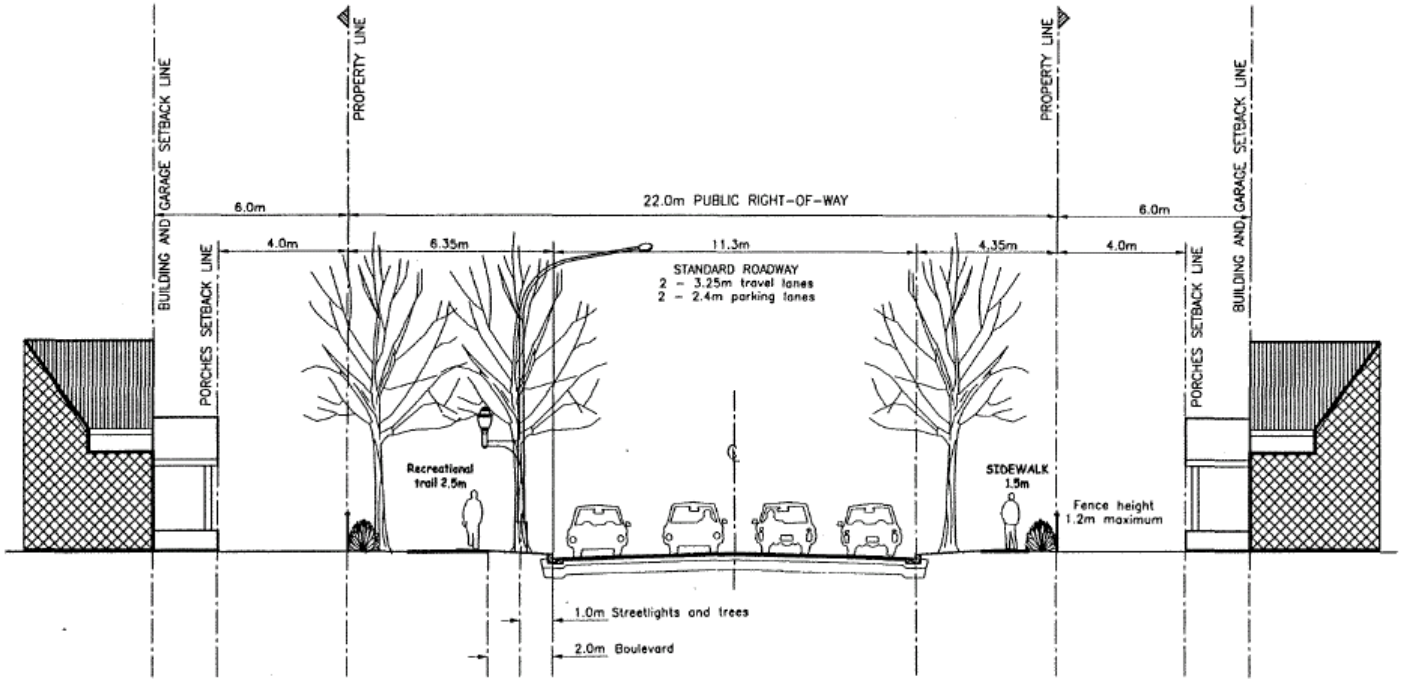
Typical Section No. 2

COLLECTOR
RESIDENTIAL
ROADS

NOT TO SCALE

PROJECT No.: 4195501.2
DATE: October 2000

prepared by:
URBANSYSTEMS



COLLECTOR RESIDENTIAL ROADS
(WITH RECREATIONAL TRAIL)

City of
Medicine Hat

BURNSIDE ESTATES
Area Structure Plan

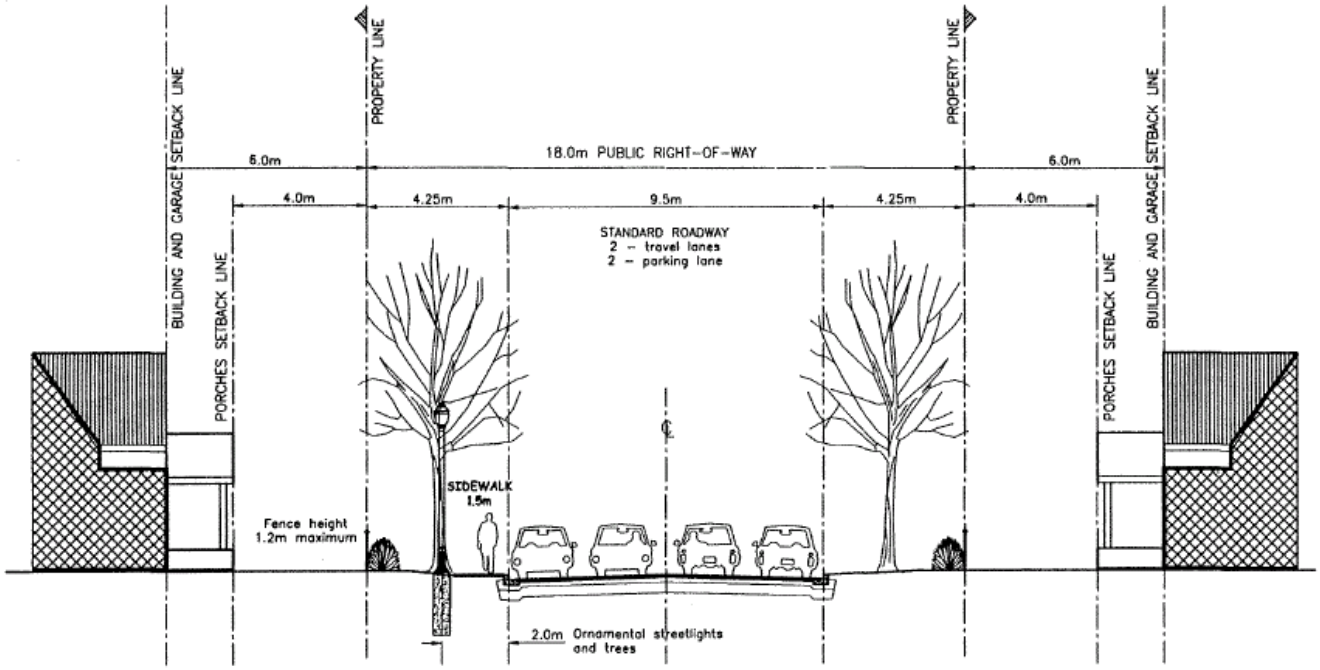
Typical Section No. 3

COLLECTOR
RESIDENTIAL
ROADS
(With Recreational
Trail)

NOT TO SCALE

PROJECT No.: 4195501.2
DATE: October 2000

prepared by:
URBAN SYSTEMS



LOCAL RESIDENTIAL ROADS

City of
Medicine Hat

BURNSIDE ESTATES
Area Structure Plan

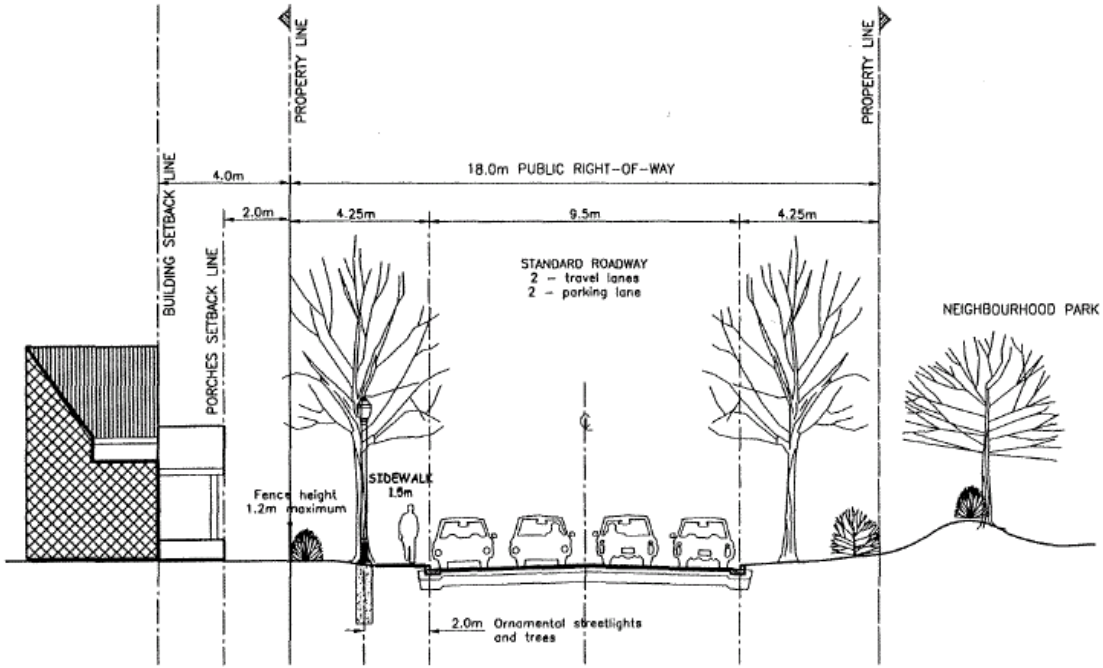
Typical Section No. 4

LOCAL
RESIDENTIAL
ROADS

NOT TO SCALE

PROJECT No.: 4195501.2
DATE: October 2000

prepared by:
URBAN SYSTEMS



LOCAL RESIDENTIAL ROADS
(WITH BACK LANES)

City of
Medicine Hat

BURNSIDE ESTATES
Area Structure Plan

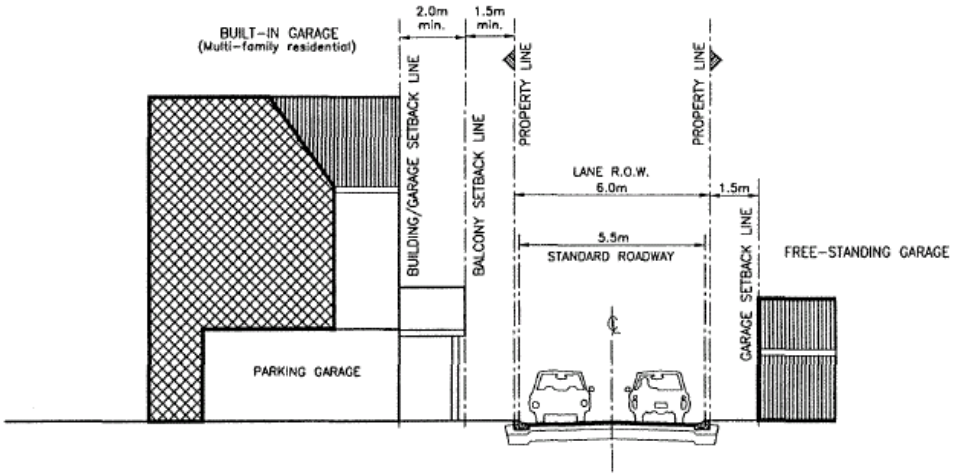
Typical Section No. 5

LOCAL
RESIDENTIAL
ROADS
(With Back Lanes)

NOT TO SCALE

PROJECT No.: 4195501.2
DATE: October 2000

prepared by:
URBAN SYSTEMS



BACK LANES

City of
Medicine Hat

BURNSIDE ESTATES
Area Structure Plan

Typical Section No. 6

BACK LANES

NOT TO SCALE

PROJECT No.: 4195501.2
DATE: October 2000

prepared by:
URBAN SYSTEMS

10.0 SERVICING AND UTILITIES

10.1 Servicing and Utilities - Background

A servicing plan for the Burnside Estates neighbourhood was prepared by Reid Crowther and Partners Ltd. in 1998. Their study examined the full range of municipal services, including water, sanitary sewers, storm drainage, gas, electric power, and cable television. The Reid Crowther report was augmented by subsequent work undertaken by Urban Systems Ltd., who prepared a separate servicing study and a storm water management plan.

Potable water for domestic consumption and fire protection is to be provided through a connection to the existing 1050 mm diameter trunk watermain located just west of the Trans-Canada Highway, and South of the 3rd Street interchange. The system will include a 500 mm diameter trunk main that will be located in the Burnside Drive right of way. The remainder of the network will consist of watermains that are between 150 mm diameter and 250 mm diameter. The network will be divided into two pressure zones through the use of pressure reducing valve stations in order to deal with the difference in pressure across the site due to topography (see Map 8: Water System).

The sanitary sewer system will be designed to convey all sanitary sewage to a sewage lift station at the South limit of the site near the South Saskatchewan River. Sewage will be pumped from this station through a forcemain to an existing gravity sewer system on the East side of the Trans-Canada Highway. Because of topographic constraints, the site can not be served by a gravity sanitary sewer system, and must rely on the sewage lift station instead (see Map 9: Sanitary System).

