

BYLAW NO. 3231

A BYLAW OF THE CITY OF MEDICINE HAT to adopt the Saamis Heights Area Structure Plan, amend Bylaw No. 3184, the Municipal Development Plan Bylaw, and amend Bylaw No. 3181, the City of Medicine Hat Land Use Bylaw.

WHEREAS pursuant to Section 633(1) of the *Municipal Government Act*, S.A. 1994, Chapter M-26.1, a council may pass a bylaw for the purpose of adopting an area structure plan to provide a framework for subsequent subdivision and development of land within the City;

AND WHEREAS an Area Structure Plan referred to as the Saamis Heights Area Structure Plan has been prepared to provide the framework for subdivision and development of certain land in Ptn. NE¼ Section 13, Township 12, Range 6, W4M, Ptn. NW¼ Section 13, Township 12, Range 6, W4M, Ptn. SE & SW¼ Section 24, Township 12, Range 6, W4M, and Ptn. NW¼ Section 18 Township 12, Range 5, W4M;

AND WHEREAS it is deemed appropriate to adopt the Saamis Heights Area Structure Plan;

AND WHEREAS the document dated April, 1999 entitled the "Saamis Heights Area Structure Plan", a copy of which is attached as Schedule "A" to this Bylaw, is proposed for adoption;

AND WHEREAS the land shown on Schedule "B" to this Bylaw and legally described as Ptn. NE¼ Section 13, Township 12, Range 6, W4M, Ptn. SE¼ Section 24, Township 12, Range 6, W4M, and Ptn. NW¼ Section 18 Township 12, Range 5, W4M (hereinafter referred to as the "subject land") is presently designated as UR "Urban Reserve District" under the City of Medicine Hat Land Use Bylaw;

AND WHEREAS an application has been made to redesignate the subject land as R-1 "Single Family Residential District", R-2 "Low Density Residential District", R-3 "Medium Density Residential District", P-1 "Park & Recreation District", C-2 "Neighbourhood Commercial District" and PS "Public Service District" under the City of Medicine Hat Land Use 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 31st day of May, 1999 at 6:30 p.m.;

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


1. The Saamis Heights Area Structure Plan, attached as Schedule "A" to this Bylaw, is hereby adopted.
2. Bylaw No. 3181, being the City of Medicine Hat Land Use Bylaw, is hereby amended by redesignating the subject land as R-1 "Single Family Residential District", R-2 "Low Density Residential District", R-3 "Medium Density Residential District", P-1 "Park & Recreation District", C-2 "Neighbourhood Commercial District" and PS "Public Service District", as shown on Schedule "B" to this Bylaw.
3. Bylaw No. 3184, being the Municipal Development Plan Bylaw, is hereby amended by amending Part III - Growth Strategy to include Saamis Heights Phases I and II, as shown on Figure 7 of the Saamis Heights Area Structure Plan, in Stage I of the Growth Strategy.
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 3, 1999.

READ A SECOND TIME in open Council on May 31, 1999.

READ A THIRD TIME in open Council on May 31, 1999.

SIGNED AND PASSED on June 1, 1999.

