

Rhatigan Ridge Neighbourhood Structure Plan

Office Consolidation February 2006

Prepared by:

*Planning and Policy Services Branch
Planning and Development Department
City of Edmonton*

Bylaw 5833 was adopted by Council in November 1979. In February 2006, this document was consolidated by virtue of the incorporation of the following bylaws:

- Bylaw 5833* Approved November 13, 1979 (to adopt the Rhatigan Ridge Neighbourhood Structure Plan)
Bylaw 7267 Approved June 14, 1983 (to replace the neighbourhood structure plan map)
Bylaw 8256 Approved August 13, 1986 (to reduce the residential density and change the housing mix; relocate the commercial site; reconfigure the school/park site; reconfigure the road network; and adjust the neighbourhood boundaries)
Bylaw 8346 Approved September 24, 1986 (to replace the neighbourhood structure plan map)
Bylaw 9207 Approved July 18, 1989 (to incorporate semi-detached residential sites in the southeastern portion of the plan and realign the collector road network)
Bylaw 9476 Approved May 29, 1990 (to amend the residential land uses and road configuration in the southeastern portion of the plan)

Editor's Note:

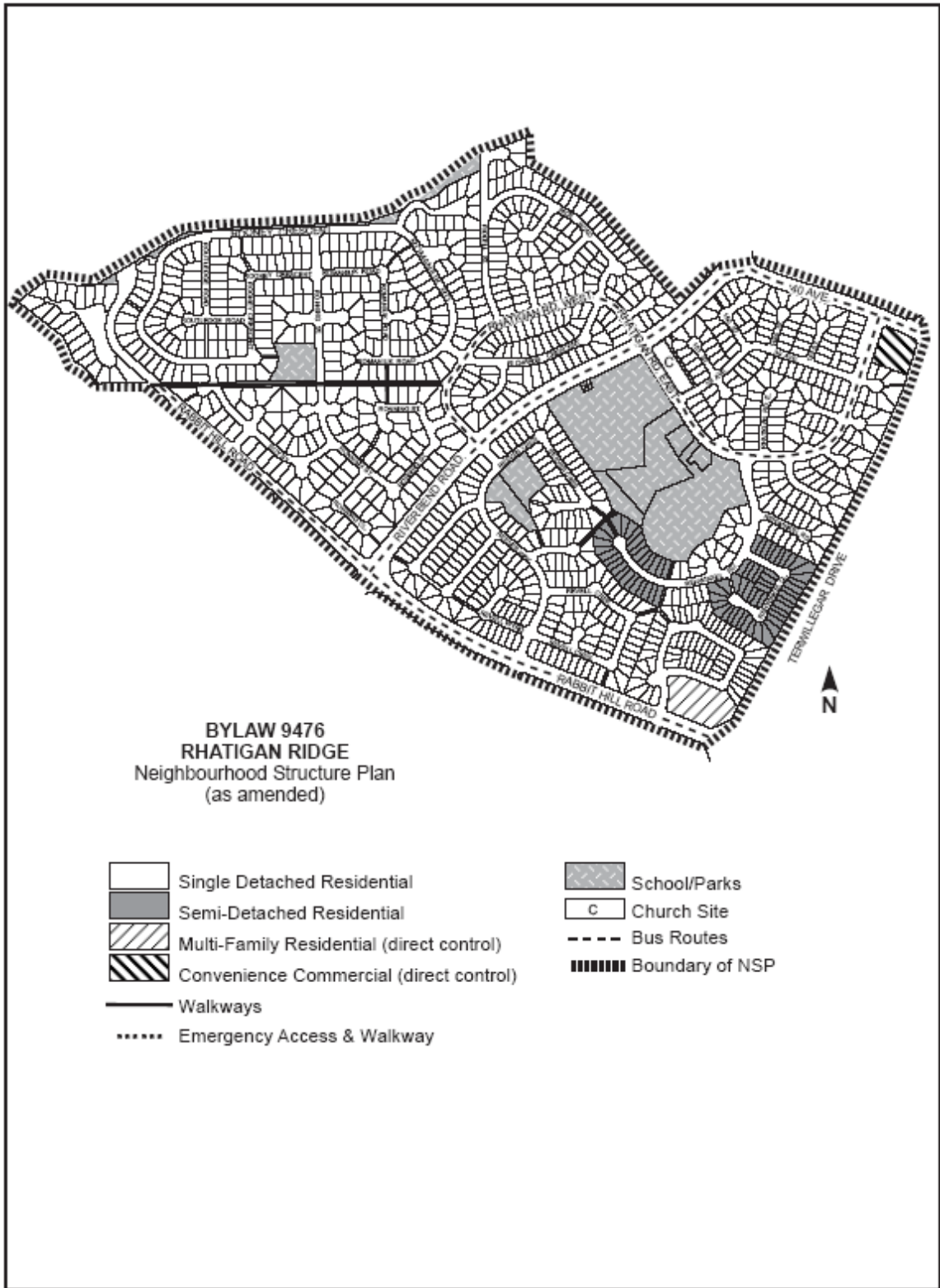
This is an office consolidation edition of the Rhatigan Ridge Neighbourhood Structure Plan, Bylaw 5833, as approved by City Council on November 13, 1979. This Plan is an amendment to the Riverbend Area Structure Plan, Bylaw 5710 as approved by City Council on September 12, 1979. This edition contains all amendments and additions to Bylaw 5833.

For the sake of clarity, new maps and a standardized format were utilized in this Plan. All names of City departments have been standardized to reflect their present titles. Private owners' names have been removed in accordance with the Freedom of Information and Protection of Privacy Act. Furthermore, all reasonable attempts were made to accurately reflect the original Bylaws. All text changes are noted in the right margin and are italicized where applicable.

This office consolidation is intended for convenience only. In case of uncertainty, the reader is advised to consult the original Bylaws, available at the office of the City Clerk.

City of Edmonton

Planning and Development Department



RHATIGAN RIDGE NEIGHBOURHOOD STRUCTURE PLAN

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section 1

background

1.1 MANDATE

This Neighbourhood Plan has been prepared pursuant to the policies and provisions of the 1977 Alberta Planning Act and the Riverbend Area Structure Plan.

1.2 PURPOSE

This Plan defines the land use concept, standards and guidelines for the subdivision and development of the lands within Neighbourhood 5 in an effort to ensure the efficient provision of land uses, services and facilities within the neighbourhood and in relation to the overall district.

1.3 SCOPE

The Plan has been prepared to the level of detail required by the Terms of Reference for Neighbourhood Structure Plans.

1.4 ORGANIZATION OF REPORT

This report is divided into seven sections as follows:

Section 1 - Background

Section 2. - Site Context

Section 3 - Policy Context

Section 4 - Site Characteristics

Section 5 - Existing Services

Section 6 - Development Concept

Section 7 - Neighbourhood Structure Plan

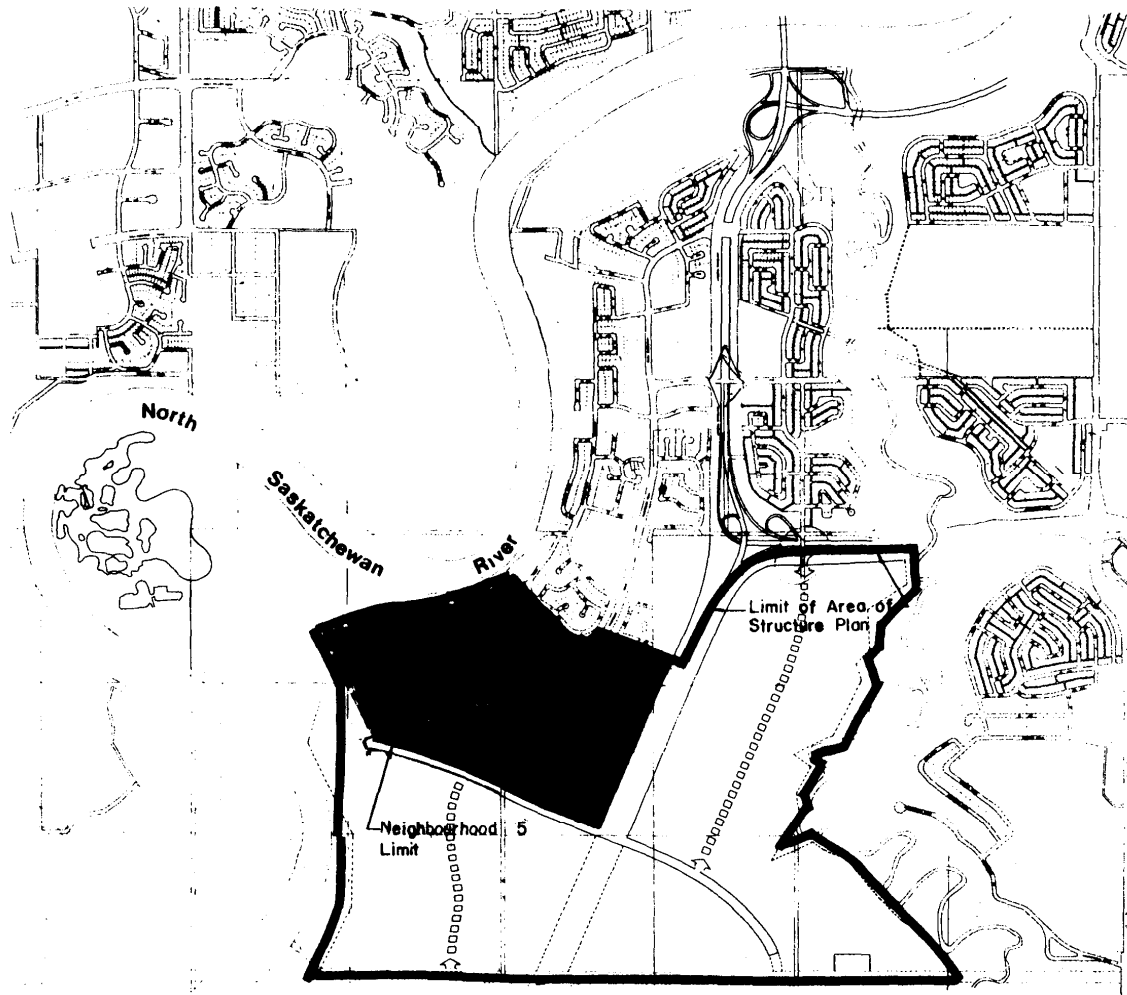
The first three sections provide support information to establish the geographic and policy context for the neighbourhood and the plan. The next two sections describe the existing situation with respect to natural environmental and servicing characteristics. The last two sections document the rationale behind the formulation of the development concept and the particulars of the resultant Neighbourhood Structure Plan.

section

2

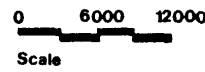
site context

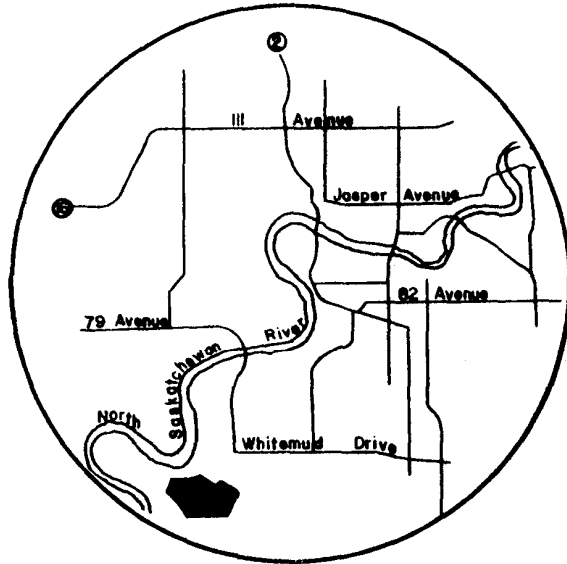
Exhibit 1: Site Context (Bylaw 5388, November 13, 1979)



Site Context

Exhibit 1





City Context

2.1 LOCATION

Neighbourhood 5 (*Rhatigan Ridge*) is located approximately five miles (*8 kilometres*) from downtown Edmonton in the northwest of the Riverbend Structure Plan Area (Exhibit 1). It is bounded on the north by the Ramsay Heights Neighbourhood and the top of bank of the North Saskatchewan River; on the south by the planned major collector road which will provide access to the Riverbend Park; on the east by the alignment of the right-of-way of the proposed Southwest Bypass; and on the west by the top of bank of the escarpment of the Riverbend Park.

Amended by Editor

2.2 SIZE

The total area within the boundaries of the neighbourhood is approximately *131.9 hectares* (*325.8 ac.*).