The neighbourhood will be served by a system of underground storm sewers and catchbasin inlets. These will be designed for the runoff from a five year return period storm event. During more extreme storm events, storm water will flow along surface routes, including roads and drainage channels, where it will be conveyed to several storm water detention ponds located throughout the site. One of the detention ponds, located at the lowest point in the neighbourhood, will also provide improvements to the quality of the storm water by removing pollutants before it is discharged to the river. Regardless, the storm water system will be designed so that it discharges into the South Saskatchewan River. Map 10: Storm Water Management shows the discharge downstream of the City's water intake.

10.2 Objectives

i) To provide the neighbourhood with full municipal services at a reasonable cost.

ii) To provide services that meet the engineering requirements of the City of Medicine Hat.

iii) To provide services that meet the regulatory requirements of the Province of Alberta.

iv) To improve storm water quality before discharging it to the river.

v) To discharge storm water downstream of the City's water intakes.

10.3 Policies

a) The neighbourhood is to be serviced with potable water, sanitary sewers, and drainage and storm water management systems, which are to be designed and constructed in accordance with the City of Medicine Hat's engineering standards.

b) The required municipal services shall be designed and constructed in accordance with the requirements of Alberta Environment as regulated by the Water Act and the Environmental Protection and Enhancement Act.

11.0 STAGING

The development of Burnside Estates is divided into three stages (see Map 11: Phasing Strategy). Depending on demand for lots, each stage could be further broken into several sub-phases. The phasing strategy developed is provided to give a general indication of how the area may evolve. It is for reference purposes only. The City of Medicine Hat may modify the phasing program without a plan amendment.

The following table (page 31) outlines the estimated number of dwelling units and population for each stage and phase.

Table 2: Land Use, Estimated Dwelling Units and Population

Phase 1		
Single/Two Family	35	hectares
Multiple Family	5	hectares
Commercial	2	hectares
Municipal Reserve	7	hectares
Roads/Lanes	19	hectares
Total Area	68	hectares
Estimated Dwelling Units[1]		750
Estimated Population[2]		1800
Phase 2		
Single/Two Family	30	hectares
Multiple Family	3	hectares
Institutional	1	hectare
Schools	8	hectares
Municipal Reserve	9	hectares
Roads	14	hectares
Total Area	65	hectares
Estimated Dwelling Units1		715
Estimated Population2		1720
Phase 3		
Single/Two Family	46	hectares
Multiple Family	1	hectare
Commercial	0.1	hectares
Municipal Reserve	6	hectares
Roads	11	hectares
Total Area	64.1	hectares
Estimated Dwelling Units1		705
Estimated Population[2]		1690
Total Estimated Number of Dwelling Units		**2170**
Total Estimated Population		**5210**

* areas have been rounded to the nearest hectare
[1] based on an average of 11 units per gross developable hectare
[2] based on an average of 2.4 persons per dwelling unit

12.0 IMPLEMENTATION

12.1 Background

Responsibility for the implementation of this Area Structure Plan lies with City Council, administration and future developers. Decisions with respect to Land Use Bylaw amendments, subdivision and development permit applications must conform to the policies of this Plan and must demonstrate consistency with the Design Guidelines as contained within Appendix One of this Plan.

Plan monitoring and review should occur on a regular basis in order to ensure that development is being effectively guided by the Plan policies and to ensure that the Plan remains consistent will all other City of Medicine Hat statutory plans. It is anticipated that major reviews of this policies and objectives of this plan will be initiated within five to ten years after the date of Plan adoption. Amendments to this Plan may also be necessary in response to changing development trends, unanticipated external forces or changes in community priorities.

12.2 Objectives

i) To ensure that the policies of this plan are implemented through the development process.

ii) To ensure the orderly and efficient development of land in the Burnside Estates plan area.

12.3 Policies

a) Prior to Land Use Bylaw amendments and subdivision approvals, a Conceptual Scheme must be prepared in accordance with the requirements of the City of Medicine Hat.

b) The City may, at their discretion, require transportation assessment information to be included with Conceptual Schemes.

c) The City shall endeavour to ensure consistency between this Plan, other statutory plans and the City's Land Use Bylaw. The City should make reference to the Design Guidelines contained within this Plan within relevant sections of the Land Use Bylaw.

d) All Conceptual Schemes must demonstrate consistency with the Design Guidelines as contained within this Plan.

e) Applications for Development Permit and Building Permit must demonstrate consistency with the Design Guidelines as contained within Appendix One of this Plan.

f) Development phasing shall occur in accordance with the strategy illustrated in Map 11: Phasing Strategy. Minor adjustments to the phasing and staging boundaries may be considered appropriate without amending this Plan.

g) Services and utilities shall be extended in a logical and efficient manner.

13.0 CONCEPTUAL SCHEME

A conceptual scheme has been prepared which outlines land use, internal road system, lotting and land use. Map 12: Conceptual Scheme illustrates the conceptual scheme with the following brief explanation:

13.1 Land Use / Subdivision Design

The conceptual scheme contains a wide range of land uses with the majority of the area being single family residential. On the periphery of the scheme area are multiple family residential areas with some commercial uses proposed at the eastern edge, at the entrance to Burnside Estates. Within the scheme area are selected sites which are intended to accommodate two family dwellings.

The entire southern edge of the conceptual scheme, adjacent to the South Saskatchewan River, is either flood fringe or floodway. These areas have been designated as open space and would be developed in accordance with Section 7.0 Parks and Open Space, of this Area Structure Plan.

There are two open space corridors which link Burnside Drive to the open space adjacent to the River. These corridors will allow pedestrian movement through the conceptual scheme area and provide access to the River front. At the terminus of both corridors will be a riverside park, complete with parking facilities and amenities intended to serve the general public.

A park is centrally located within the western half of the conceptual scheme. This park serves as a visual terminus to a local road which provides access to the western portion of the conceptual scheme. Further, it serves as the focal point for the lots which radiate outward from it.

13.2 Design Standards

The conceptual scheme area is serviced by a collector road which intersects with Burnside Drive at the eastern edge of plan area. It provides access to the open space system as well as to those lots which front onto it. A series of local roads intersect with the collector road providing access to the balance of the area within the conceptual scheme.

The collector road is to be accommodated within a 20 metre right of way and will be developed as per the typical section contained within Section 9.0 Transportation and Roads. Local roads will be developed within an 18 metre right of way consistent with the typical section also contained within Section 9.

A portion of the conceptual scheme will have rear access through the provisions of lanes. Lot frontages throughout the site for single and two family residential will range from 12 to 18 metres (40 to 60 feet). Those lots which have rear access may

require less frontage than those lots without rear access. These varying frontages recognize the need to provide on site parking and vary in lot sizes throughout the subdivision.

More detailed subdivision design guidelines are contained in Appendix One.

13.3 Land Use Bylaw Districts

Map 13: Conceptual Scheme with Land Use Districts outlines the land use districts which are to be applied to the area within the conceptual scheme.

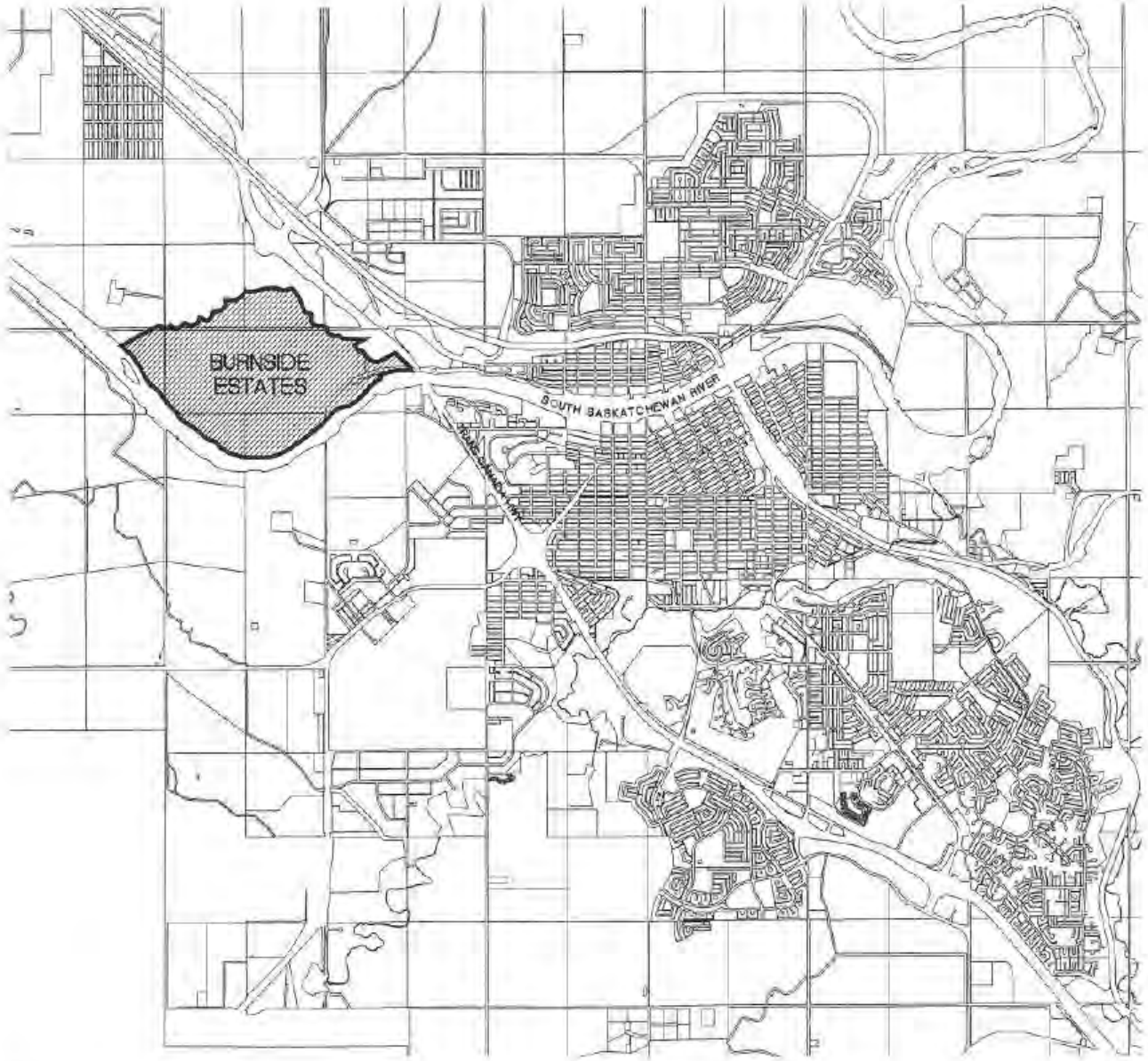
13.4 Estimated Number of Dwelling Units / Population

The following table summarizes the land uses, the number of dwelling units and the estimated population of the area within the conceptual scheme.

Table 3: Conceptual Scheme - Land Use District, Dwelling Units, and Population

Land Use (District)	Area (ha)	Units	Population
Single Family Residential (R-1)	34.4	541	1,407
Two Family Residential (R-2)	0.6	24	62
Multiple Family (R-3)	5	185	296
Commercial (C-2)	2	-	-
Municipal Reserve (P-1)*	7	-	-
Roads / Lands	19	-	-
Total Area *	**68**	**750**	**1,765**

* does not include land to be designated as P-1 which is considered Environmental Reserve



BURNSIDE ESTATES
City of Medicine Hat

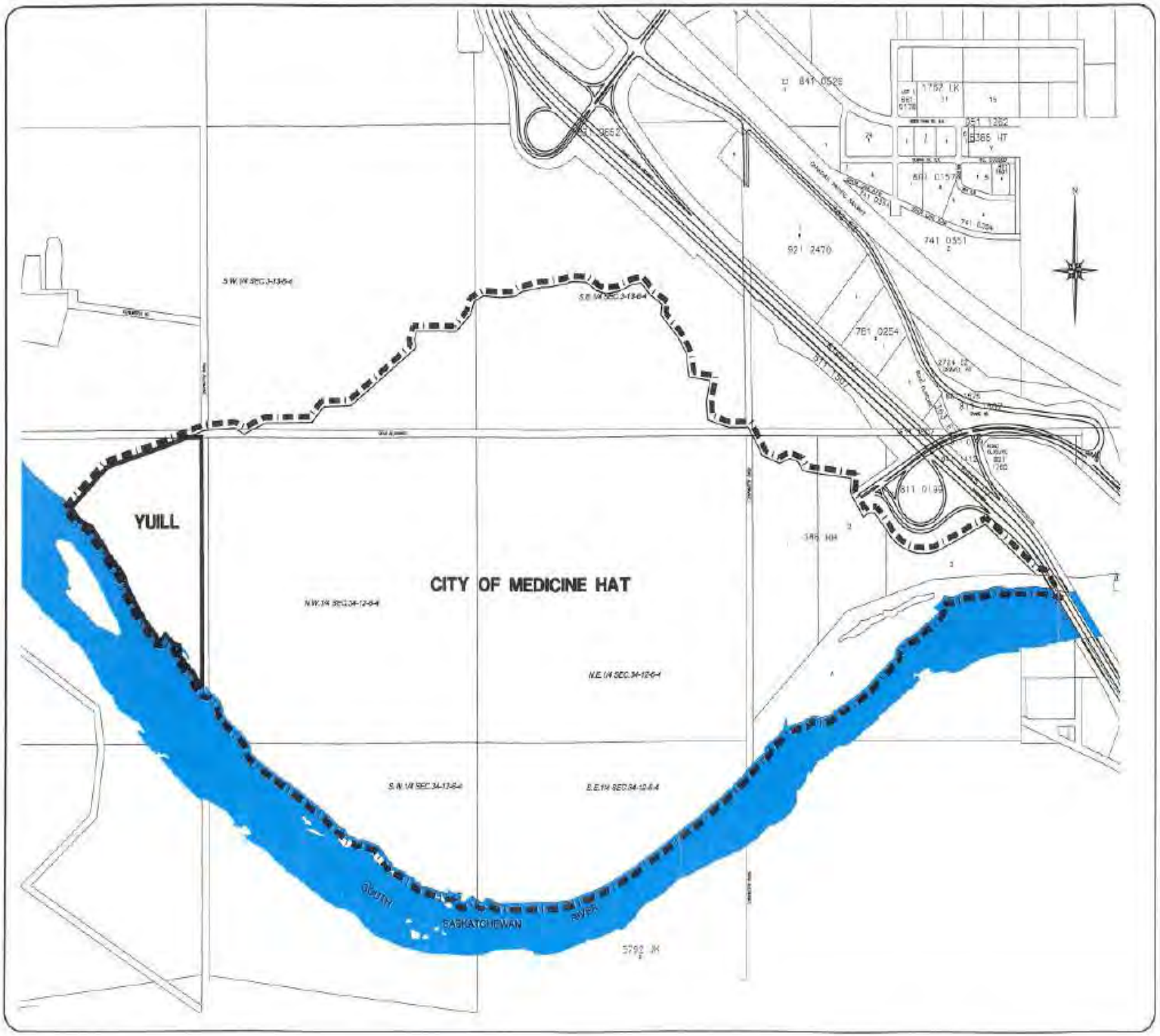
AREA STRUCTURE PLAN

URBAN SYSTEMS

DATE OCT 2009
SCALE 1:10,000
PROJECT #105501.0

MAP 1

AREA CONTEXT



BURNSIDE ESTATES
City of Medicine Hat

AREA STRUCTURE PLAN

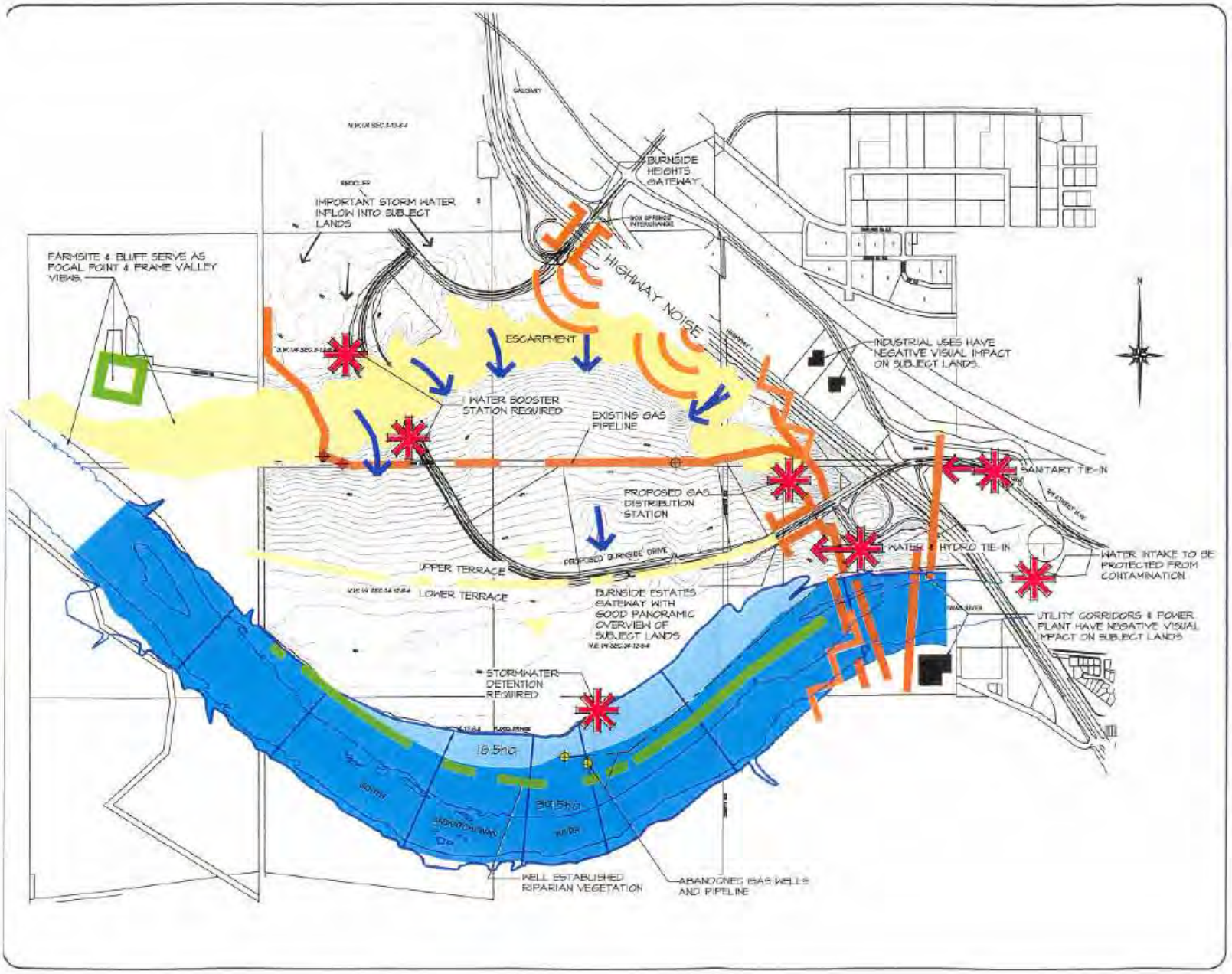
URBAN SYSTEMS

0 100 250 500
Metres

DATE: OCT., 2000
SCALE: 1:10,000
PROJECT: 4195501.2

MAP 2

PLAN BOUNDARY AND OWNERSHIP



BURNSIDE ESTATES
City of Medicine Hat

AREA STRUCTURE PLAN

LEGEND:

- Utility/Pipeline Corridor
- Floodway
- Flood Fringe
- Key Topographic Features
- Existing Vegetation
- Negative Visual Impact
- Negative Noise Impact
- Gas Well (Abandoned)
- Gas Well (In Use)
- Utility/ Drainage Issues
- Key Drainage Channels