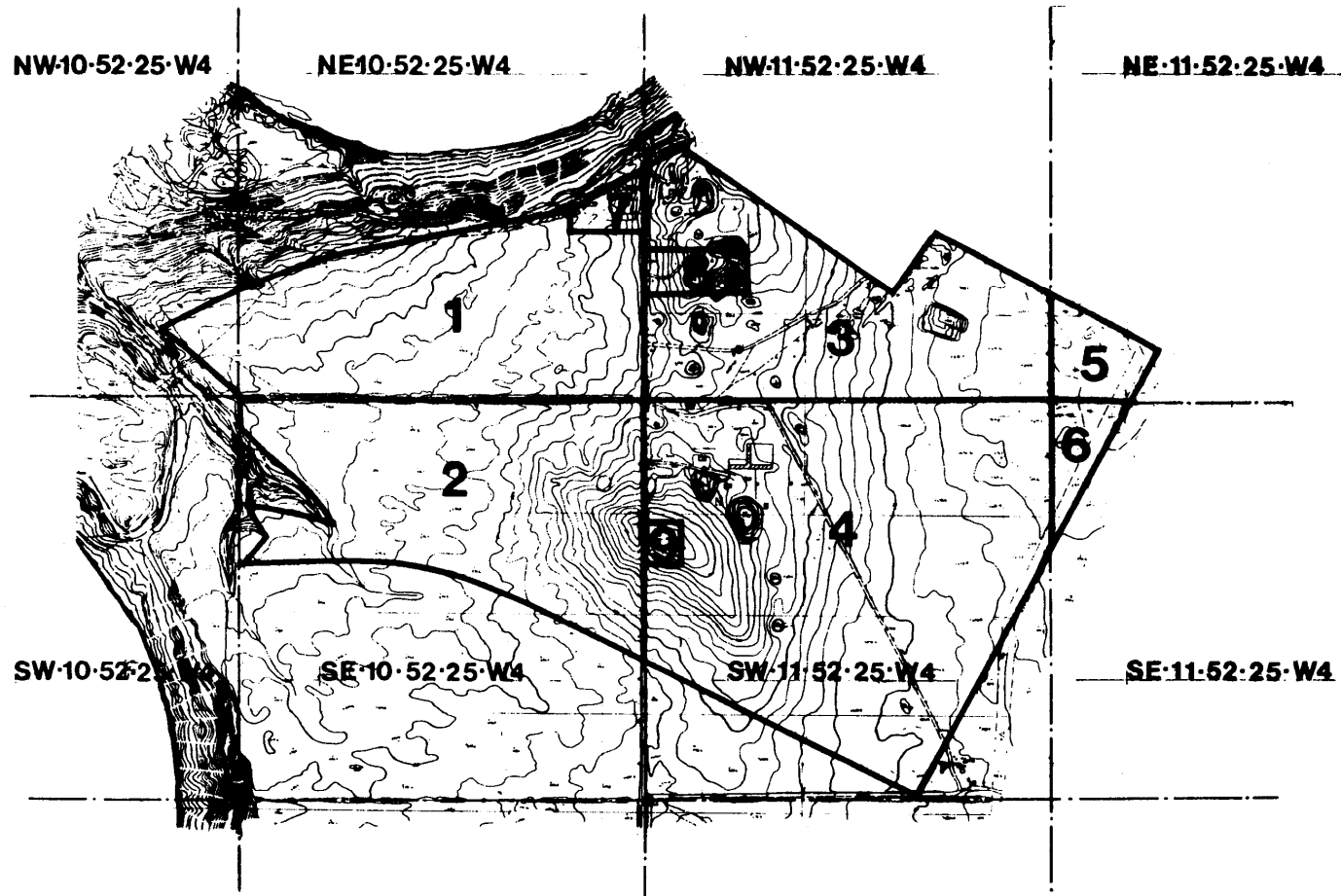
Bylaw 8256
August 13, 1986

2.3 LEGAL DESCRIPTION

The lands encompass portions of the following quarter sections of Plan 5414NY:

- NW 10-52-25-W4
- NE 10-52-25-W4
- SE 10-52-25-W4
- NW 11-52-25-W4
- SW 11-52-25-W4
- NE11-52-25-W4
- SE11-52-25-W4

Exhibit 2: Land Ownership (Bylaw 5388, November 13, 1979)



Land Ownership

Exhibit 2



2.4 LAND OWNERSHIP

The three major land owners in Neighbourhood 5 are The City of Edmonton, Genstar Limited and Carma Developers Limited. Columbus Investments Corporation and Desa Stores Limited have interests in three quarter sections while three other minor land owners have holdings which front on the 156 Street road allowance. Land ownerships are delineated in Exhibit 2 and are identified below.

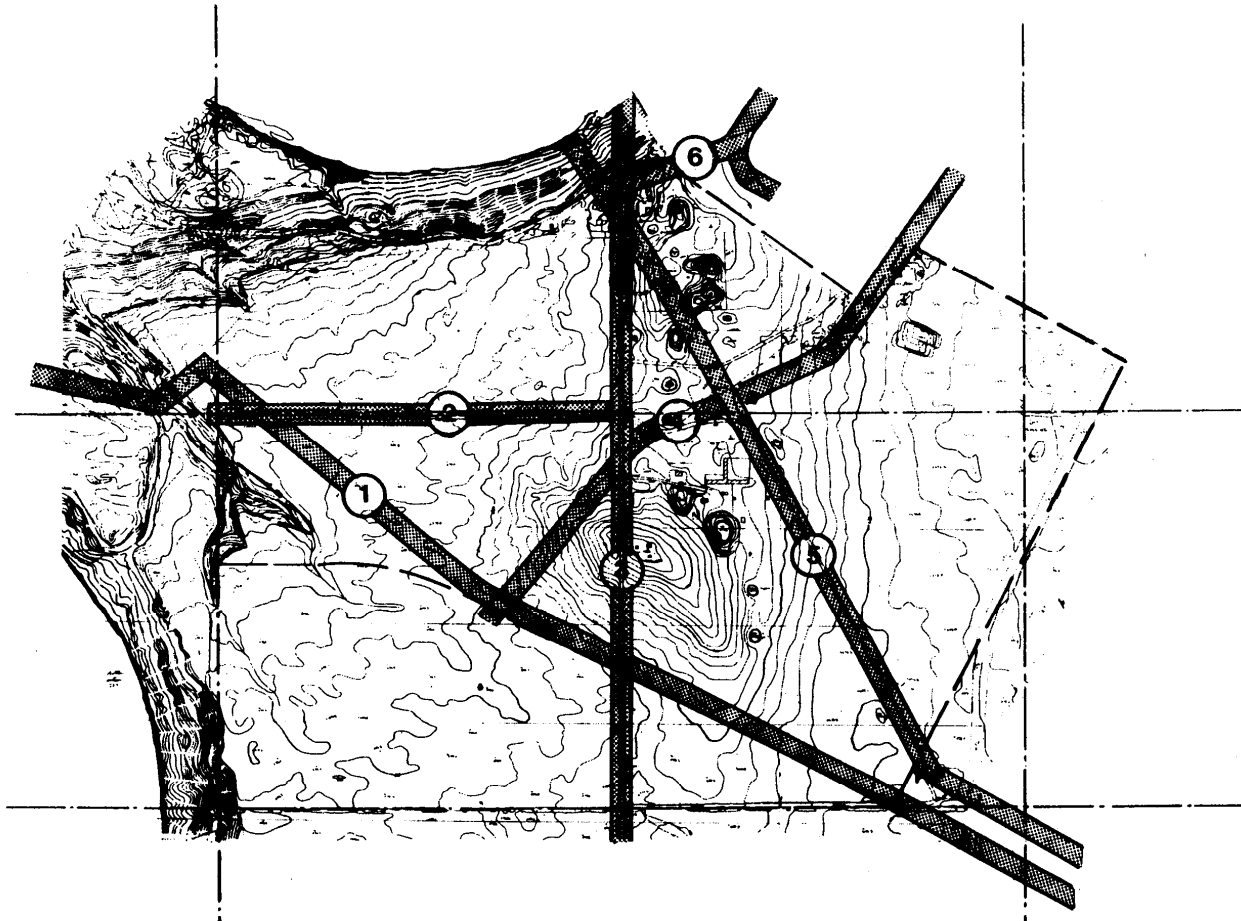
Map Reference

1. *Private Corporate Owner*
2. *Private Corporate Owner(50%) Private Corporate Owner (.25%) Private Corporate Owner (25%)*
3. *Private Corporate Owner*
4. *City of Edmonton*
5. *Private Corporate Owner (50%) Private Corporate Owner (25%) Private Corporate Owner (25%)*
6. *Private Corporate Owner (50%) Private Corporate Owner (25%) Private Corporate Owner (25%)*
7. *Private Non-Corporate Owner*
8. *Private Corporate Owner*
9. *Private Non-Corporate Owner*

2.5 EXISTING LAND USES

Presently the area is used as agricultural land with a half dozen residences located throughout the site. There has been one archaeological site identified as being highly significant within the study area. This is shown in Exhibit 5 and discussed in further detail in Section 4.

Exhibit 3: Easements and R.O.W.'s (Bylaw 5388, November 13, 1979)



Easements and R.O.W.'S

Exhibit 3

0 6000 12000
Scale



2.6 EASEMENTS AND RIGHTS-OF-WAY

The location of the easements and right-of-way in the neighbourhood are shown in Exhibit 3 and are identified below.

Map Reference Details

1. Plan 752-0326 - Waterline
2. Plan 6883 ET - Road Alignment (abandoned)
3. Road Allowance - 156 Street
4. Plan 782-1623 - Road Alignment
5. Plan 752-0455 - Storm Water Tunnel
6. Plan 6708 KS - Road Alignment

section

3

policy context

3.1 DEVELOPMENT OBJECTIVES

The Riverbend Area Structure Plan, which is the intermediate link between the Edmonton Municipal General Plan and the Neighbourhood Structure Plan, provides the overall policy framework for the development of Neighbourhood 5. The Plan calls for the Riverbend area to be developed as a self-sustaining environmentally oriented residential community in accordance with the following development objectives:

- Due to the relative isolation of the plan area, the primary objective is to develop a community that is reasonably self-sufficient in terms of utilities, services and amenities that would define its sense of community.
- To conserve and optimize the use of the natural environment through sensitive integration of the development with natural features.
- To preserve all significant viewpoints and vistas of the City centre skyline and other significant views provided from the area.
- To provide soft and hard services to the standards of the City.
- To provide planning flexibility and stimulate innovation in planning and design of residential areas.
- To provide for a variety of urban and suburban lifestyles by actively promoting a range of densities and diversity of dwelling types.
- To provide for the possible integration of the Terwillegar Heights Area should this area be annexed to the City.

3.2 DEVELOPMENT POLICIES

The Area Structure Plan delineates the following policies and guidelines which are specific to the development of Neighbourhood 5:

- **Density Range:** A density range of 40/50 persons per gross hectare (16/22 people per gross acre) or 12.5/25 units per gross hectare (5/10 units per gross acre) is permitted.
- **Residential Neighbourhood:** Neighbourhood 5 is designated for low-medium density development with areas oriented towards the *southwest bypass (Terwillegar Drive)* to be considered for higher ranges of residential densities.
- **Commercial Uses:** The neighbourhood may be provided with a neighbourhood commercial site located centrally and with good access to an adjacent neighbourhood.
- **Social Services:** A school/park site with a public elementary school, a separate junior high school, and a district park shall be located in the neighbourhood. In addition, a church site shall be provided in the neighbourhood.
- **Parks and Open Space System:** In addition to the neighbourhood park which shall be located within the joint school/park site, smaller scale park spaces (pocket parks, tot lots, etc.) are to be designated in relation to housing densities in accordance with the standards of the Parks and Recreation Master Plan, 1978. A pedestrian walkway/bikeway system will connect the parks and open spaces with the major community facilities. Environmental reserves shall be provided for ravine areas in accordance with the Planning Act and City Bylaw 4504.
- **Circulation:** Vehicular circulation is based on a hierarchical system of roads which includes the southwest bypass, the east/west arterial which forms the southern boundary of the neighbourhood, and the north/south major collector - Riverbend Road. Pedestrian circulation is to be provided by a system of walkway/bikeways which links the major school/park site, transportation facilities, and top of bank areas. Public transportation is to be provided by bus routes which will service neighbourhoods and provide neighbourhood identities.

Amended by Editor

- **Utilities:** Utilities and services including power, water, sanitary, storm drainage and telephone systems will be provided in accordance with City standards.
- **Environmental Considerations:** Geotechnical soils stability studies are to be carried out, significant vegetation is to be preserved wherever possible, and setback requirements from the top of bank should be adhered to for all ravine areas. The overriding urban design principle applied in the Riverbend Area shall be the enhancement of the natural features through appropriate development thereby creating a living environment in a natural setting.

3.3 DEVELOPMENT DENSITIES

The location of specific density zones in the Plan have been defined taking into account the Guidelines For The Distribution And Design Of Neighbourhood Density. Population densities for various zoning categories are in accordance with existing and Municipal Planning Commission Standards while the overall density range for the neighbourhood is in conformity with the Riverbend Area Structure Plan.

3.4 DEVELOPMENT STANDARDS

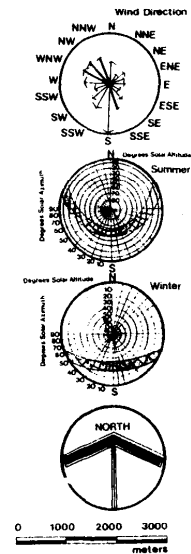
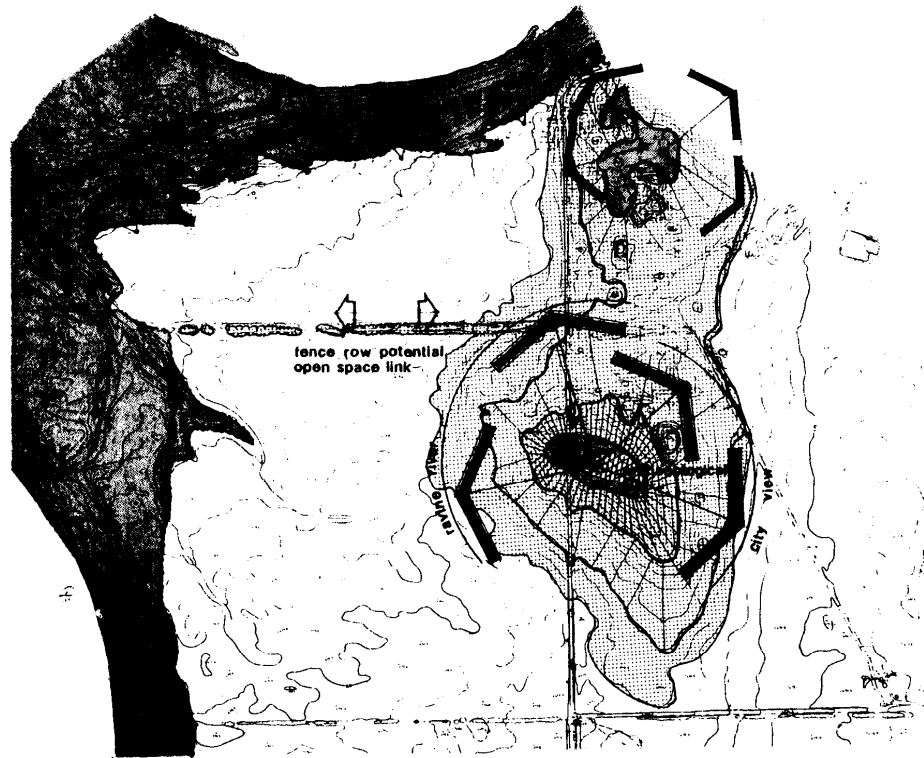
Standards relating to the dedication of land for social services, parks and open space, and circulation have been based on approved land dedication procedures for new residential areas. More specifically, road right-of-way widths are in accordance with the recommendations of the Task Force on Housing Costs while proposed alignments of roads for public transit routes conform with departmental policies relating to service areas and public vehicular egress on to streets. Provision of lands for parks and open space, school sites and pedestrian circulation is in accordance with the departmental policies and standards outlined in the Parks and Recreation Master Plan.

section

4

**site
characteristics**

Exhibit 4: Site Features (Bylaw 5388, November 13, 1979)



**Site Features
Exhibit 4**

4.1 SITE FEATURES

The site has a number of unique qualities which have very much influenced the formulation of the development concept. These features are identified in Exhibit 4.

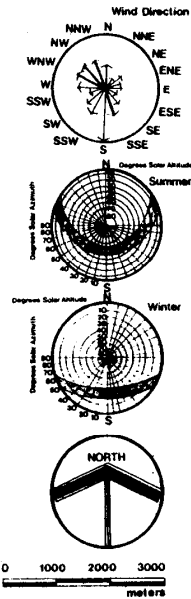
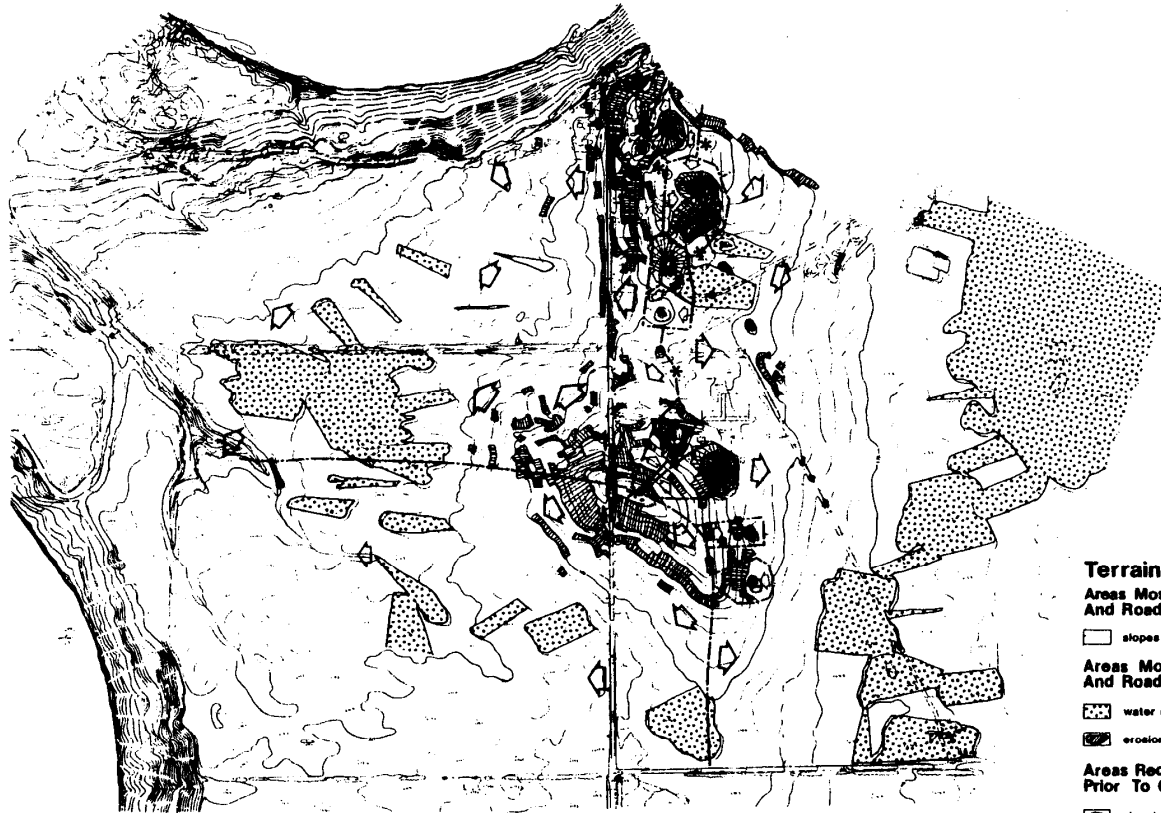
The dominant land feature is the high knoll in the south centre of the site, the top of which offers dramatic views in all directions. The hill sides offer potential for all types of housing particularly those adopted to slopes.

A ridge running north from the high knoll also provides views of the city skyline and river. Together, the two high landforms divide the site into two distinct areas. west oriented towards the river and ravine and east facing the City and adjacent neighbourhoods.

The river valley escarpment which forms the western edge of the neighbourhood provides limited but exciting views through the trees. A hedgerow which runs along the abandoned road allowance in the western section forms a natural buffer and offers potential for pedestrian community walkways from the centre of the site to the regional park.

An area on the hilltop has been identified as having the potential for yielding information of archaeological value. As a consequence, it has been designated as a Potential Historic Preservation Area in the Area Structure Plan and will be the subject of further detailed study in conformity with the Alberta Historic Resources Act (1978).

Exhibit 5: Terrain Analysis (Bylaw 5388, November 13, 1979)



Terrain Analysis

Areas Most Suitable For Building And Road Construction

□ slopes of 1 to 10 percent

Areas Mod. Suitable For Building And Road Construction

▨ water recharge areas slope < 1 percent

▩ erosion susceptible slopes > 11 percent

Areas Requiring Site Modification Prior To Construction

▤ sloughs and wet areas

▬ watershed boundary

⊛ high point

▢ drainage arrow

Exhibit 5

4.2 TERRAIN ANALYSIS

As is indicated in Exhibit 5, there is an overall drainage pattern which runs east and west from the central high ground. The western area drains over evenly sloped land towards the ravine and the riverbank. The eastern portion drains into a low flat area in the northeast corner of the site. In addition, the site contains a series of local or micro watersheds draining into high ground sloughs. These sloughs are of slight significance, for while they form an interruption in the overall landscape, they contain little valuable plant material and are generally unusable for urban development.

4.3 GEOLOGY AND SOILS

The area is underlaid by Upper Cretaceous bedrock of slightly saline lacustrine material including sandstones, sandy shales, clays and coal seams. The soils have been identified as Malmo silty clay loam which is a fairly well to well drained Eluviated Black soil. Topsoil cover varies from six inches up to one foot.

The soil has been generally rated as having high water storage capability, medium topsoil permeability, and low subsoil permeability and therefore is generally suitable for construction.

Habitat Unit No.	Predominant Cover Vegetation	Average Tree Height (Metres)				Stand Density (Metres Apart)				Stand Condition		Drainage Conditions	Landform Characteristics		Wildlife Capability	Overall Value of Proposed Development
		2 to	6 to	10 to	15+	0 to	1 to	2 to	3+	mature trees	Immature trees		Slope	Slope Orientation		
		6	10	15		5	2	3		+DBH	-DBH					
1	ASPEN POPLAR	A-B				A				•		UNDEFINED	GENTLE-MODERATE	W	MODERATE	HIGH – HEALTHY, UNDERBRUSH AND SELECTIVE THINNING NECESSARY
2	ASPEN POPLAR	A				A				•○		UNDEFINED	GENTLE-MODERATE	W	MODERATE	MODERATE – MATURE, REQUIRES EXTENSIVE MAINTENANCE AND REGENERATION
3	ASPEN POPLAR	A				A					•	POORLY DEFINED DRAINAGE CHANNEL	STEEP	W	POOR	POOR – SCRUB, IMMATRE
4	ASPEN POPLAR	A				A				•○		WELL DEFINED	STEEP	NW	POOR	POOR- - PAST MATURITY
5	ASPEN POPLAR	A				A				•		WELL DEFINED	STEEP	NW	POOR	MODERATE – SLOPE RETENTION
6	ASPEN POPLAR	A				A				•○		WELL DEFINED	STEEP	E	MODERATE	POOR – PAST MATURITY
7	ASPEN POPLAR	B A	A			A				•○	•○	DEPRESSED AREA PARTIALLY ENCLOSED	STEEP	W,S,E	GOOD	POOR - SUSCEPTIBLE TO GRADE CHANGES
8	ASPEN POPLAR	B A	A			B A	A			•○	•○	DEPRESSED AREA PARTIALLY ENCLOSED	STEEP	E,N,W	GOOD	POOR – SUSCEPTIBLE TO GRADE CHANGES
9	ASPEN POPLAR	A				B A	A				•○	DEPRESSED AREA PARTIALLY ENCLOSED	STEEP	NE	GOOD	POOR – SUSCEPTIBLE TO GRADE CHANGES
10	ASPEN POPLAR	A B	A			B-A	A						MODERATE	NW	POOR	HIGH – YOUNG, REGENERATING
11	ASPEN POPLAR	A B	A			A				•○	•○	DEPRESSED AREA PARTIALLY ENCLOSED	STEEP	NW	GOOD	POOR – SUSCEPTIBLE TO GRADE CHANGES
12	ASPEN POPLAR	A				A-B				•○	•○	DEPRESSED AREA PARTIALLY ENCLOSED	STEEP	E,N,W	GOOD	POOR – SUSCEPTIBLE TO GRADE CHANGES
13	MANITOBA MAPLE	A				A-B				•○		WELL DEFINED	MODERAT	W	MODERATE	MODERATE – PAST MATURITY, MULTI-STEMMED FEMALE
14	MANITOBA MAPLE	A				A				•○		WELL DEFINED	STEEP	N	POOR	MODERATE – PAST MATURITY
15	MANITOBA MAPLE	B A	A			A						WELL DEFINED	MODERAT	W	POOR	HIGH – MATURE, HEALTHY
16	WHITE SPRUCE SCOTS PINE	A				A						WELL DEFINED	MODERAT	N,NW	POOR	HIGH – HEALTHY, NEARING MATURITY
17	WHITE SPRUCE	A				A-B						WELL DEFINED	MODERAT	NW	GOOD	HIGH – MATURE, HEALTHY WINDBREAK
18	CRAB APPLE	B B	A			A				•○		UNDEFINED	GENTLE	NW,W	POOR	MODERATE – PAST MATURITY, REQUIRES MAINTENANCE
19	WHITE SPRUCE, MANITOBA MAPLE, BIRCH, PINE, POPLAR, SASKATOON	A B	A			B B B	A					UNDEFINED	GENTLE, MODERATE	W	POOR	HIGH – SPECIMEN STOCK
20	ELDER, HAWTHORN	A B	A			A-B				•○	•○	DEPRESSED AREA PARTIALLY ENCLOSED	STEEP	N,W,E	HIGH	POOR – PAST MATURITY

Vegetation and habitat types matrix
Exhibit 6

FOOTNOTES:
 "A" DENOTES MOST COMMON VEGETATION AGE CLASS
 "B" DENOTES SIGNIFICANT BUT LES COMON AGE CLASS
 DBH – DIAMETER AT BREST HEIGHT
 O- DEAD TRESS
 • - DETERIORATION