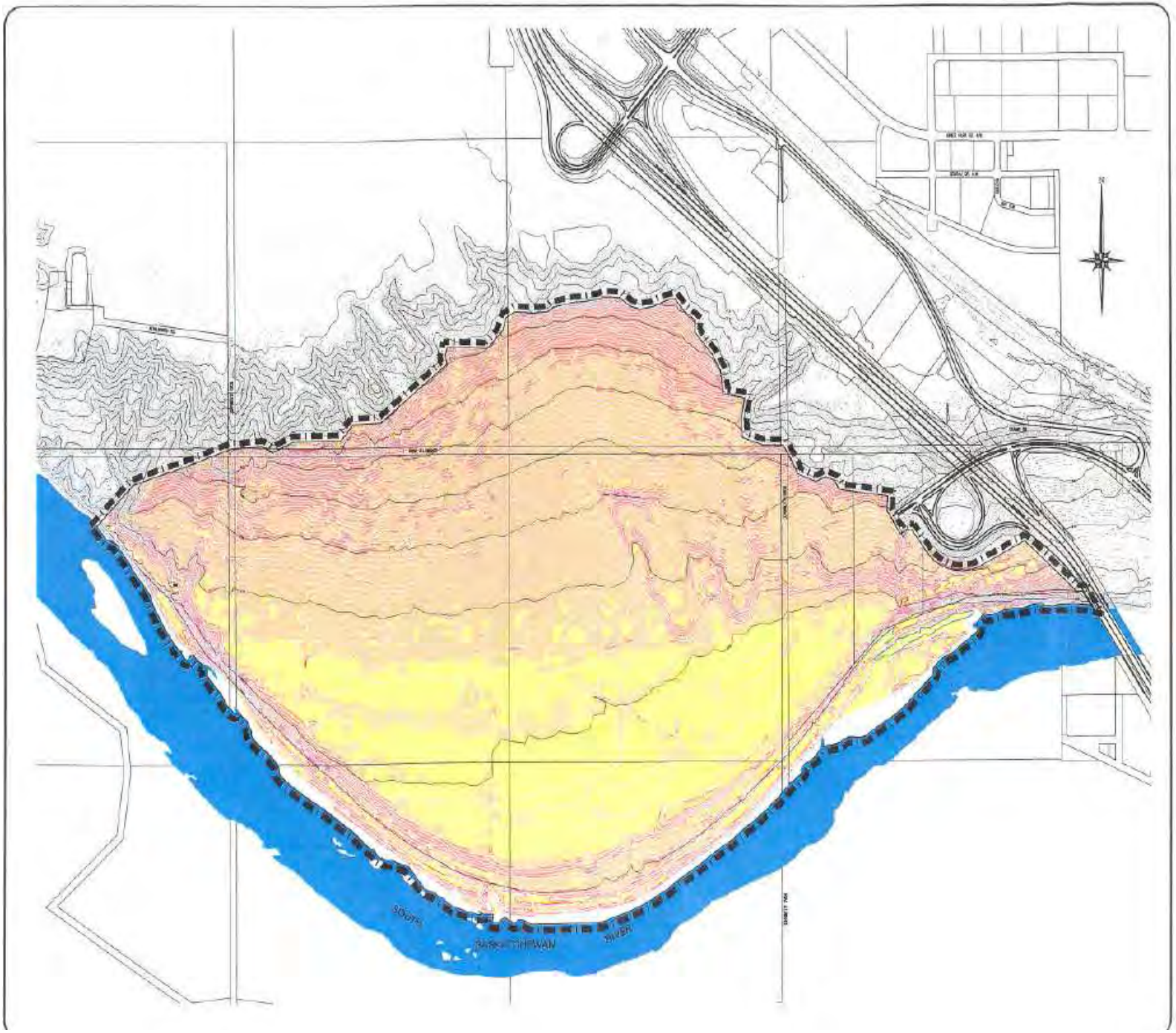
URBAN SYSTEMS

0 100 200 500
Metres

DATE: OCT., 2008
SCALE: 1:12,500
PROJECT: 4195501.2

MAP 3

VISUAL ANALYSIS



BURNSIDE ESTATES
City of Medicine Hat

AREA STRUCTURE PLAN

LEGEND

- 0 - 1.5%
- 1.5% - 5.0%
- 5.0% - 15.0%
- +15.0%

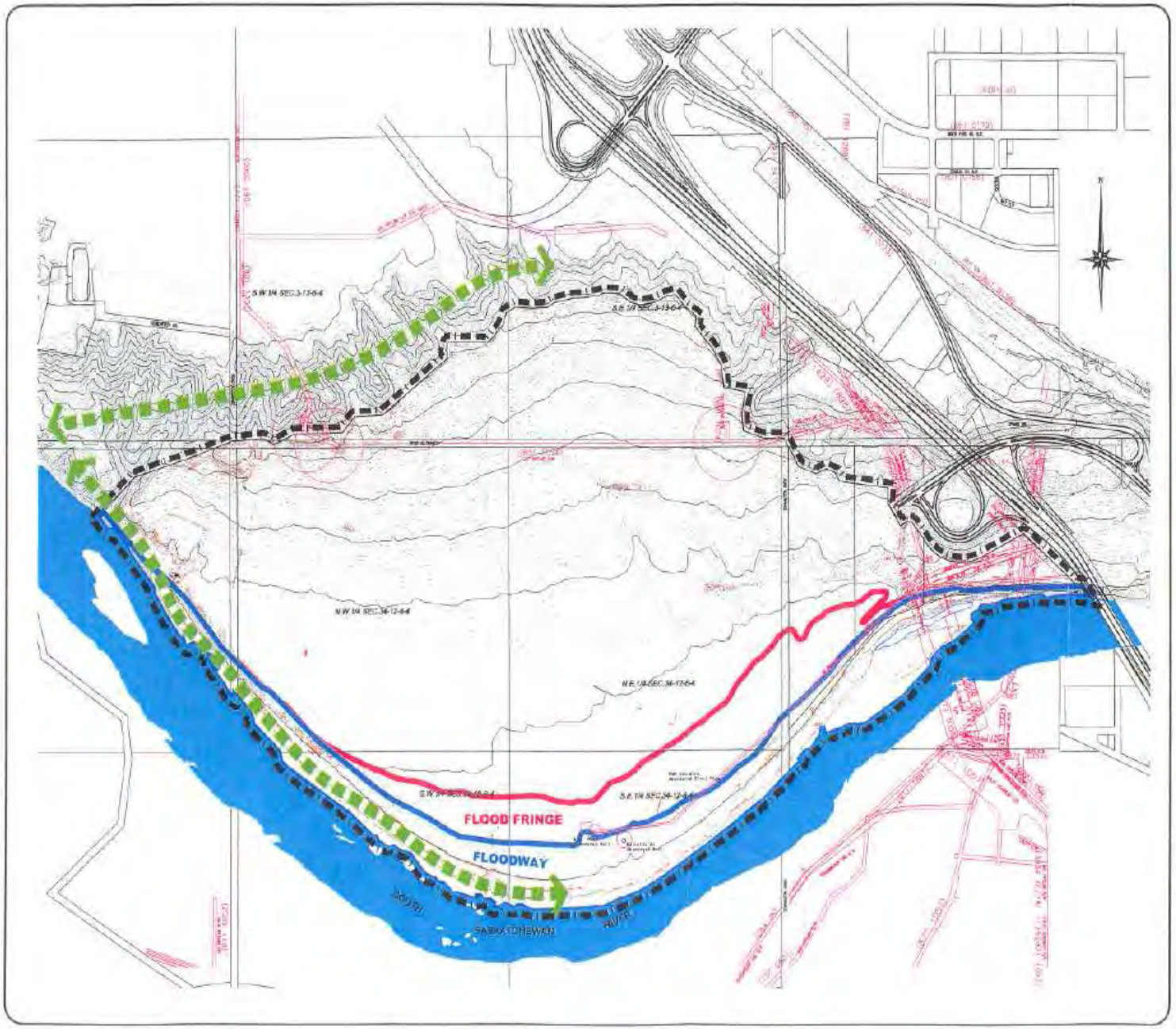
URBANSYSTEMS

0 100 250 500
Metres

DATE: OCT., 2000
SCALE: 1:10,000
PROJECT: 4185501.2

MAP 4

SLOPE ANALYSIS



BURNSIDE ESTATES
City of Medicine Hat

AREA STRUCTURE PLAN

LEGEND

- +15.0% SLOPES
- TRANSMISSION & GAS PIPELINE ROW's
- GAS WELL SETBACK
- FLOOD FRINGE
- FLOODWAY
- WILDLIFE MOVEMENT CORRIDOR

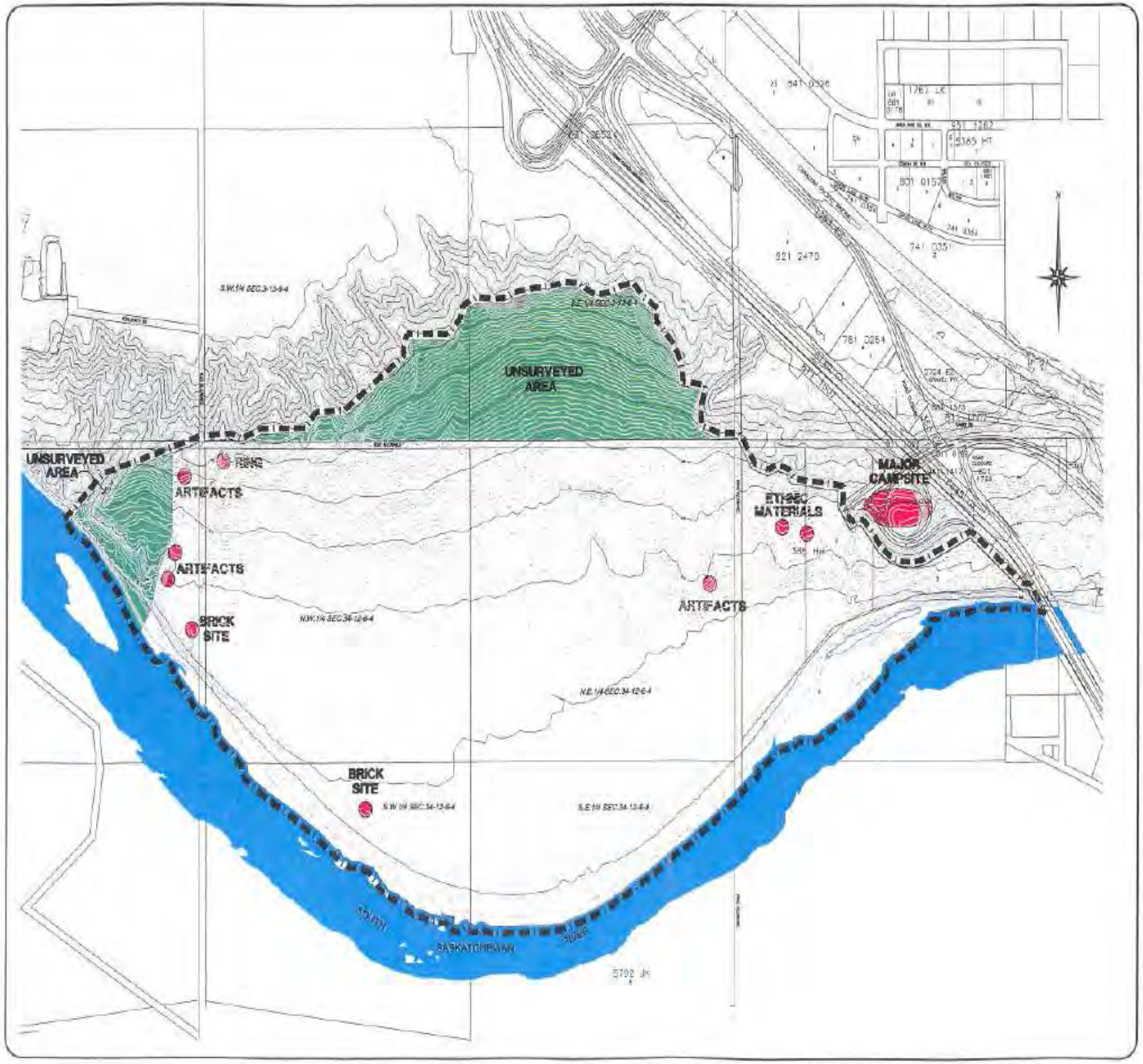
URBAN SYSTEMS

0 100 250 500
METRES

DATE: OCT., 2000
SCALE: 1:10,000
PROJECT: 1155801.2

MAP 5

DEVELOPMENT CONSTRAINTS



BURNSIDE ESTATES
City of Medicine Hat

AREA STRUCTURE PLAN

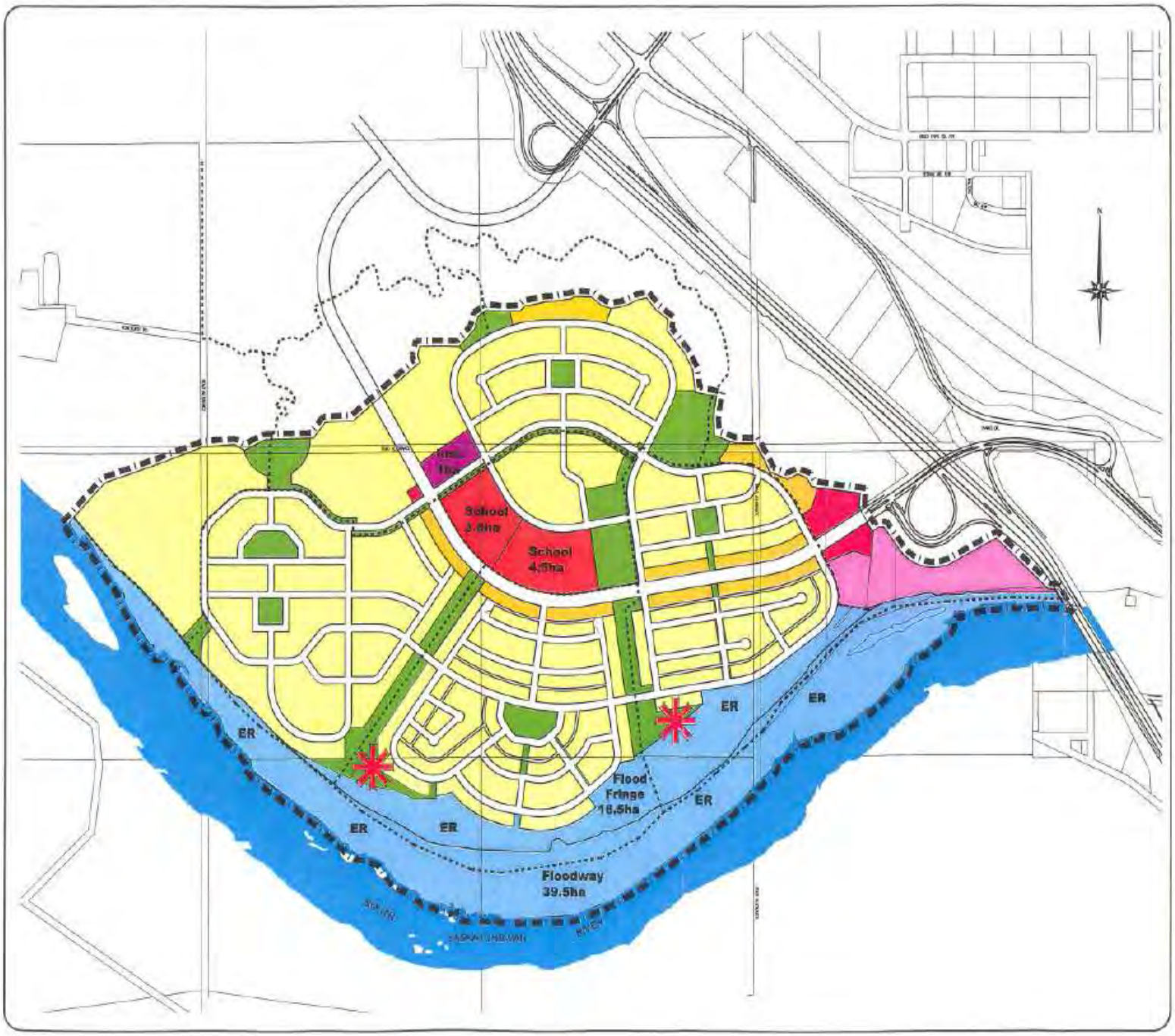
URBAN SYSTEMS

0 100 250 500
Metres

DATE: OCT., 2000
SCALE: 1:10,000
PROJECT: 47.95501.2

MAP 6

HISTORICAL SITES



BURNSIDE ESTATES
City of Medicine Hat

AREA STRUCTURE PLAN

LEGEND

- Commercial
- Multi-family
- Single-family/Two-family
- Special Development Area
- Schools (MR)
- Municipal Reserve
- Institutional
- Environmental Reserve
- River Park w/ Public Parking
- Recreational Trails

Notes: Local road layout is schematic and shows prefered configuration for key local roads and lanes only.