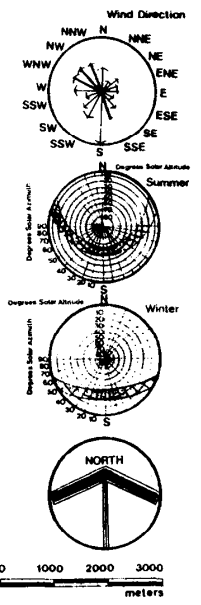
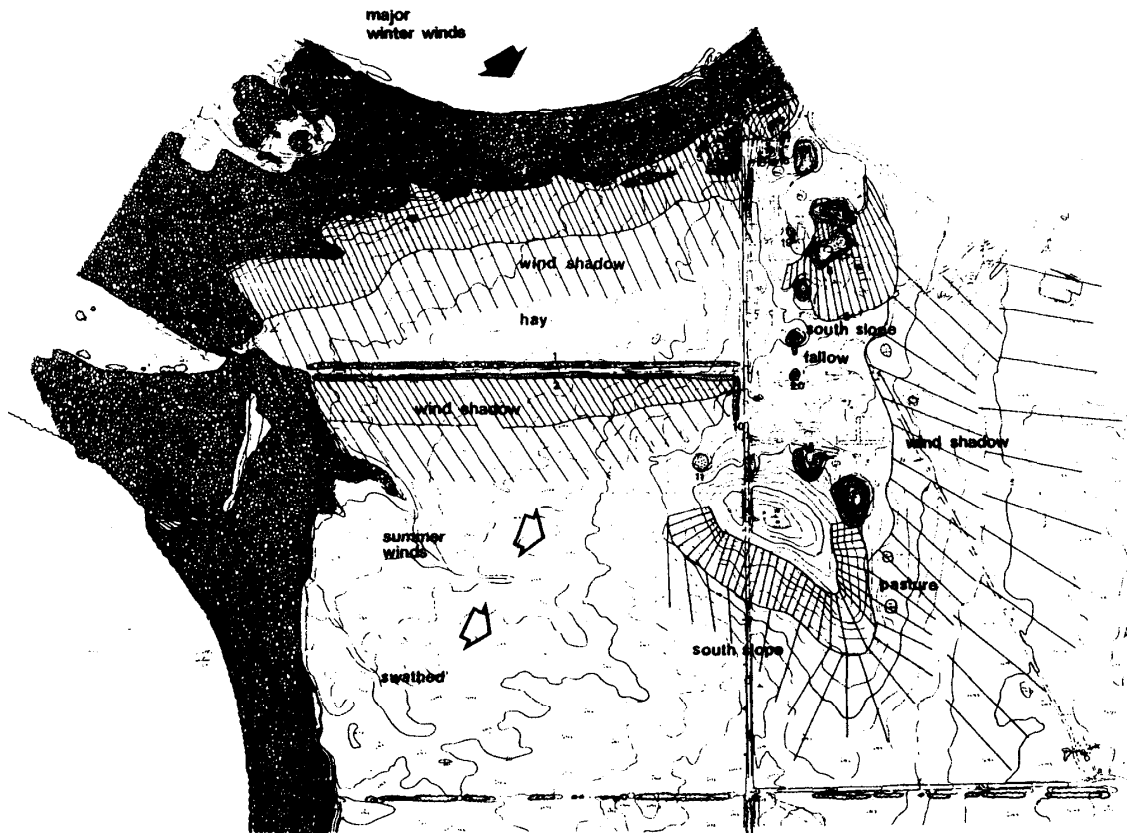
4.4 VEGETATION AND HABITAT

The most significant vegetation related to the site is the well treed ravine edge which forms its west boundary. Within the borders of the site, a number of local tree groups and understory areas are present. The site has been separated into vegetative group areas, which are described in detail in the Vegetation matrix shown as Exhibit 6. The areas are identified in Exhibit 7. In summary, three vegetation groups rate high value in terms of development potential

1. The poplar hedgerow running east-west on the abandoned road allowance offers potential in terms of a pedestrian community walkway from the centre of the site to the regional park facility. The poplar species on the north side of this allowance is the most valuable of the two tree rows flanking the route.
2. The Manitoba maple hedgerow surrounding a residence in the northwest corner and enclosing a number of well spaced spruce, and ornamental flowering trees are a valuable asset to the site and should be incorporated in specific development planning.
3. A variety of spruce, ash and manitoba maple surrounding an existing residence on the secondary high ground on the north centre of the site offers good sized, but young specimen trees that can be incorporated in park or individual lot development.

Other vegetation areas of the site are less significant and questionable in terms of being able to maintain the micro site drainage and soil conditions necessary to support them. This, however does not preclude their retention at the detailed design stage in an effort to preserve wherever possible vegetation of any significance.

Exhibit 7: Vegetation / Microclimate (Bylaw 5388, November 13, 1979)



Vegetation / Microclimate

Value To Proposed Development





-  high
-  moderate
-  low
-  vegetation matrix reference

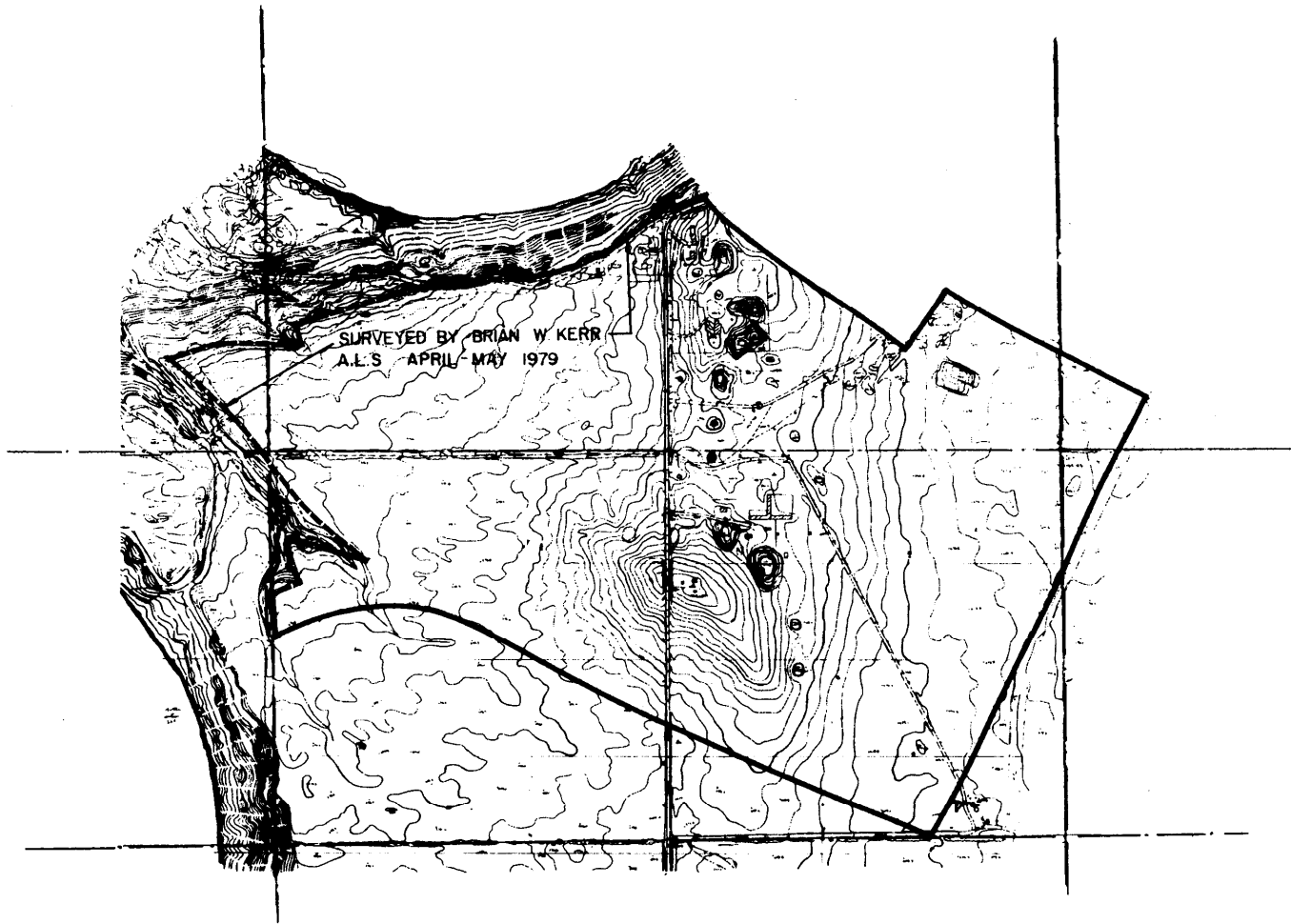
Exhibit 7

4.5 CLIMATE

The adverse regional climate makes heat conservation a primary objective and as a consequence favors those areas of the site that are buffered and/or offer exposure to the winter sun.

As is shown in Exhibit 7, the major prevailing winter winds are from the north west and north north west. Accordingly the elevated ridge running in the north/south direction as well as the steep river bank will have a modifying effect on both wind and precipitation distribution. Wind flow will be diverted by the hill, both vertically and horizontally which will cause higher speeds near the hilltop on the windward side and less turbulence on the leeward slopes. The lowest wind speeds are near the bottom of the hill in the wind shadow.

Exhibit 8: Top of Bank (Bylaw 5388, November 13, 1979)



Top Of Bank

Exhibit 8



Scale



4.6 TOP OF BANK LINE

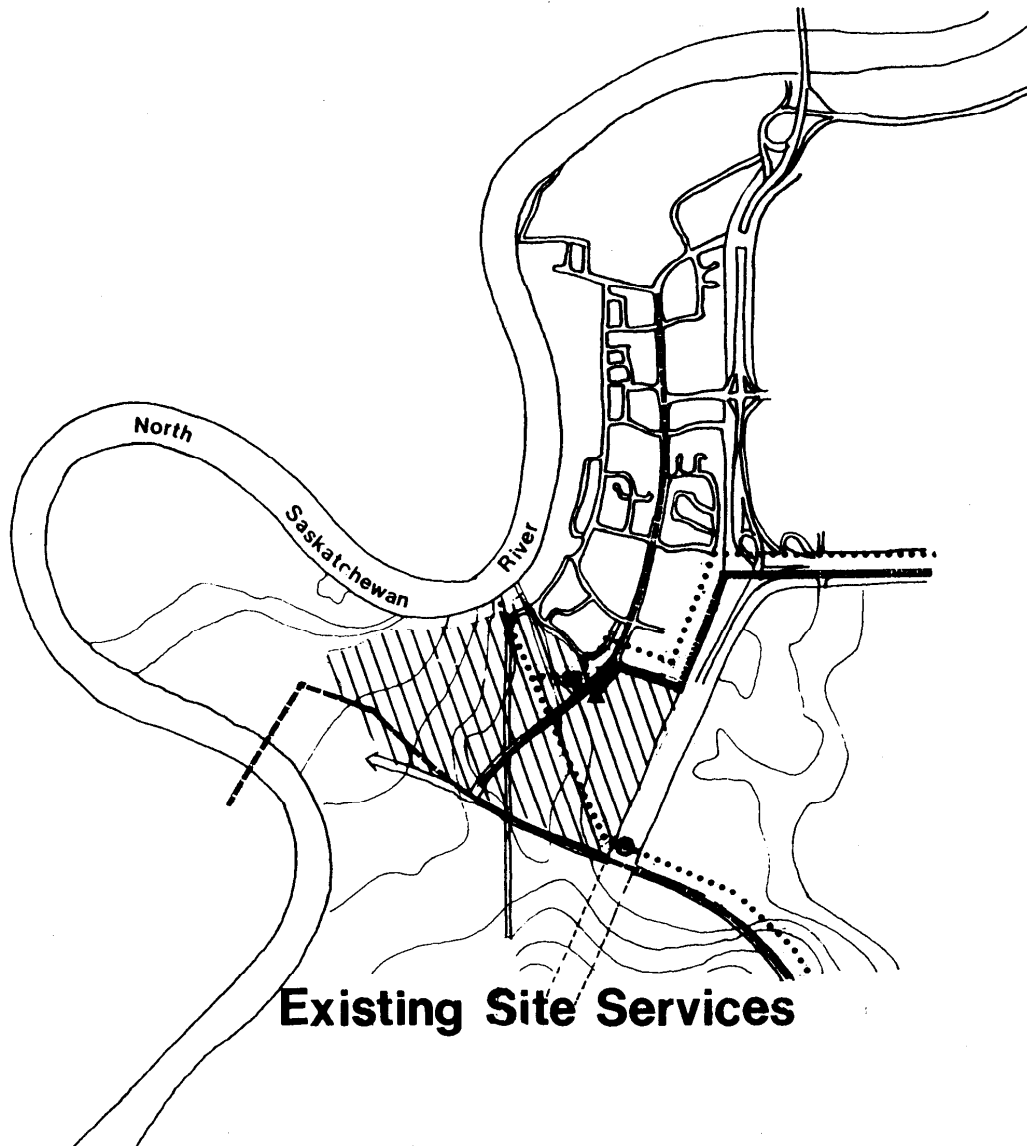
The Top-of-Bank, shown in Exhibit 8 was established for all ravine edges in Neighbourhood 5 in accordance with Bylaw 4054 and the Top-of-the-Bank Road Policy. Representatives of the *Community Services Department, Planning and Development Department*, land owners and project team established the line in the field during the months of May and June of 1979

Amended by Editor

section

5 existing services

Exhibit 9: Existing Site Services (Bylaw 5388, November 13, 1979)



drop structure	○
existing sanitary	—————
existing storm
existing water	—————
stub	▲

Exhibit 9

All services required for the site can be extended from the neighbourhood to the north. Locations of existing infrastructure for storm, sanitary and water systems are identified in Exhibit 9. An overview of the situation respecting site services and utilities is provided below. Specific alignments, sizing, and staging of the engineering requirements for the site will be determined at the detailed subdivision planning stage.

5.1 STORM SYSTEM

A 5.1 metre storm tunnel which serves the needs of the south western portion of the city, runs diagonally across the site at a depth of approximately 50 metres and outfalls into the North Saskatchewan River. Storm water from the site will be fed into this tunnel via a 1.2 metre drop structure located in the Southwest Bypass right-of-way and a stubbed 1.07 metre storm pipe which exists in the Riverbend Road alignment at the northern edge of the neighbourhood.

5.2 SANITARY SYSTEM

A stubbed 375 mm. sanitary sewer which can serve the sanitary sewer needs of the neighbourhood. exists in the right-of-way of the Riverbend Road at the northern border of the neighbourhood.

5.3 WATER SYSTEM

A 1.06 metre steel water main which is the main feeder for the south western portion of the City. runs along the southern border of the neighbourhood from a treatment plant south of river. A 450 mm. concrete main has been constructed in the Riverbend Road right-of-way. It will tap into the steel main and will provide the water system needs of the neighbourhood.

5.4 OTHER SERVICES

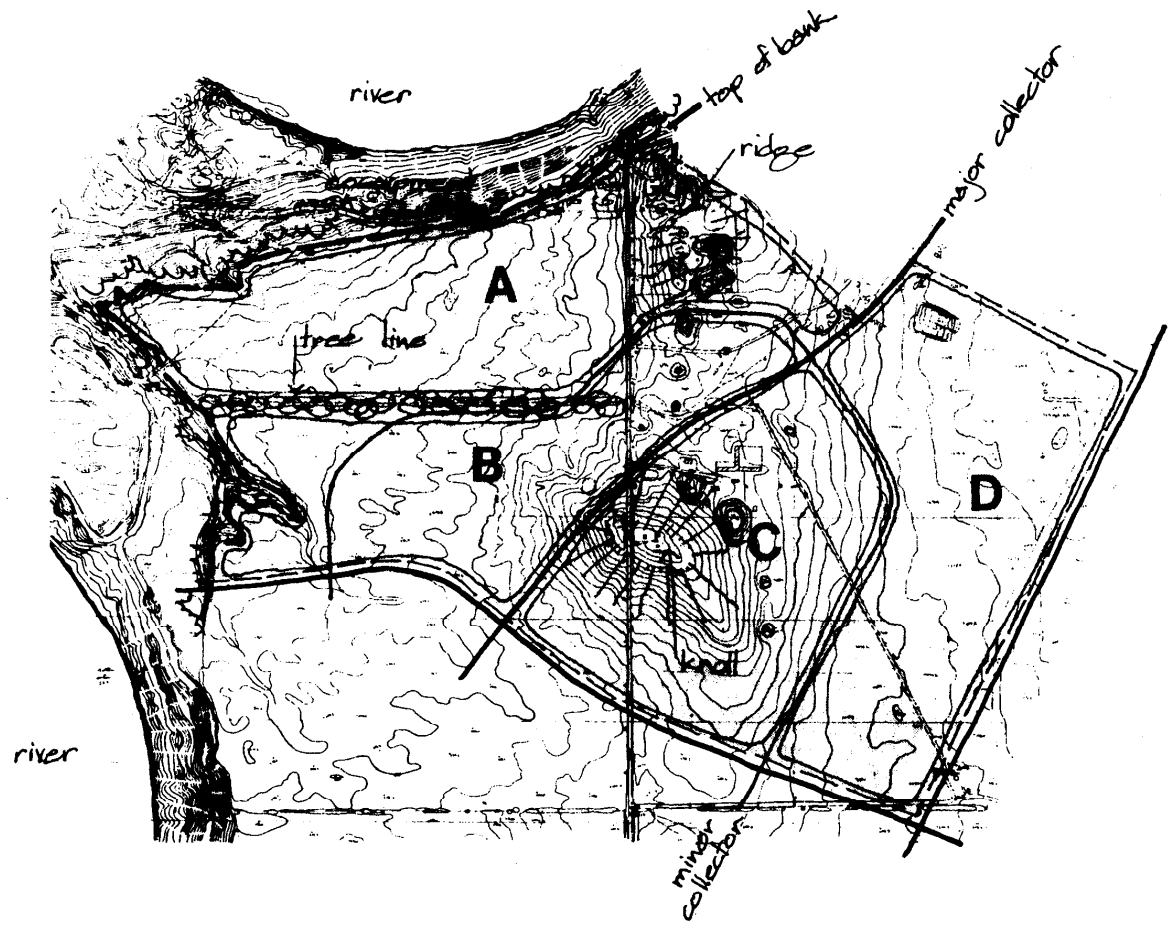
Utility services will be provided from the north and no problems are anticipated in servicing Neighbourhood 5. Particulars relating to telephone, gas and electricity will be determined at the detailed subdivision planning stage.

section

6

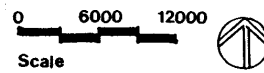
**development
concept**

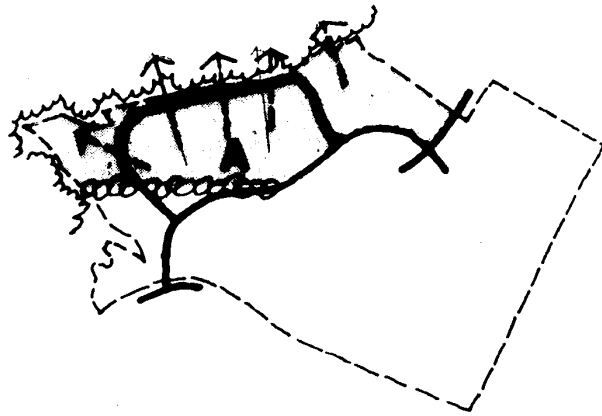
Exhibit 10: Site Components (Bylaw 5388, November 13, 1979)



Site Components

Exhibit 10





6.1 DESIGN APPROACH

The land use concept formulated for Neighbourhood 5 results from the interaction of the unique site characteristics, the movement and open space networks, and the design and marketing objectives for the housing areas. The overriding principle embodied in this approach has been to minimize the impact of development on natural site features while maximizing the benefits derived from these features by the residents.

6.2 SITE COMPONENTS

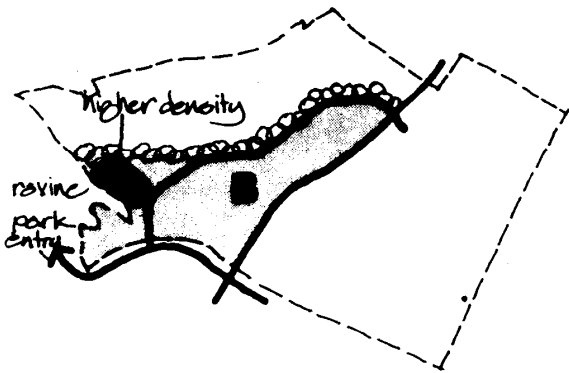
The dominant natural features in combination with the major and minor collector road network define the site into four major components as shown in Exhibit 10. These individual components are discussed in detail below.

Component A:

The dominant focus of the area is the river escarpment and ravine system which is physically defined by the top of bank line. In order to meet the objective of enabling the entire community to enjoy this feature, a wide arced top of bank road is linked to the minor collector which defines the southern edge of the component. Internal access is provided from the top of bank road orienting the community towards the ravine. Owing to the character of the ravine edge this area is developed in a porous/open manner providing views to the west.

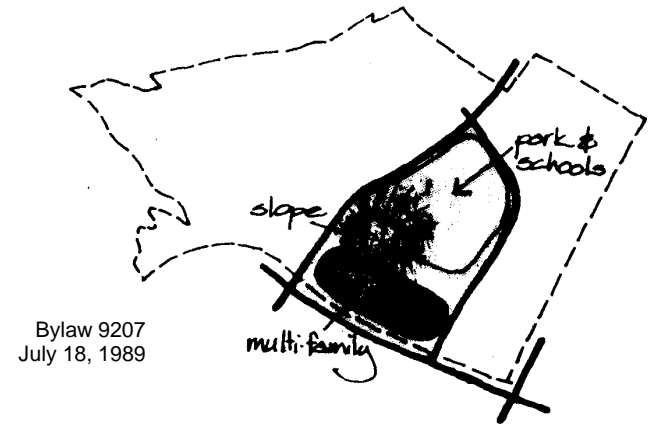
Component B:

The major focus of this component is the ravine in the southwest which shelters the community from the entrance to the park. The topography of this component rises as one proceeds from the ravine east into the center of the site. The area immediately adjacent to the ravine therefore lends to the provision of *single detached housing overlooking the park and taking advantage of the southern view*. The natural hedge that defines this component on the north has been reinforced strongly in development terms by the bus loop road. The central portion of the component takes on a lower density residential character



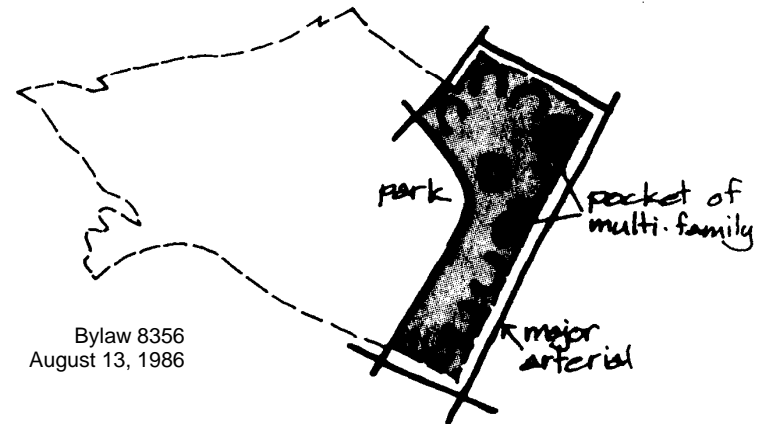
Component C:

The knoll and higher ground which are central to this component provide the entire neighbourhood with panoramic views both of the City to the east and the river to the west. Moreover, owing to the alignment of the major collector roads, Component C has a high level of accessibility. The top of the knoll with its dynamic views and archaeological significance, together with the slopes and flat lands to the north are well suited for the district park/school site. The park functions are to take place on the top of the knoll while the school grounds and community facilities will be located in the flatter land to the north. The southern portion of the rise lends very well for the provision of *single detached housing*.



Component D:

Component D comprises the predominately flat area in the northeast. It is bordered by the major transportation arteries and the district park. These different edge conditions provide differences in plan orientation. The dominant edges, formed by the bypass and major collector roads, lend to the provision of small lot single family, semi-detached and pockets of multi-family housing backing into the arteries. Larger single family lots are provided in the interior and along the western edge oriented towards the major park/school site. *In addition, a convenience commercial site will be located adjacent to the intersection of 40 Avenue and Terwillegar Drive. The Commercial site will be implemented by means of a DC2, site specific zoning, which will have guidelines relating to the massing, buffering/landscaping, and siting of the building and location of points of access/egress in order to minimize impact vis a vis adjacent residential uses.*

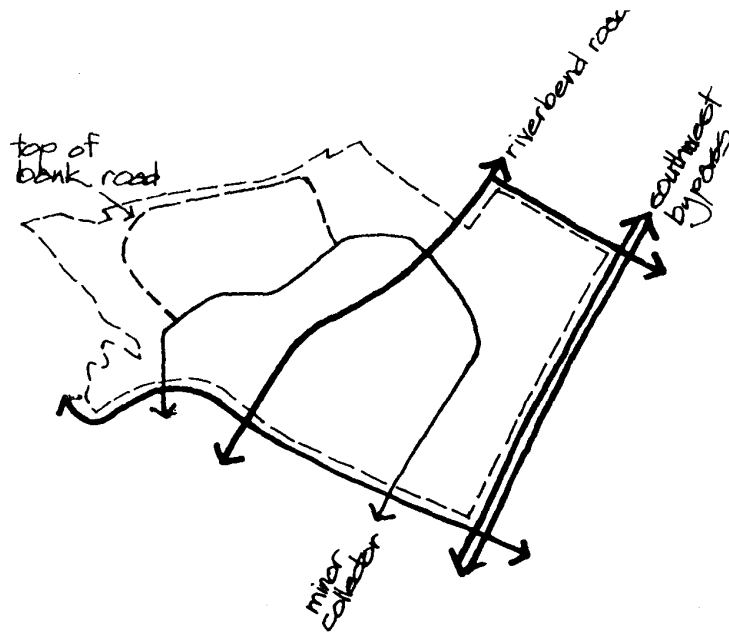


6.3 SITE CIRCULATION

Vehicular Circulation

The east/west and north/ south major collector roads defined in the Area Structure Plan form the basic structure of the vehicular circulation system. They enable the development of efficient collector and local road networks consistent with City Standards. Minor collector roads running east and west off the Riverbend Road are designed with the dual objective of reinforcing the definition of the neighbourhood into its basic components and meeting the City standards relating to the provision of access for public transit.

The local roads will be detailed at the subdivision plan stage to include design features such as boulevards, landscaped islands on cul-de-sacs and formal entrance/gateways to selected housing areas.