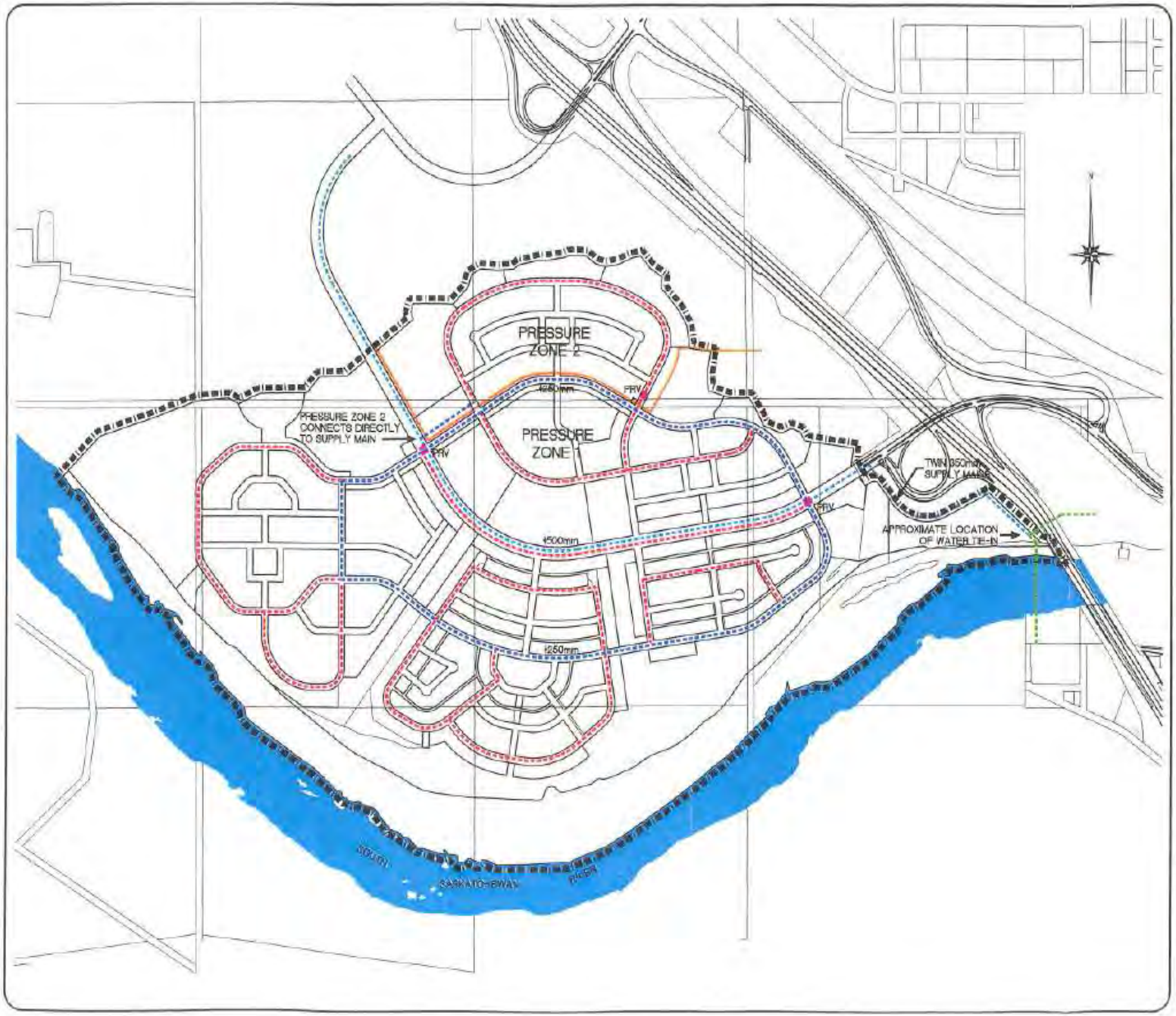
URBAN SYSTEMS

0 100 250 500
Metres

DATE: OCT., 2008
SCALE: 1:10,000
PROJECT: 4105501.2

MAP 7

LAND USE CONCEPT



BURNSIDE ESTATES
City of Medicine Hat

AREA STRUCTURE PLAN

LEGEND

- EXISTING 1050mm WATERMAIN
- HIGH PRESSURE TRANSMISSION MAIN
- Ø250 DISTRIBUTION MAINS
- Ø150 & Ø200 DISTRIBUTION MAINS
- PRESSURE ZONE BOUNDARY
- PRESSURE REDUCING VALVE