Pedestrian Circulation

The pedestrian circulation system connects the major park/school site with the top of bank and with the regional park by means of an integrated walkway systems running due west along the tree line as well as due north through the centre of the component to the top of bank. Linkages are reinforced by the top of bank and/or walkway system which will run along the entire length of the top of bank line.

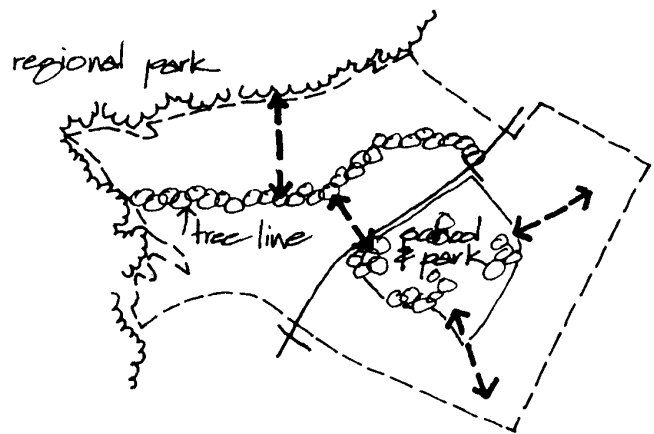
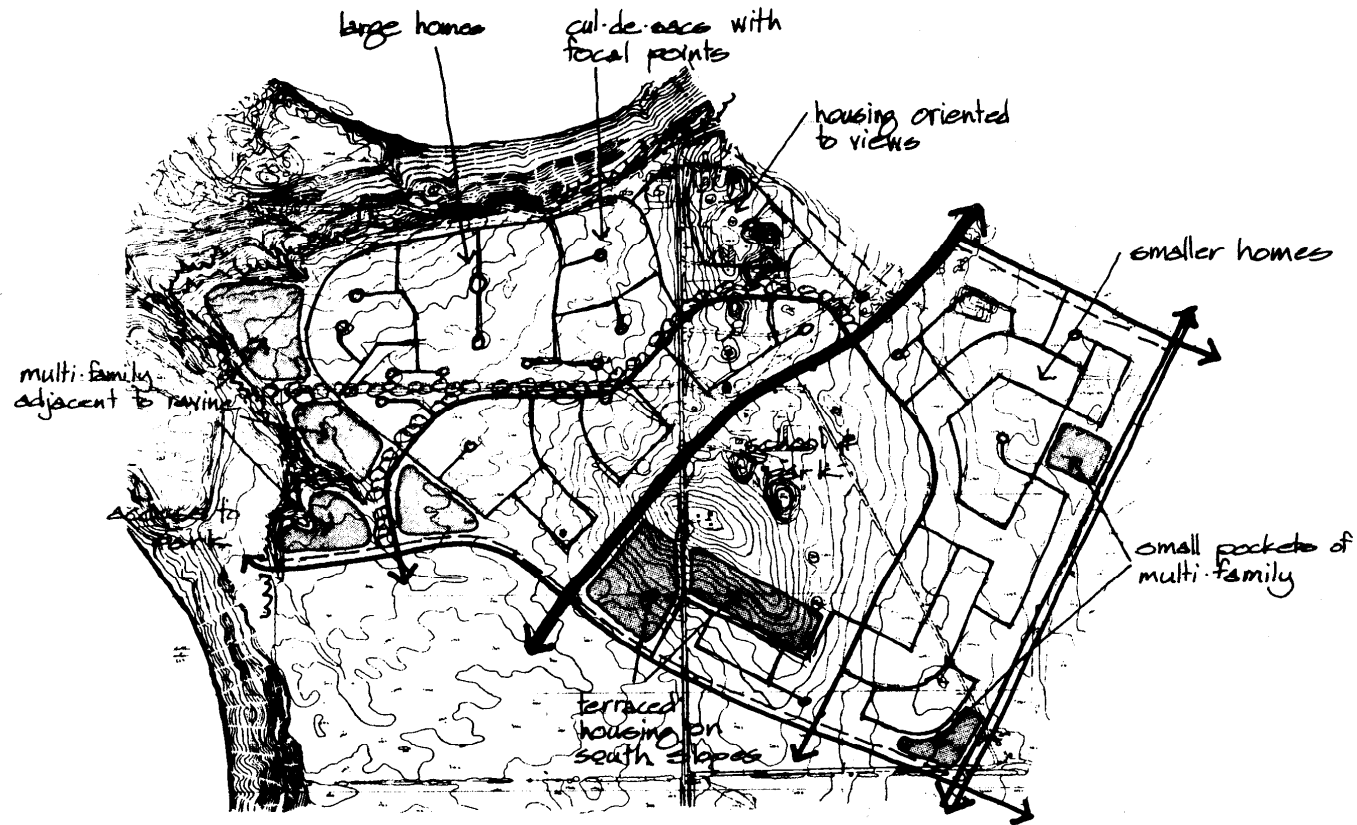
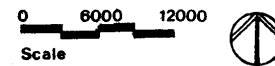


Exhibit 11: Site Design Concept (Bylaw 5388, November 13, 1979)



Site Design Concept

Exhibit 11



6.4 RELATIONSHIP TO REGIONAL PARK

The access road to the park is routed to the south of the ravine thus permitting the ravine to act as a buffer between neighbourhood oriented activities and those associated with the regional park complex. This separates the region wide recreational traffic from that of a local residential character. It also enables the land which is cradled by the top of the bank line and ravine in the north to be used for multi family residential development taking full advantage of the natural amenity offered by this edge. The southern access route will permit the forest road which runs along the top of the bank line in the north to serve as an independent and separate emergency access route for park activity.

6.5 SITE DESIGN CONCEPT

The site design concept, illustrated in Exhibit 11, combines the various components and natural features into a unified scheme characterized by the following elements:

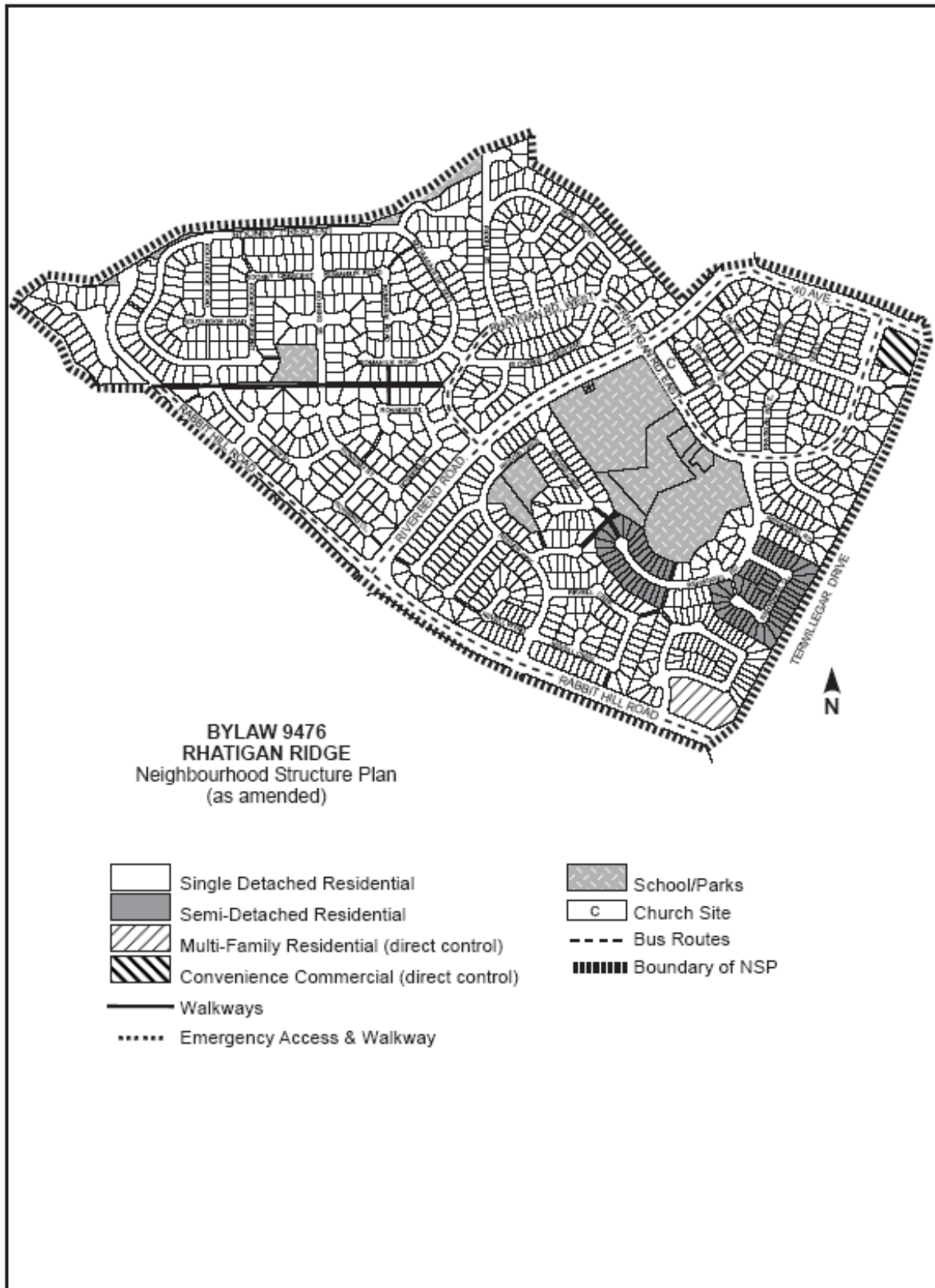
- An eastern section which is dominated by the knoll and high ground and a western section which is oriented to the top of bank and park escarpment.
- A large school/park site located on the top and north slopes of the knoll taking advantage of the views and recreational amenities of this site.
- A linear park system linking the major school/park site with the ravine edge and regional park in the west.
- A wide range of single family residential housing which focuses on the major natural features.
- Multi-family sites located adjacent to points of high accessibility and/or natural features allowing for innovation in design.
- A transportation network with minor collector roads for public transit linked to major east/west and north/south major collectors.

section

7

neighbourhood structure plan

Exhibit 12: Neighbourhood Structure Plan (Bylaw 9476, May 29, 1990)



7.1 SITE STATISTICS

The following is a summary of land utilization statistics for Neighbourhood 5.

Bylaw 9476, May 29, 1990

Land Use	Hectares	Percent	Units	Population
Single Detached Residential	80.16	60.80	1387-1683 ¹	4799-5826
Semi-Detached Residential	4.30	3.30	152	387 ²
Direct Control Row Housing	1.21	0.90	51	151
Convenience Commercial	0.70	0.5	-	-
Circulation	29.60	22.4	-	-
Walkways (major)	0.90	0.7	-	-
Schools and Parks	11.70	8.9	-	-
Environmental Reserve	2.80	2.1	-	-
	<hr/> 131.90	<hr/> 100	<hr/> 1590-1886	<hr/> 5328-6355

Gross Developable Area: 129.10ha

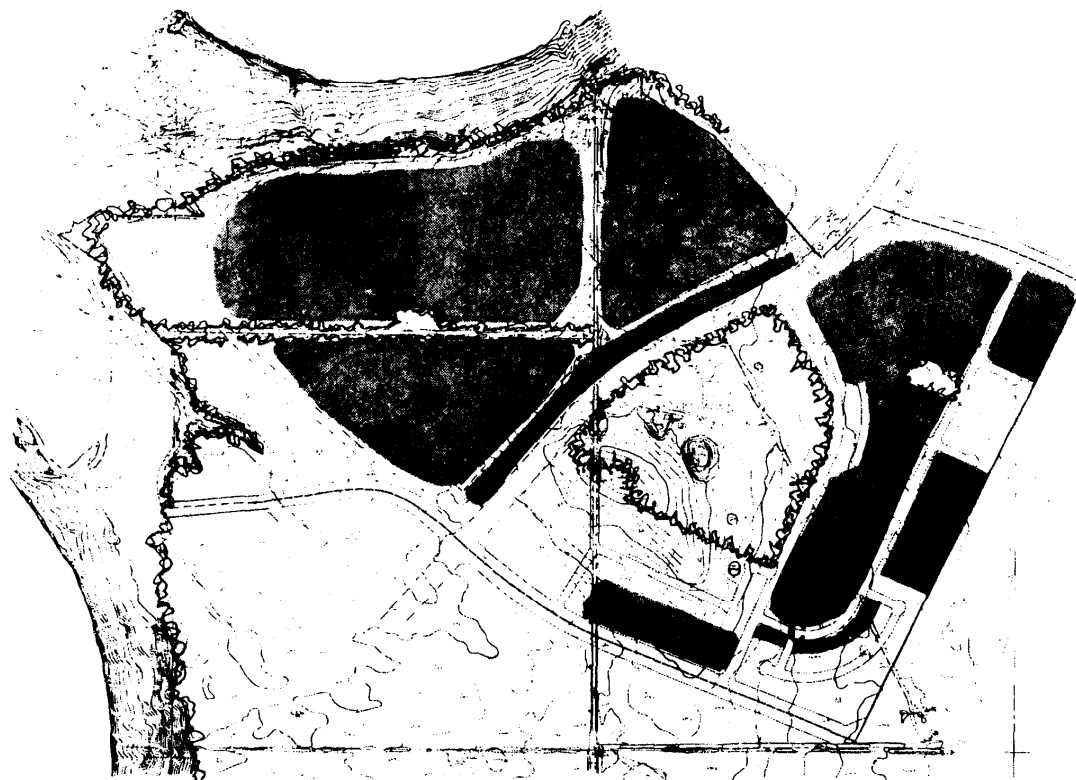
1. Number of unites per hectare will vary with lot sizes
2. Population of semi-detached residential reflects the fact that 96 of the existing unites are in an adult retirement complex with a maximum of 2 persons per unit.