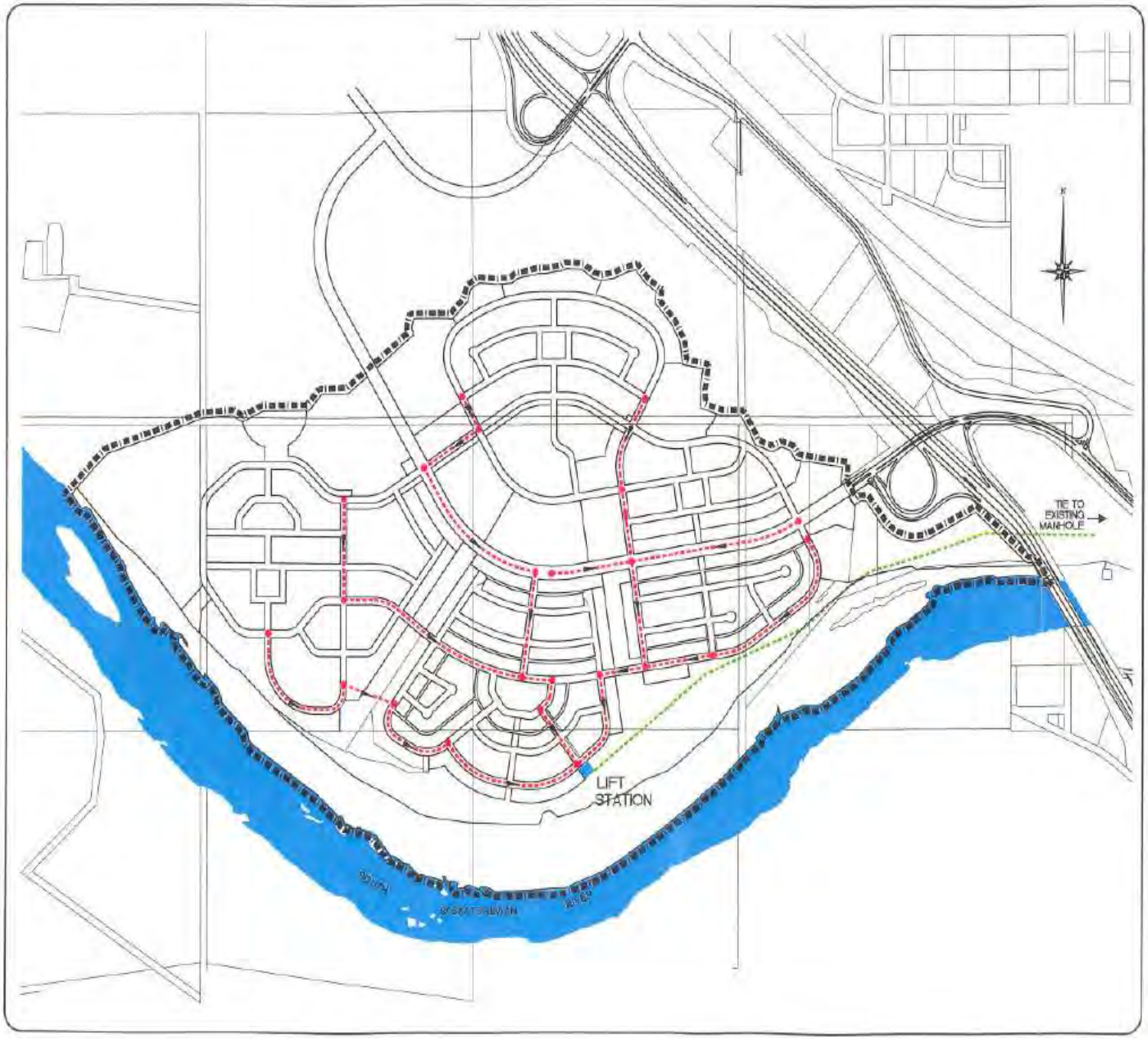
URBANSYSTEMS

0 100 250 500
Metres

DATE: OCT., 2000
SCALE: 1:10,000
PROJECT: 6195013.2

MAP 8

WATER SYSTEM



BURNSIDE ESTATES
City of Medicine Hat

AREA STRUCTURE PLAN

LEGEND

- SANITARY SEWER MAINS
- SANITARY FORCEMAIN
- SANITARY SEWER MANHOLE
- SANITARY LIFT STATION

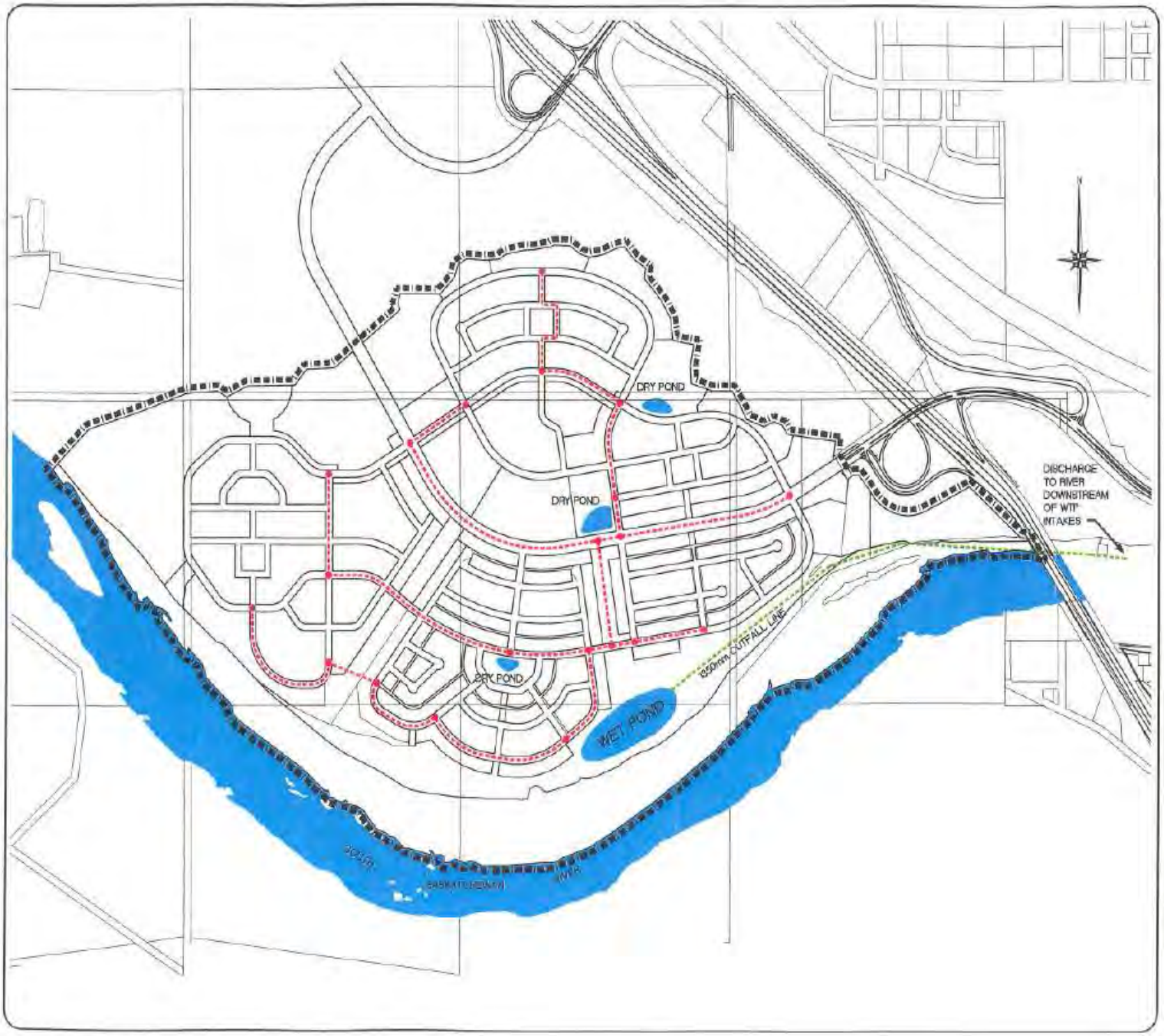
URBAN SYSTEMS

0 100 250 500
Metres

DATE: OCT., 2000
SCALE: 1:5,000
PROJECT: 4105501.2

MAP 9

SANITARY SYSTEM



BURNSIDE ESTATES
City of Medicine Hat

AREA STRUCTURE PLAN

LEGEND

- STORM SEWER MAINS
- 1350mm STORM POND OUTLET
- STORM SEWER MANHOLE
- STORMWATER DETENTION FACILITIES

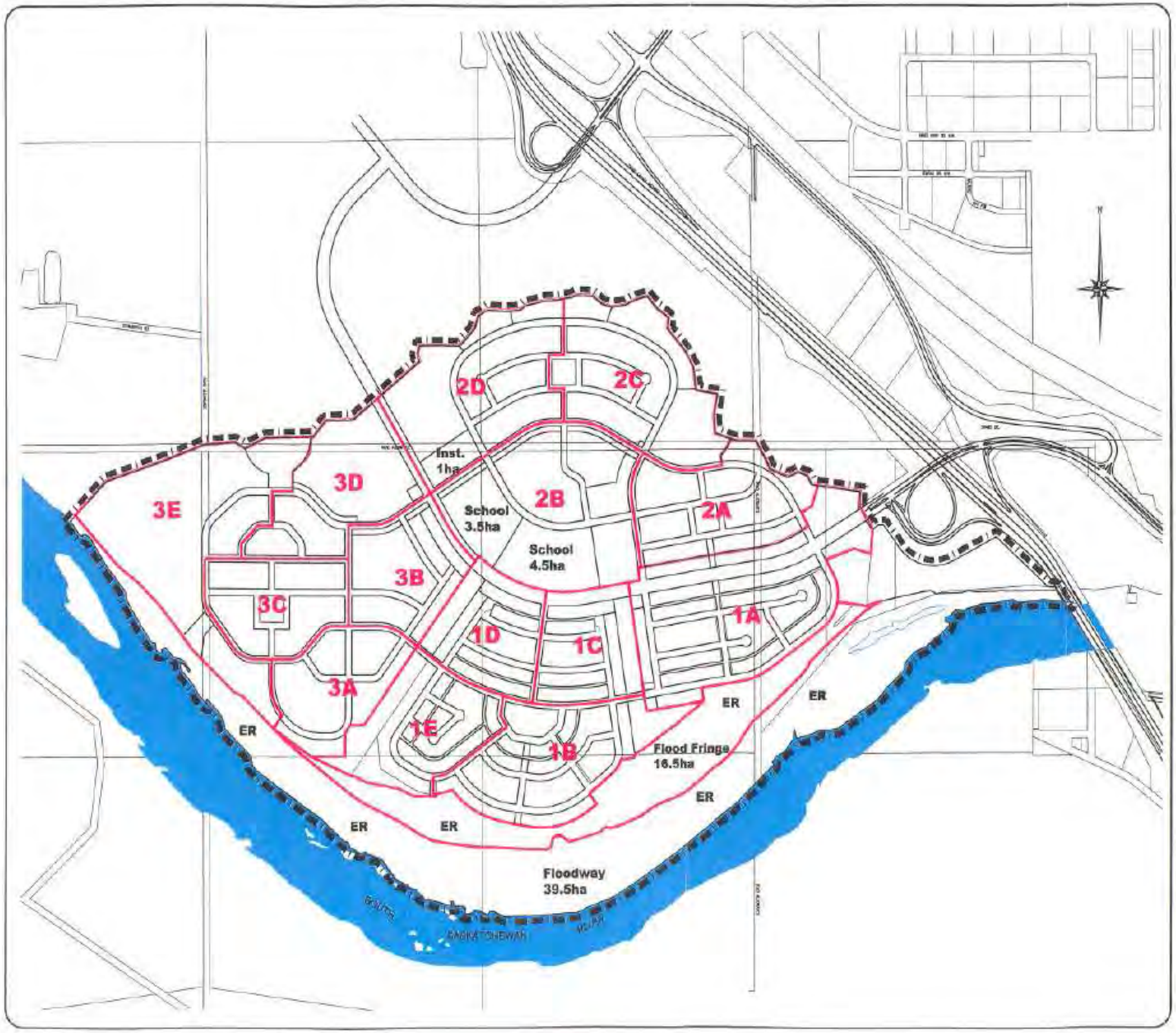
URBAN SYSTEMS

0 100 250 500
Metres

DATE OCT., 2000
SCALE 1:10,000
PROJECT 4130031.2

MAP 10

STORM WATER MANAGEMENT



BURNSIDE ESTATES
City of Medicine Hat

AREA STRUCTURE PLAN

URBAN SYSTEMS

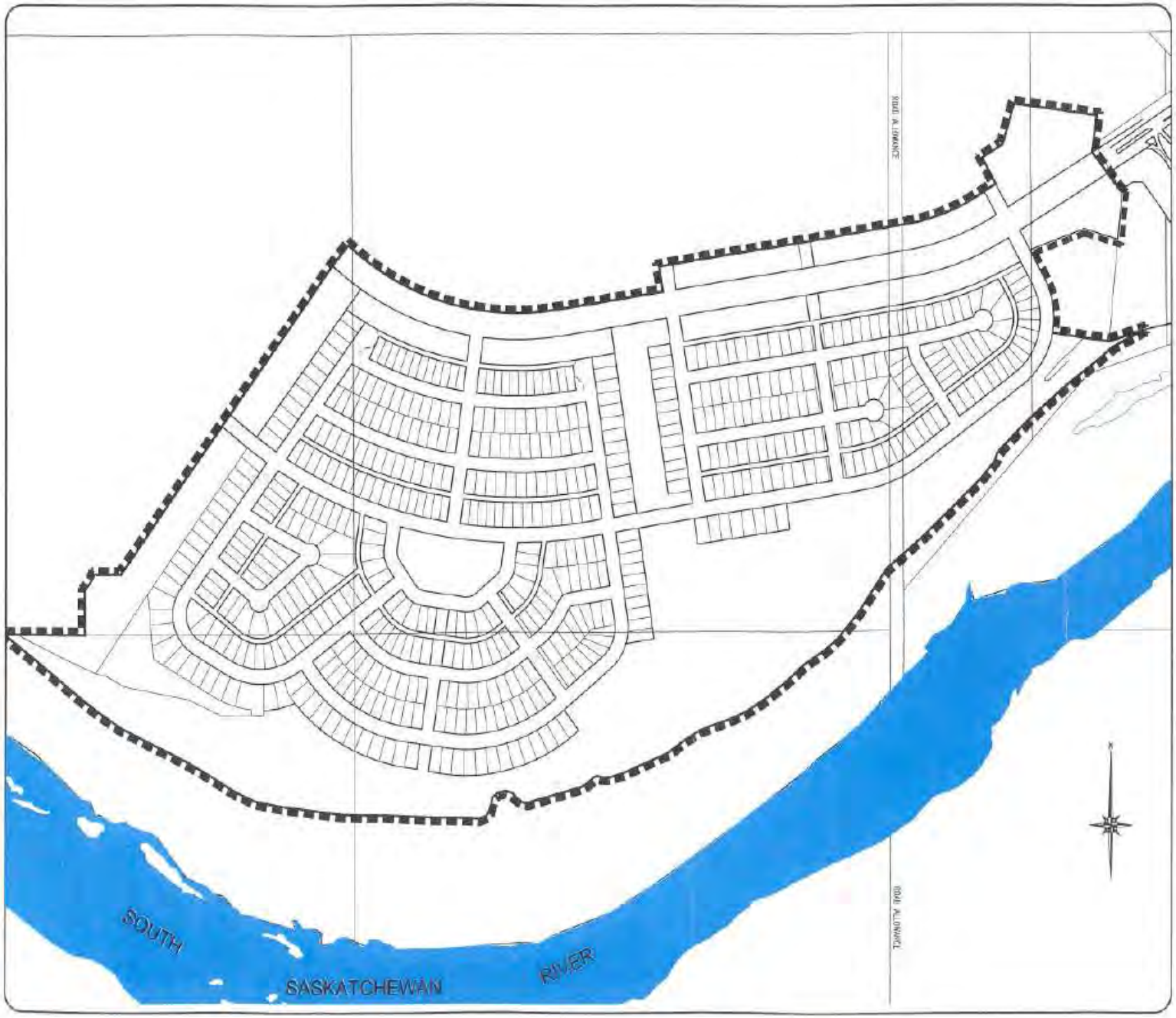
0 100 250 500

Metres

DATE: OCT., 2000
SCALE: 1:10,000
PROJECT: 4196501.0

MAP 11

PHASING STRATEGY



BURNSIDE ESTATES
City of Medicine Hat

AREA STRUCTURE PLAN

LEGEND

Conceptual Scheme Boundary

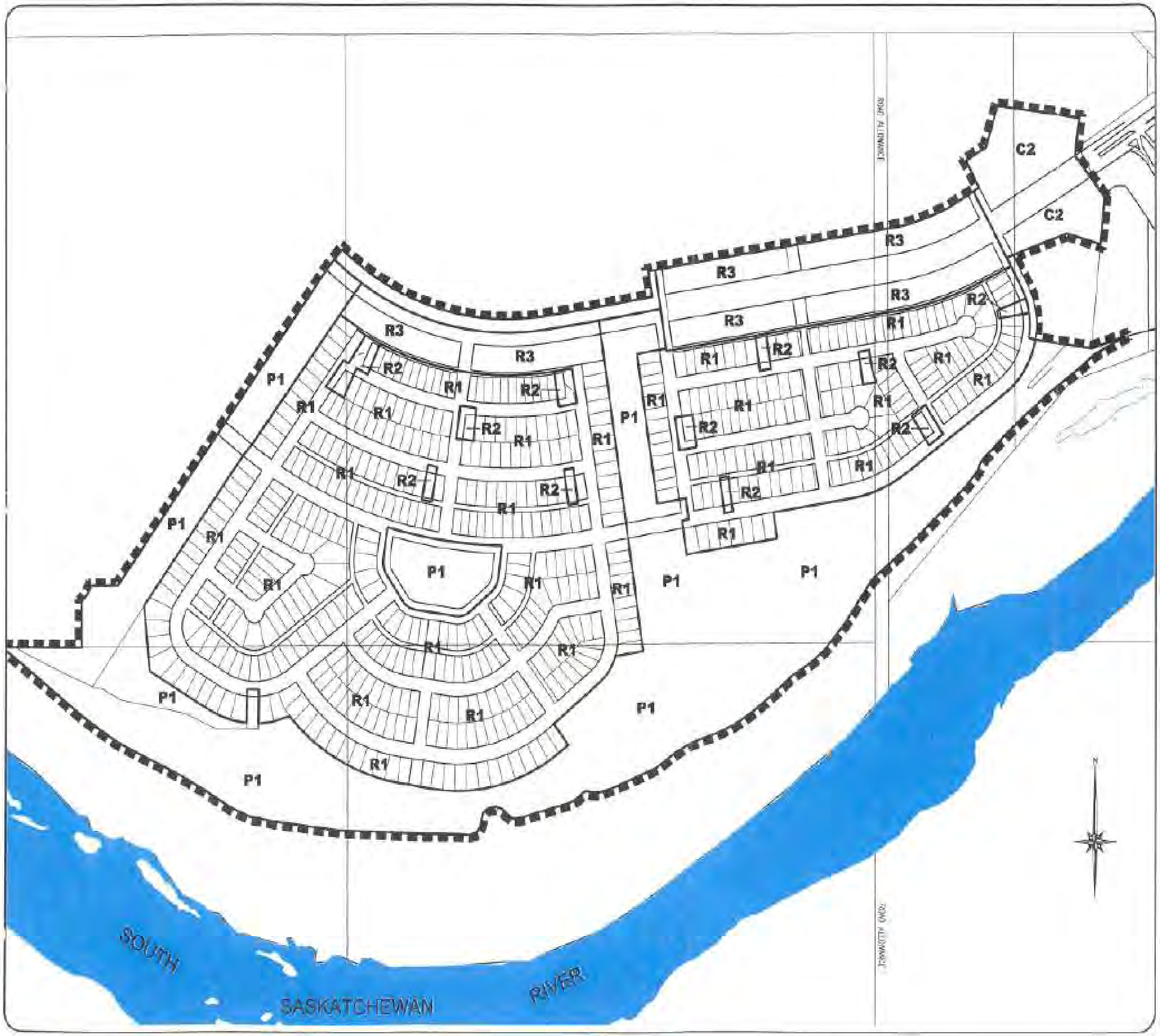
URBANSYSTEMS

0 100 250 500
Metres

DATE: OCT., 2008
SCALE: 1:5000
PROJECT: 4165501.2

MAP 12

CONCEPTUAL SCHEME



BURNSIDE ESTATES
City of Medicine Hat

AREA STRUCTURE PLAN

LEGEND

- Conceptual Scheme Boundary
- R1 Single Family Residential
- R2 Low Density Residential
- R3 Medium Density Residential
- C2 Neighbourhood Commercial
- P1 Park and Recreation

URBANSYSTEMS

0 100 250 500
Metres

MAP 13

CONCEPTUAL SCHEME WITH LANDUSE DISTRICTS

Appendix One

CITY OF MEDICINE HAT

BURNSIDE ESTATES
Area Structure Plan

Subdivision Design Guidelines

CONTENTS

1. Subdivision Design Guidelines

The following guidelines are proposed for the design of subdivisions within Burnside Estates. The focus of those guidelines is on urban form, with particular prescriptions for streets, neighbourhood parks, recreational trails, and the land parcels adjacent to them.

1.1 Streets

Typical cross-sections of each street type are presented at the end of the design guidelines.

1.1.1 General Guidelines

Street layout:

- Streets should be interconnected into a "grid-like" pattern to encourage pedestrian use and reduce traffic congestion within Burnside Estates by offering many alternative circulation routes;
- Street alignments should run parallel to natural topographical contours in order to minimize site impacts;
- Residential streets should be oriented east-west to maximize opportunities for passive solar gains;
- Curved road layouts are preferred to reduce perceived street length and vehicular speed;
- Residential blocks should not be longer than 250 metres.

Access and Parking:

- The use of rear-lanes for parking access is encouraged. This eliminates front driveways, provides opportunities to enhance the image of the neighbourhoods, and allows more on-street parking for visitors;
- On-street parking is encouraged on all streets except on high-volume arterial road sections.

Form and character:

- Local roads should be kept as narrow as possible to reduce the visual impact of the road surface, moderate traffic speeds, reduce construction and maintenance costs, and maximize the use of developable land;
- Trees should be planted within public rights-of-way for increased protection.

1.1.2 Burnside Drive (urban arterial)

Burnside Drive serves as the main arterial road for the neighbourhood and as such will be designed with both function and aesthetics in mind. Its function is to effectively and efficiently move traffic into and out of the neighbourhood while providing pleasant and safe pedestrian and bicycle access. It will be designed as a four-lane divided road with a landscaped boulevard.

Performance objectives:

- Ensure functional vehicular access to Burnside Estates;
- Create a remarkable arrival into the community;
- Provide vehicular access to commercial areas.