7.2 POPULATION STATISTICS *(Included in the previous Table)*

Amended by Editor

Based upon standards provided by the public school board. it is estimated that the neighbourhood will generate approximately 740 elementary students. 270 junior high school students and 175 high school students.

Exhibit 13: Single Family Areas (Bylaw 5833, November 13, 1979)



Single Family Areas

Exhibit 13

0 6000 12000

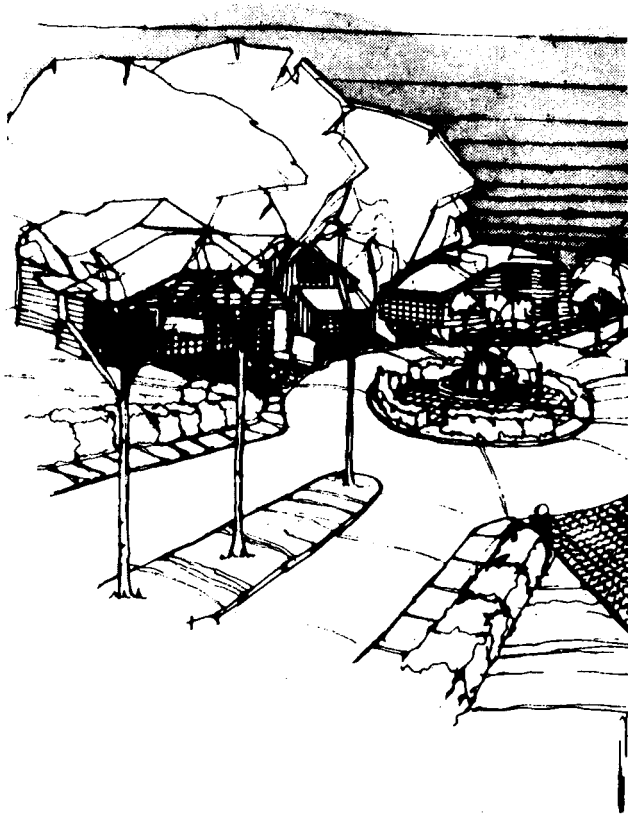
Scale



7.3 RESIDENTIAL AREAS

The residential land uses proposed include a variety of single family, *semi-detached* and multi-family housing types located to take full advantage of the natural features of the neighbourhood

Amended by Editor



Single Family Housing

Single Detached Residential housing will be the dominant housing form in the neighbourhood. Lot frontages will vary from 13.7m (45 feet) through to 25m (85 feet) Different categories of lots within this range will be located generally in areas A, B, C and D as shown in Exhibit 13

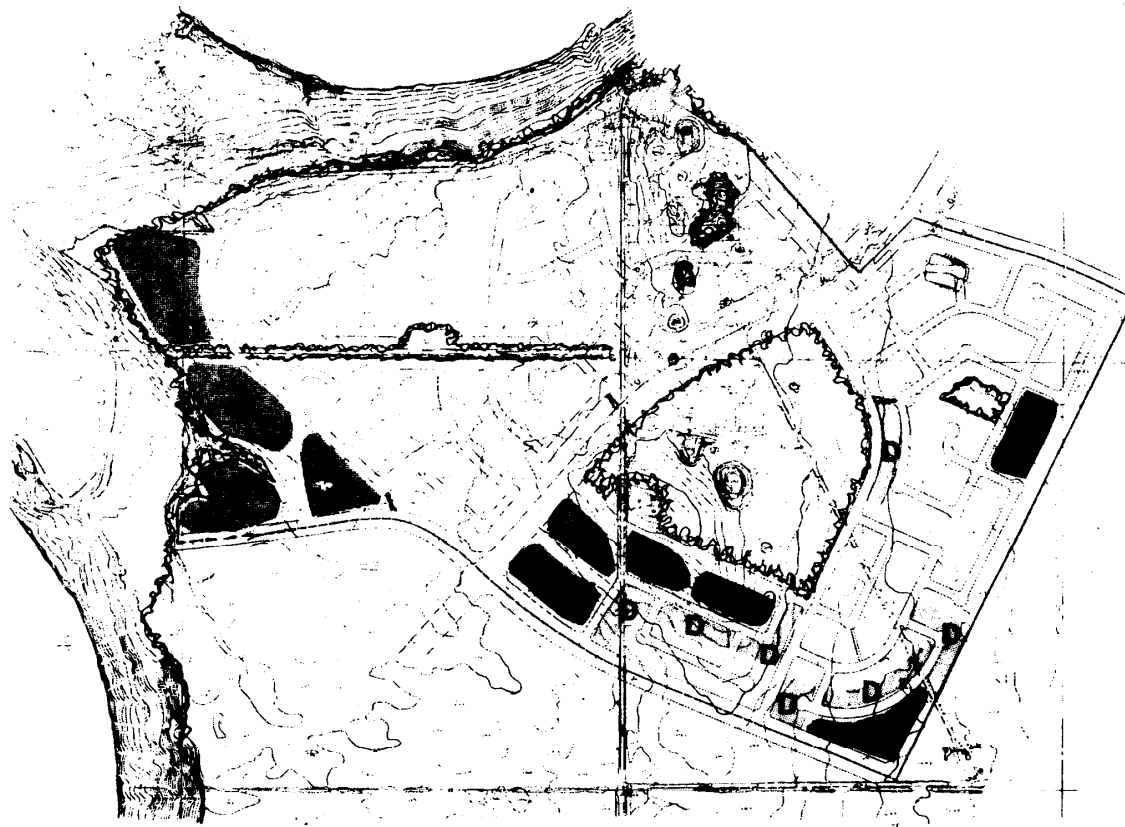
Amended by Editor

- A. This is the most prestigious, low density area which takes full advantage of the orientation, vegetation and amenities associated with the top of bank. Smaller pockets of housing, will be accessed from the top of bank road by boulevarded streets and cul-de-sacs
- B. These areas are dominated by the east/west treeline in the south and the higher knolls in the north Housing lots will be oriented and treated to take advantage of the views and topography as well as the walkway/bikeway system which links the regional and district parks.
- C. Housing in this category is found in the flatter area on the eastern portion of the site and will focus on the central school/park site complex.
- D. This category is adjacent to major arteries and as a consequence the lots will be somewhat smaller and will have reversed frontages

Single Detached Residential housing is also located at the extreme western tip of the neighbourhood and at the intersection of Riverbend and Rabbit Hill Roads.

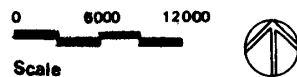
Bylaw 7267
June 14, 1983
Bylaw 9207
July 18, 1989

Exhibit 14: Multi-Family Areas (Bylaw 5833, November 13, 1979)



Multi-Family Areas

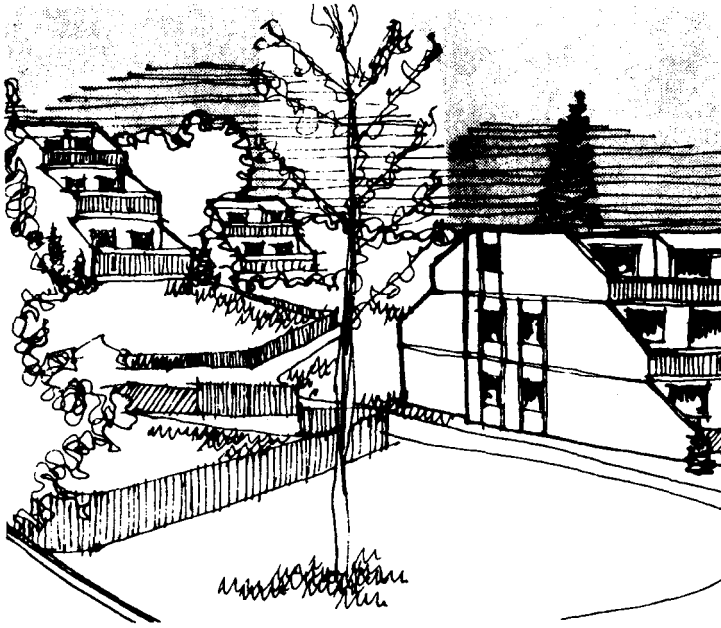
Exhibit 14



Multi-Family Housing

One Direct Control Stacked Row Housing site is located at the south-eastern edge of the neighbourhood at the intersection of Terwillegar Drive and Rabbit Hill Road.

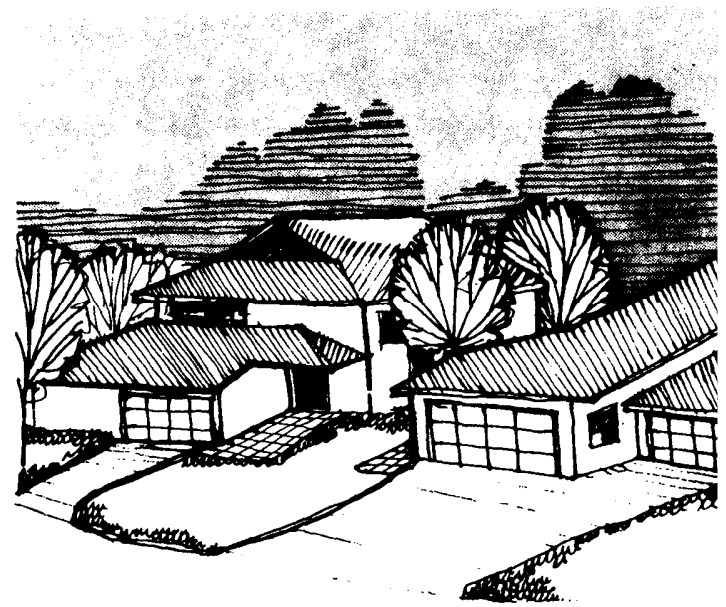
Bylaw 9476
May 29, 1990



Semi-Detached Housing

There are two semi-detached residential housing sites in the neighbourhood. The first site is located adjacent to Terwillegar Drive in the eastern portion of the plan area. The second site is located at the southeast edge of the school/park site.

Bylaw 9476
May 29, 1990



7.4 PARKS AND OPEN SPACE

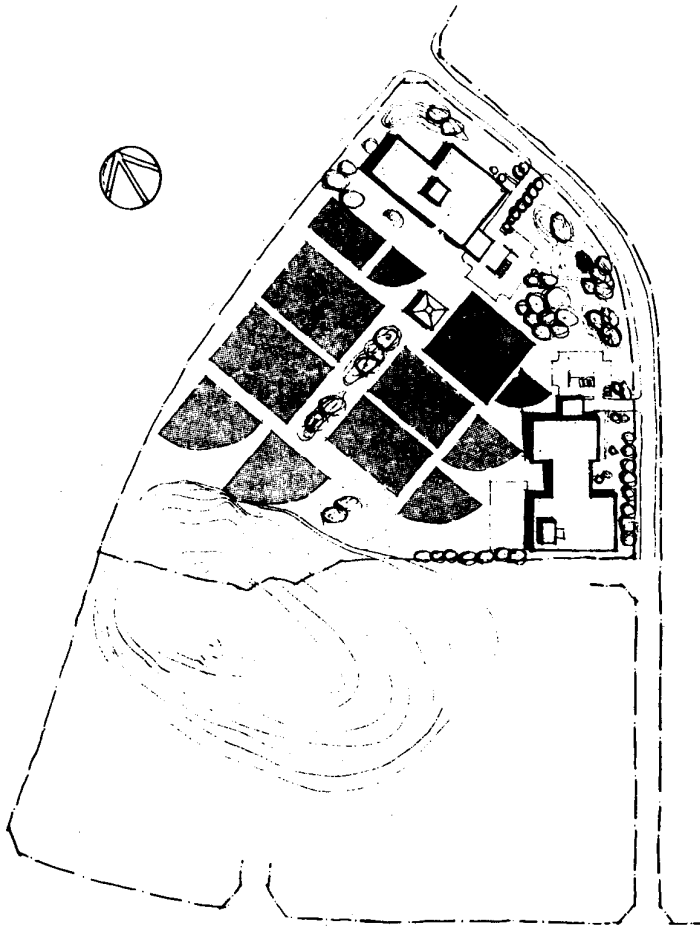
District Park Site

The combined school/park site is located on the high ground in the center of the neighbourhood so as to provide the community as a whole with the amenity of this outstanding feature. *The amount of land provided for the district park comprises approximately 11 hectares in which will be situated the site for the separate elementary/junior high school, the site for the public elementary school and the neighbourhood park itself.* It is recognized that the precise alignment and sizing of the school/park site will be determined at the detailed subdivision plan stage based on additional information relating to the precise alignment of roads, residential areas, and overall parks and recreation needs.

A schematic layout for the district park site has been contemplated. The school sites will front on the minor collector bus loop road and will be separated by parkland. Sports fields and the community league building will be situated behind in the flat land. The slopes together with the top of the knoll have been preserved for active and passive recreational pursuits permitting the public at large to take full advantage of the views.

Other Space Provisions

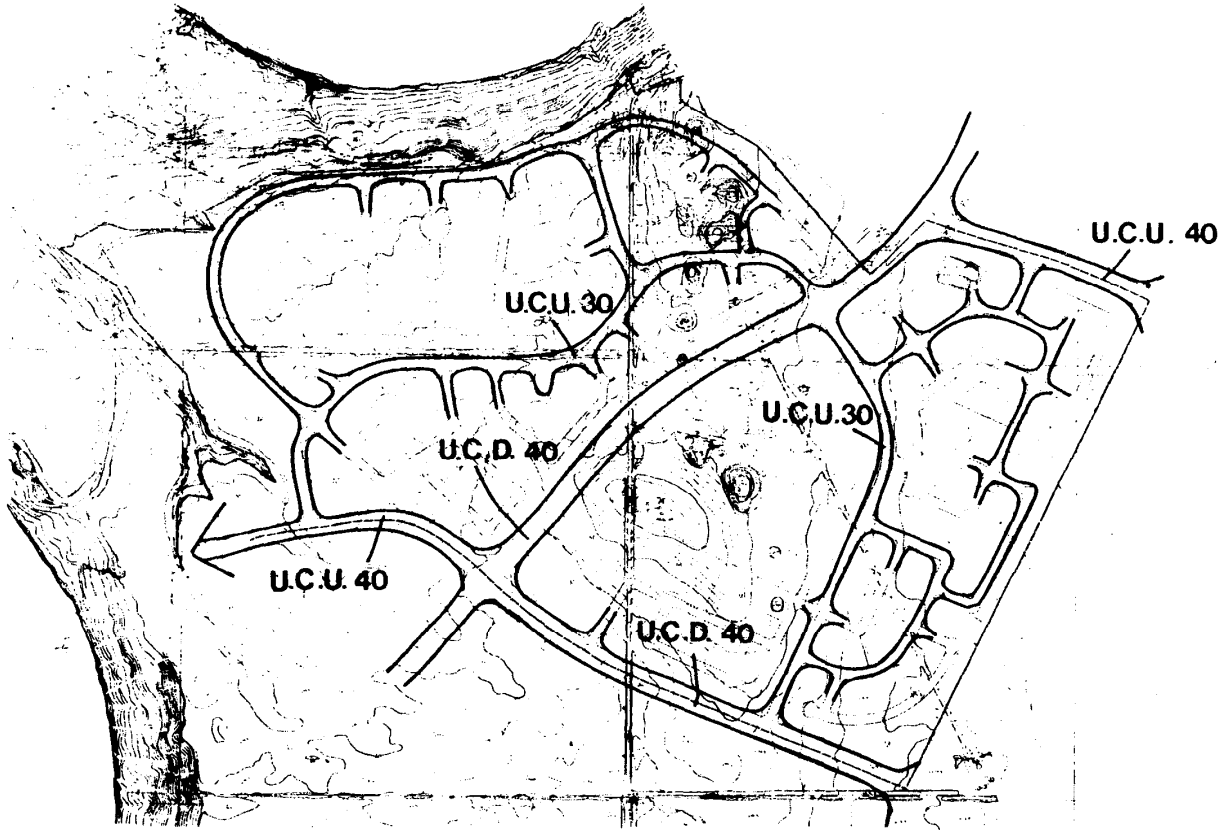
Two playground sites have been designated for the neighbourhood. *One is centrally located and is adjacent to single detached residential housing and the other is integrated into the walkway/bikeway corridor which runs along the treeline in the west.* In addition a total of approximately 0.90 hectares of the major walkway/bikeway space have been provided for the pedestrian circulation network.



Bylaw 8256
August 13, 1986
Amended by Editor

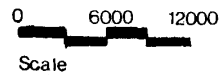
Bylaw 8256
August 13, 1986

Exhibit 15: Transportation Network (Bylaw 5833, November 13, 1979)



Transportation Network

Exhibit 15



7.5 TRANSPORTATION NETWORK

Pavement and Right-of-Way Requirements

An assessment of pavement and right-of-way requirements has been carried out based on a review of existing travel demand estimates, estimated Riverbend Park attendance and City of Edmonton and RTAC roadway standards and site topography.

The designation of Riverbend Road as an Urban Collector Divided, 40 m.p.h. facility (UCD 40) is based on the estimated traffic volumes for this roadway. Considering the proximity of this road to the proposed *Southwest Bypass (Terwillegar Drive)*, the potential for expansion and the need to accommodate backing on residential development a 24 meter right-of-way would satisfy the demands associated with this roadway. This proposed right-of-way recognizes the recently revised City of Edmonton roadway standards.

Amended by Editor

Bylaw 8256
August 13, 1986

The east/west road (*Rabbit Hill Road*) which borders the neighbourhood on the south is designated as an Urban Collector Divided 40 m.p.h. facility (UCD 40) from the *Terwillegar Drive* to Riverbend Road. This right-of-way width would allow for considerable channelization treatment as might be required at the intersection of the *Terwillegar Drive*.

Amended by Editor

The western half of this facility, that is the portion between Riverbend Road and the park entrance, is designated as a four lane Urban Collector Undivided 40 m.p.h. facility (UCU 40). Although the weekday travel to this park is not expected to require the full use of the four lane facility, the preliminary assessment indicates that for both weekend and holiday periods, this proposed four lane facility would function at or better than level of service C.

Using City of Edmonton standards the right-of-way for this facility should be between 24 and 34 metres. Considering the nature of the facility, the land use abutting the collector and the long term park demands, the right-of-way between Riverbend Road and the park entrance is varied as shown in Exhibit 15. This assumes that sidewalks are not provided within the right-of-way.

The proposed Urban Collector Undivided 30 m.p.h. facilities (UCU 30) as shown in Exhibit 15 satisfy the City of Edmonton standards for minor collector residentials. A 20 metre right-of-way is provided for these roadways.

It is proposed that the remaining local roads be provided with 15-16.7 metre rights-of-way depending on sidewalk provisions and cul-de-sac lengths.

The neighbourhood collector roadways have been realigned so as to minimize the amount of the through traffic within both the eastern and western segments of the neighbourhood as follows:

- *in the west, Rhatigan Road will reconnect to Riverbend Road rather than extending due west parallel to the tree line/walkway and then linking to Rabbit Hill Road; and*
- *in the east, the neighbourhood collector roadways would be discontinuous rather than providing a direct connection south to Rabbit Hill Road.*

Riverbend Park Traffic Assessment

Riverbend Park is planned as a major facility to serve the residents of the Regional Metropolitan area. The Master Plan for the Park calls for providing picnic areas, winter sport facilities, a waterways system for canoeing and nature trails, activity centres. etc. The Riverbend Park Master Plan, developed by Associated Engineering Services Limited in 1974, suggests that 815 parking spaces be provided. Based on park attendance figures observed in parks of this caliber in both Canada and the United States, it is estimated that this park will generate approximately 2,000 to 2,500 vehicle trips on an average summer weekday. This figure can -be easily doubled for weekend traffic, thereby producing Sunday flows of between 4,000 to 5,000 vehicle trips. These weekday and weekend estimates translate into about 150 to 200 vehicles per hour in the peak period entering the park on a weekday and about 280 to 360 vehicles per hour in the peak period entering the park on a Sunday. Considering attendance peaking characteristics of special events and holiday periods, it is conceivable that the peak period flows out of this park on the peak days of use can exceed 600 vehicles per hour.

Traffic Operations Impact

Neighbourhood 5 is expected to achieve a total population of about 5,600 when fully developed. This population will attract about 1,000 vehicle trips in the P.M. peak hour. That is, about 1,000 vehicles destined to dwelling units in Neighbourhood 5 will enter the neighbourhood in the P.M. peak hour. This estimate recognizes present and projected dwelling unit and vehicle occupancy statistics as well as transit usage.

Considering that the 142nd Street (*renamed Rabbit Hill Road*) connection to Whitemud Freeway will be completed before neighbourhood is fully developed the vast majority of the traffic destined to Neighbourhood 5 within the P.M. peak hour will access the neighbourhood via 53rd Avenue and *Rabbit Hill Road* connection to Whitemud Freeway.

Considering the existing space capacity on Riverbend Road, 53rd Avenue, *Rabbit Hill Road* and on the ramps connecting 53rd Avenue to Whitemud Freeway at the existing diamond interchange, the increase in traffic resulting from neighbourhood 5 can be accommodated on the above described facilities. This increase in traffic will result in a change in level of service from levels A and B to most probably a level D. When the development of Neighbourhood 5 is considered in conjunction with the developments proposed for Neighbourhoods 1, 2, and 3 then the traffic condition changes considerably relative to the impacts as described above. Neighbourhoods 1, 2, 3 and 5 are expected to accommodate between 17,000 and 18,000 people when fully developed. This means that within the P.M. peak hour almost 3,000 vehicles will be attracted to these neighbourhoods. This suggests that Riverbend Road will be operating at levels of service D to F at various points, and that the existing interchange at 53rd Avenue and Whitemud Freeway and the proposed interchange at *Rabbit Hill Road* and Whitemud will not be able to accommodate the demands placed on these facilities. Specifically, the demands placed on the ramps providing access from the south to the west at the intersection of 53rd Avenue will experience demands that are in excess of capacity. This suggests that within the design stages of the latter phases of this development, considerable attention will have to be given to the functioning of the existing interchange at 53rd Avenue and Whitemud Freeway and the proposed interchange at *Rabbit Hill Road* and Whitemud Freeway.

Amended by Editor

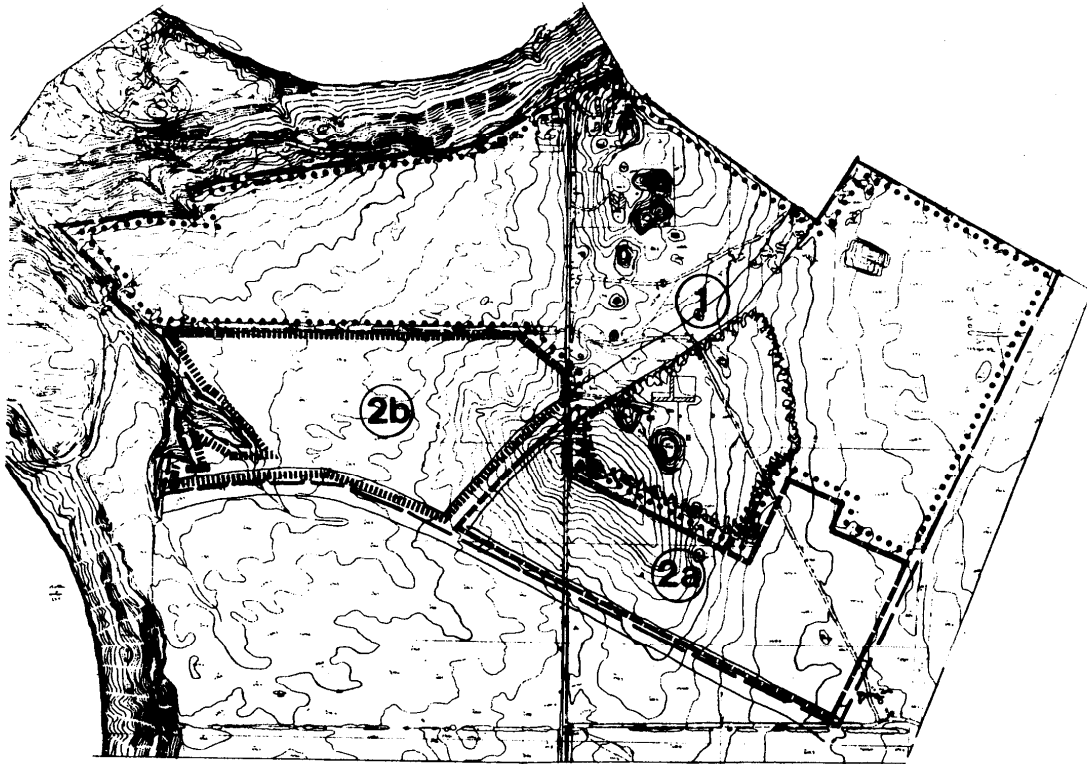
Amended by Editor

Transit

The bus routes will be via Rhatigan Road, Riverbend Road and Rabbit Hill Road as well as along the easterly neighbourhood collector segment looping to 40 Avenue if required. The bus turn-around will be provided adjacent to the walkway/tree line until such time as the ultimate routing, either into Terwillegar Park or south to Henderson Estates, is operational.

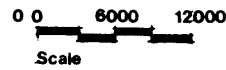
Bylaw 8256
August 13, 1986
Amended by Editor

Exhibit 16: Phasing (Bylaw 5833, November 13, 1979)



Phasing

Exhibit 16



7.6 PHASING

The phasing program for the development of *Rhatigan Ridge* is identified in Exhibit 1 6. Development will proceed southerly taking advantage of existing infrastructure from the neighbourhood to the north. The first phase includes the district park and is defined by the top of bank permanent treeline, park, *Terwillegar Drive*. Development of phase 1 is contemplated to proceed immediately utilizing existing services.

Amended by Editor

The additional impact of phase 1 development on the existing road system will not adversely affect the current level of service.

The southern portions of the site are configured in two development parcels divided by Riverbend Road. Development will proceed in these areas as services are extended from the north.