Design guidelines:

- 4 travel lanes divided urban arterial;
- 5-metre landscaped median;
- Wide sidewalk (1.8 metres) on both sides;
- Multi-family residential buildings with back-lane vehicular access on both sides. Buildings should be designed to look like large houses (3-6 units per building). Maximum height of three stories;
- Fences should be visually permeable and have a maximum height of 1.2 metres;
- Ornamental streetlights extensions for pedestrian lighting;
- Tight tree spacing (9 metres on centre) with large calliper specimens at time of planting;
- Curb and gutter.

[Burnside Drive (urban arterial – undivided) -Section removed-]

1.1.3 Collector roads

Collector roads are located to quickly channel vehicular traffic away from Burnside Drive and reinforce the distinctions between the various residential neighbourhoods.

Performance objectives:

- Reduce reliance on Burnside Drive as vehicular thoroughfare by providing alternate functional loop throughout the community;
- Accommodate additional residential parking.

Design guidelines:

- 2 travel lanes and 2 parking lanes with tight roadway width to reduce traffic speed;
- Curb and gutter with distinct pavement at greenway and recreational trails crossings;
- Boulevards and sidewalks on both sides of street. Where collector roads are used as part of the recreational network, the width of the public right-of-way should be extended by 2 metres to accommodate a 1.8 metre-wide trail and additional plantation;
- Ornamental streetlights extensions for pedestrian lighting on one side of street;
- Tight tree spacing (9 metres on centre).

1.1.4 Collector roads (with recreational trail)

Part of the collector road system serves dual function as a recreational trail (see section 1.4.3 below). The public right-of-way is increased to accommodate the trail and its landscaping.

Performance objectives:

- Accommodate sections of the recreational trail network.

Design guidelines:

- Public right-of-way widened by 2 metres;
- Sidewalk width increased to 2.5 metres on the trail side;
- Ornamental streetlights extensions for pedestrian lighting on the trail side.

1.1.5 Local residential roads

Local roads are short (most are less than 500 metres long), oriented towards pedestrian safety and have an intimate character.

Performance objectives:

- Create a safe, pedestrian-friendly and intimate environment.

Design guidelines:

- 2 travel lanes and 2 parking lanes;
- Sidewalk on one side only, except in higher-density areas (multi-family or narrow-lot single-family residential) where sidewalks should be provided on both sides.

1.1.6 Local residential roads (with back lanes)

Where back lanes are used for residential vehicular parking, front building setbacks should be reduced to increase the intimate character of the streets. The following guidelines are mandatory for lots facing onto neighbourhood parks.

Performance objectives:

- Increase the intimate character of the residential streets;
- Create better enclosure of neighbourhood parks.

Design guidelines:

- Front building setbacks reduced to 4 metres.
- Traffic calming (curb extension) at major pedestrian crossings leading to park.

1.1.7 Back lanes

The use of back lanes to access rear-lot garages and parking is encouraged throughout Burnside Estates. It is a required feature for multi-family lots along Burnside Drive as well as for the lots fronting onto neighbourhood parks.

Performance objectives:

- Remove front driveways and garages to improve streetscape on key community roads and around public open spaces.

Design guidelines:

- 6 metre right-of-ways.
- 1.5 metre building setback for free-standing garages or protruding structures;
- 3.5 metre setback for parking garages incorporated into multi-family buildings. Use of balconies and other architectural features to screen garages is encouraged;
- Asphalt or crushed gravel surface in single-family context;
- Asphalt surface in multi-family context;
- Lighting to be provided at intersections;
- Tree planting adjacent to lanes where practical;
- Curved lanes preferred over straight ones.

1.2 Residential Development

1.2.1 Single-family residential

Siting of buildings:

- Houses should front onto the streets (including along arterial roads);
- Patios and porches are allowed to encroach past the building setback line to allow variation and modulation of the streetscape and to encourage social interaction;
- Main building façades should be established at a uniform building setback line;
- At corner lots the building set back line and encroachment standard should be the same for the front yard and side yard;
- In order to enhance the use of private rear yards and enable temporary parallel parking in rear lanes, garages and accessory buildings on lots with rear lane access should be placed close to the back property line.

Form and character:

- While maintaining density requirements, lot widths should vary along streetscapes in order to provide some variety.

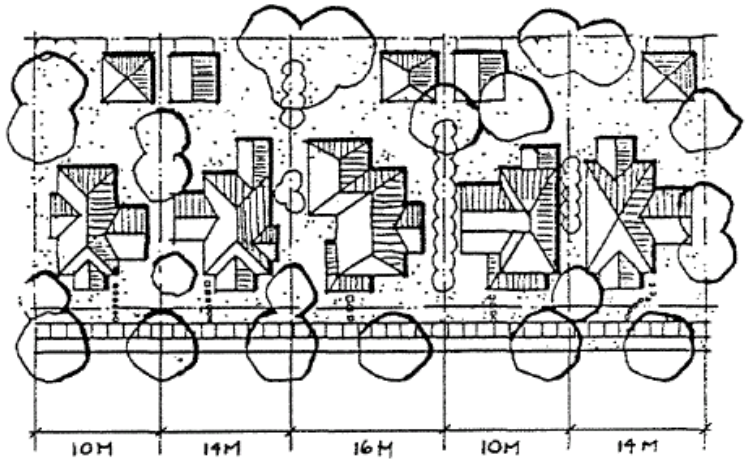


Figure 1. The same street should have varied lot sizes and building configurations.

- Front porches should be encouraged to reduce building mass and provide visual interest and variety.
- Duplex units, where applicable, should be integrated into the overall fabric of the streetscape by retaining the form and character established for single family residences.

Figure 2. Single-family house. Porch, articulated roof line and landscaping create a positive street image. Note attached parking garage set back from main building façade.

Parking:

- Rear-lane private parking is encouraged.

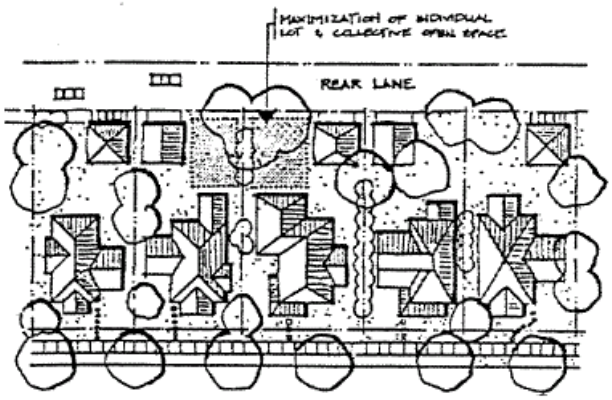


Figure 3. Rear lane parking. Side-to-side garage arrangement that allows for larger tree groupings adjacent to lane.

- Detached, street-accessed parking garages should be:
  a) located in the back or side yards;
  b) set back at least 6 metre from the main building façade.
- Attached, street-accessed parking garages should be:
  a) Set back at least 1 metre from the main building façade, or;
  b) partly recessed into the building and designed to complement building façade (see Figure 10).

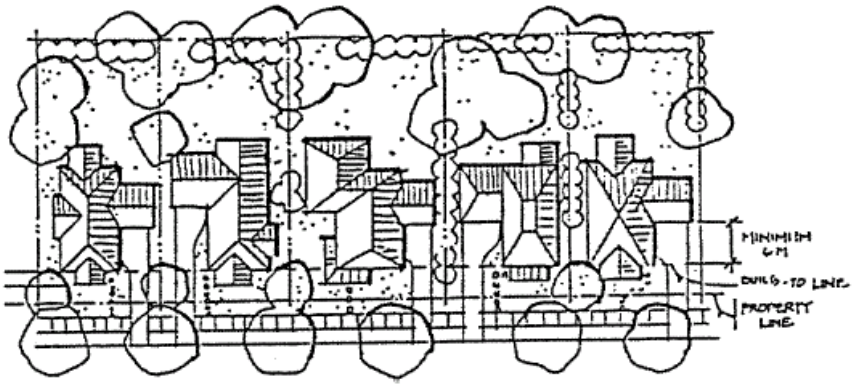


Figure 4. Side yard garages. Note 6m setback from main building facades. The layout of lots is mirrored to allow more space for on-street parking and trees.

- Street-accessed parking garages should not occupy more than 50% of a building frontage.

1.2.2 Narrow-lot single family residential:

Single-family housing fronting on neighbourhood parks shall conform to the following guidelines:

Performance objectives:

- Give neighbourhood parks a significant spatial and visual predominance by strengthening their sense of enclosure;
- Offer alternative housing opportunities within Burnside Estates.

Design guidelines:

- Lots should have a minimum width of 12 metres;
- Parking access shall be through back lanes;
- Parking spaces or garages shall not be visible from the street or the neighbourhood parks;
- Guidelines for siting, form and character of buildings are as per single-family residential.

Figure 5. Narrow-lot single-family streetscape. Lots are 10-12 metres wide. Note narrow side yards and invisible back-lane parking. Façade and roof treatment follows single-family guidelines.

Figure 6. Back lane in narrow-lot subdivision. Lot depth can be increased to accommodate free-standing garages. Note balconies over garage entrances.

1.2.3 Multi-family residential

Multi-family residential is found along both sides of Burnside Drive and at selected locations near the escarpment. It is also an alternative to narrow-lot single-family residential around neighbourhood parks.

Performance objectives:

- Allow for residential buildings that have a size and character compatible with the intended look of Burnside Drive;
- Offer alternative housing opportunities within Burnside Estates;
- Give neighbourhood parks a significant spatial and visual predominance by strengthening their sense of enclosure.

Building types:

Within the multi-family designation, the following locational criteria apply:

- On Burnside Drive: 3 to 6 unit buildings with a maximum height of three stories. Units should be predominantly, but not exclusively, ground-oriented with individual entrances.
- Along the escarpment: ground-oriented townhouses or multi-unit buildings with a maximum height of two stories.

- Around neighbourhood parks: two-story ground-oriented townhouses.

Siting of Buildings

- Siting of buildings should respect specific site characteristics such as existing topography, natural features etc. Where significant grades exist, split-level or staggered building configuration should be considered.
- Buildings should be sited in a manner that defines courtyards screened from parking and street traffic. On larger development parcels, buildings should also be clustered to enable retention of significant portions of open space.
- Siting of buildings should be sympathetic to adjacent developments to ensure an appropriate fit.

Form and Character

- Pedestrian entrances should be prominent, interesting and inviting.
- Architectural details, colour, texture, articulated roofs and modulated façades should be used to reduce bulk and mass.
- Screen mechanical equipment.
- Avoid large blank walls.
- Rows of buildings should be articulated and broken up with pocket parks and pedestrian alleys.

Figure 7. Example of three-story multi-family buildings on arterial. Note the detailing of roofline and façade, the individual entrances to units, and the low fence complemented with landscaping.

Figure 8. Back lane of multi-family buildings. Note balconies used to screen garage doors and curved lane to increase visual interest and reduce traffic speed.

Figure 9. Example of two-story ground-oriented townhouses fronting on neighbourhood park. Note how recesses and entrance treatment break the width of the façade.

Parking

- Vehicular access to parking should be provided from back lanes.
- Where front street vehicular access is required (i.e. near the escarpment) parking garages should be:

  a) Set back at least 1 metre from the main building façade, or;

b) partly recessed into the building and designed to complement building façade.

Figure 10. Multi-family garages. Note roof articulation and use of covered porch to integrate garages to the house. Garages are also recessed halfway into the building.

1.3 Commercial Development

Commercial areas should be designed to complement the residential character of Burnside Drive and serve as gateways or landmarks within the community.

Form and character

- Architectural features and details should articulate structure forms and modulate façades;
- Recesses, overhangs, canopies and sunscreens should be used to articulate building façades. Monolithic building expression that results in box-like structures with little articulation of exterior wall surfaces shall be discouraged;
- Individual tenancies shall be defined clearly with articulated entrances and consistent sign treatment;
- The façades of multi-tenant buildings shall be organized to provide a strong and consistent rhythm to the streetscape. Flat, undifferentiated building faces shall be avoided;

- No wall that faces a street or an open area on the same lot (such as a parking lot) shall have a blank, uninterrupted length exceeding 9 metres without including at least two of the following:

  a) change in plane;

  b) change in texture or masonry pattern;

  c) windows;

  d) a landscape device such as a trellis, or;

  e) an equivalent element that subdivides the wall in human scale proportions.

Figure 11. Neighbourhood commercial mall. Note internalized parking, street-facing corner store with eating terrace, and gateway to parking. Buildings are designed in a style compatible to adjacent residential areas.

Parking:

- All parking areas shall be paved, drained and appropriately screened from streets. Parking should generally be internalized, or provided at the back and side of development;
- Large parking lots should be divided into smaller parking areas through the use of landscaping. Parking areas should not exceed 20 parking stalls before land use buffers and planted medians are provided;
- Parking medians should be planted with trees for shade/wind protection. Medians should be a minimum of 3 metres wide to support shade tree rooting area;
- Snow storage spaces should be incorporated into parking lots by planning snow dump areas.

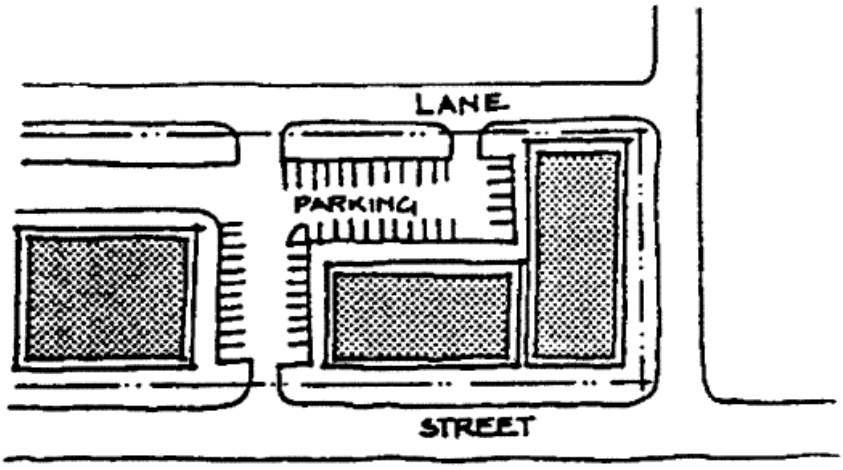


Figure 12. Commercial surface parking should be internalized, at the back or side of buildings.

1.4 Parks and Trails

1.4.1 Neighbourhood Park

Within Burnside Estates, neighbourhood parks are located first – prior to the layout of roads and residential lots. They are "special places", that serve as focal points for the community and enhance the natural features of the site.

Performance objectives:

- Encourage social interaction;
- Maximize public investment in greenery by making it accessible to most people, on a daily basis;
- Enhance special topographical features (i.e. promontories, swales, edges, ridges, or centre of gullies and bowls) or views.

Design guidelines:

- Neighbourhood parks should have an area of at least 0.5 hectares.
- They should be centrally located within residential neighbourhoods (as defined by collector roads).
- To increase safety, traffic-calming measures (such as curb extension) should be implemented at major pedestrian street crossings of perimeter streets.

- All buildings front onto the parks.
- Perimeter residential types are narrow-lot single-family or ground-oriented townhouses.
- Private parking is accessed through rear lanes and not visible from the street.
- On-street visitor parking is provided around the park, on the residential side of the street.
- Pedestrian connectors are provided between neighbourhood parks or between parks and major pedestrian trails and sidewalks (i.e. along collector roads). Connectors should have wider sidewalks (1.8 metres minimum width) and larger trees than adjacent streets.

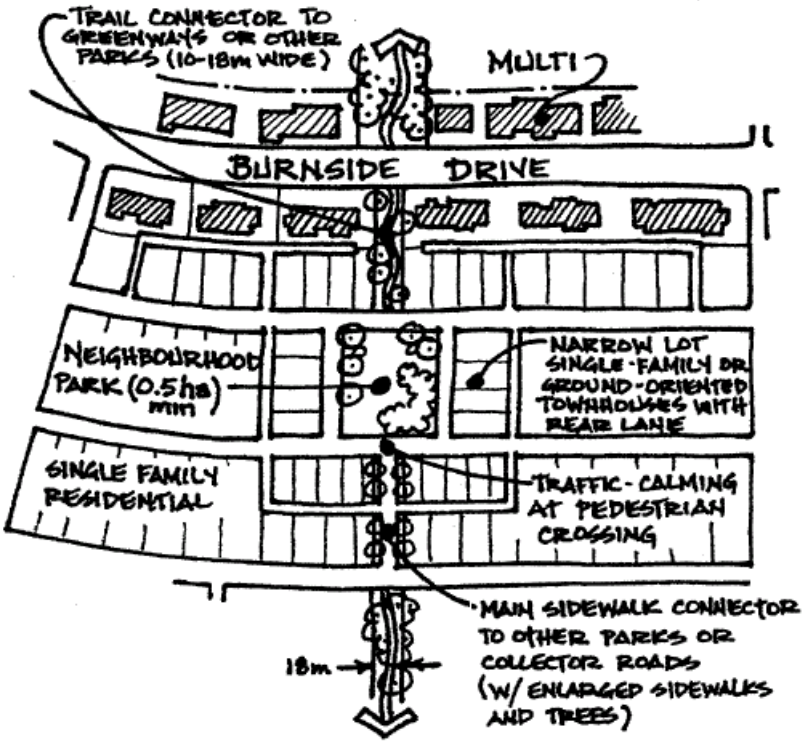


Figure 13. Typical layout of neighbourhood park area

1.4.2 Greenway Corridors

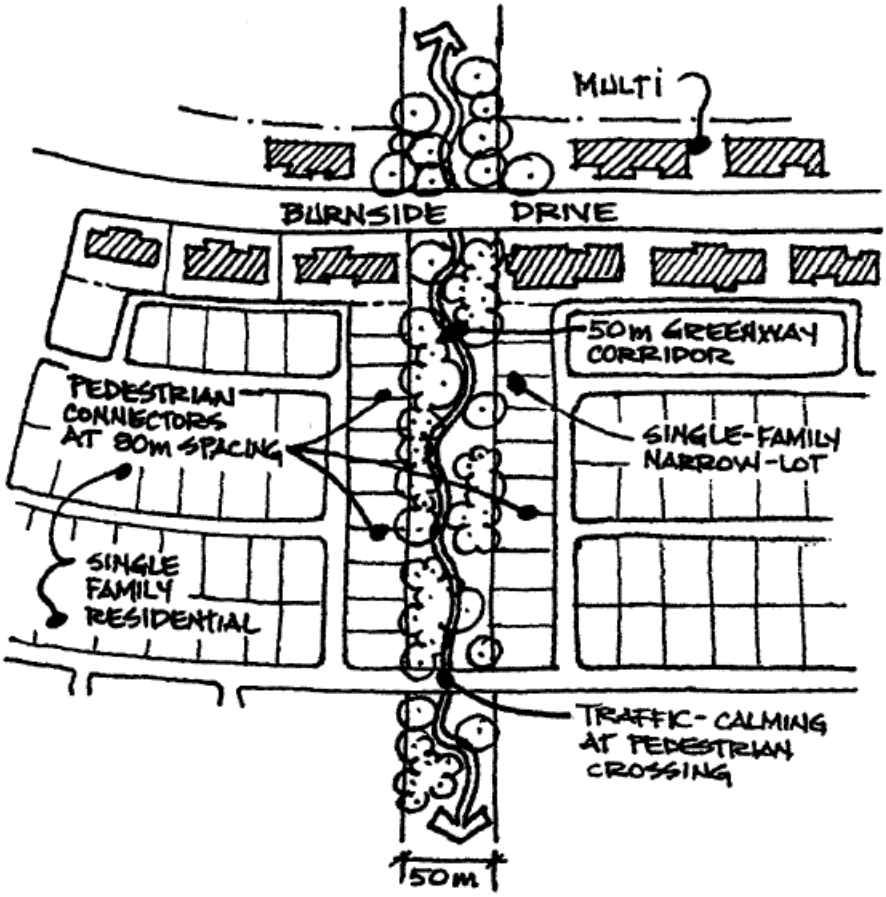
Greenway corridors link the schools and parks in the community core to the South Saskatchewan environmental reserve. The easternmost greenway will eventually be part of the Trans-Canada Trail and give recreational access to the River Park.

Performance objectives:

- Create substantial recreational linkages across Burnside Estates;
- Increase the number of residential lots with views of greenery.

Design guidelines:

- The width of the corridor is 50 metres.
- The width of the multi-use trail within the corridor is 4.5 metres.
- Traffic calming / pedestrian-activated signals at crossings of Burnside Drive and collector roads;
- Various residential types can be accommodated along the corridor, including narrow-lot single family and ground-oriented townhouses.
- Pedestrian connectors are provided at every 80 metres of residential frontage. Connector width is 6 metres minimum. Where practical, those connectors should align with sidewalks of abutting streets.
- Fences are 1.2 metres high black vinyl chain link. Fencing should be complemented by adequate planting.



1.4.3 Recreational Trails

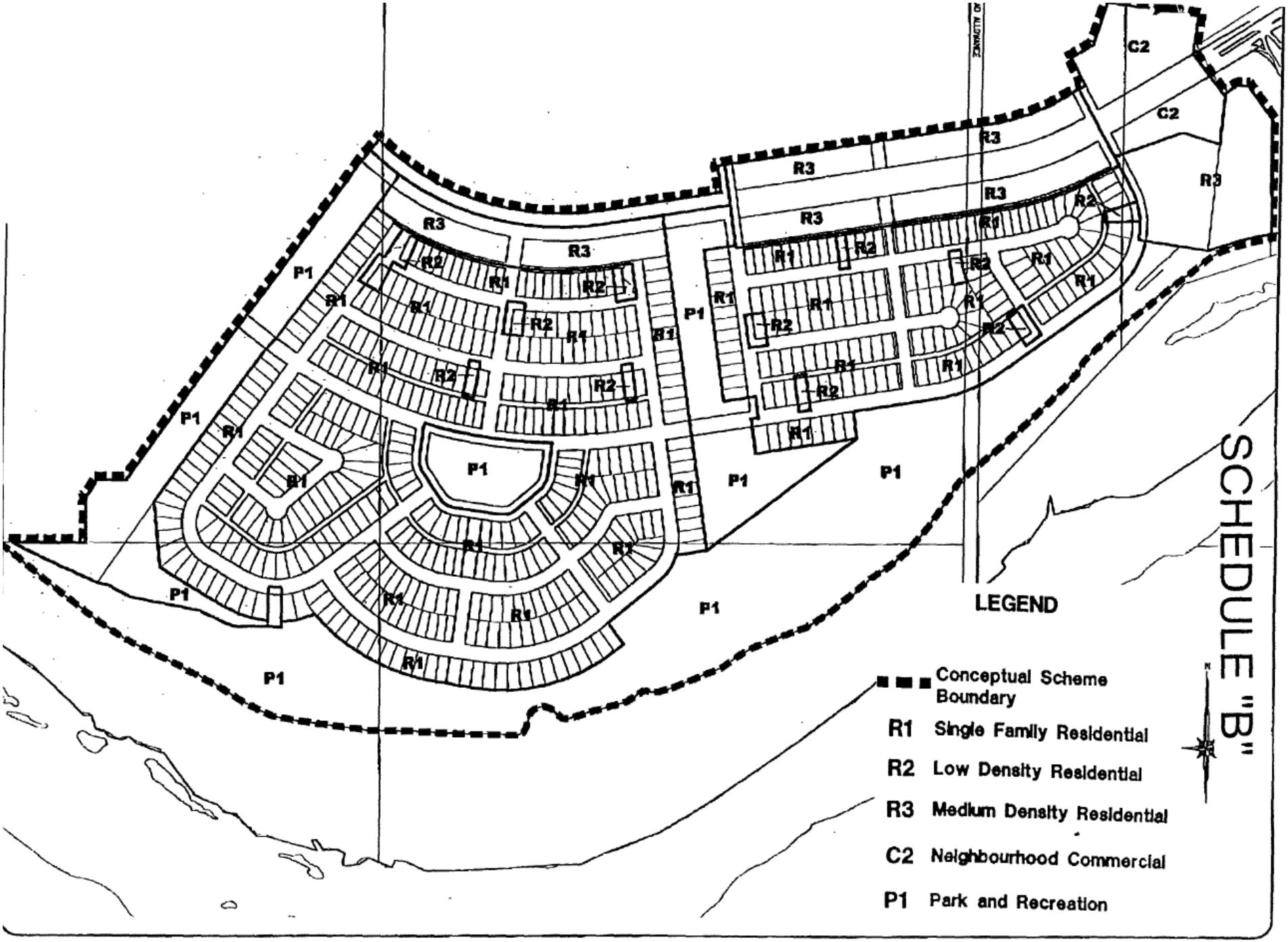
Recreational trails are provided throughout Burnside Estates. The four key trail sections include the riverfront, the greenway corridors, the ridge of the escarpment and the main collector road loop. Trails will be developed in accordance with Municipal standards and the following guidelines.

Performance objectives:

- Create a safe and stimulating trail systems throughout Burnside Estates;
- Connect the trail systems to adjacent municipal neighbourhoods;
- Establish the local section of the Trans-Canada Trail.

Design guidelines:

- The width of the multi-use (pedestrian/bike) sections of the trail is 4.5 metres.
- Where collector roads are used as part of the recreational network, the width of the public right-of-way should be extended by 2 metres to accommodate a 1.8 metre-wide trail and additional planting.
- The relocated gas pipeline right-of-way is used to accommodate most of the collector road loop trail.


SCHEDULE "B"
LEGEND
Conceptual Scheme Boundary
R1 Single Family Residential
R2 Low Density Residential
R3 Medium Density Residential
C2 Neighbourhood Commercial
P1 Park and Recreation