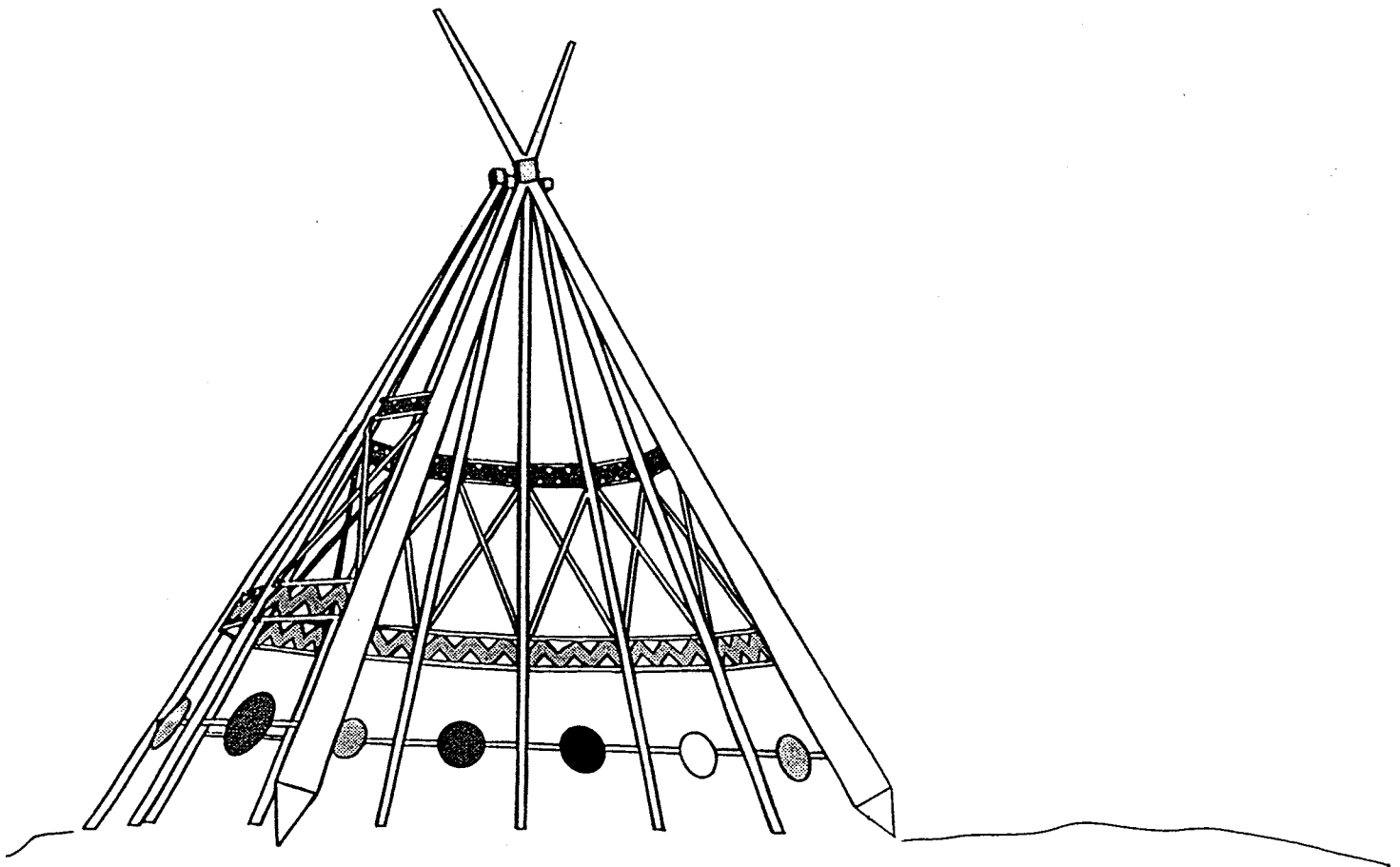

MAYOR - TED J. GRIMM




CITY CLERK - LARRY P. GODIN

SAAMIS HEIGHTS

AREA STRUCTURE PLAN



SAAMIS HEIGHTS

AREA STRUCTURE PLAN

Prepared for: Land and Properties Department

By: Planning, Building & Engineering Services Department

May 1999

File: TECH 50.4.13

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SAAMIS HEIGHTS

AREA STRUCTURE PLAN

1.0 INTRODUCTION

The purpose of this area structure plan is to provide a planning direction for the development of the area currently known as South Ridge Phase 6. This Area Structure Plan will provide a general land use design and framework for the ultimate residential phasing and development of this area. Considering the study area is about the same size as the South Ridge and Southlands neighbourhoods and it is separated from South Ridge by a major arterial road, this area should be treated as a separate neighbourhood. To provide a unique identification to this new neighbourhood, it is suggested a new name be used. Given the close proximity of this site to the Saamis Archeological site in the adjacent Seven Persons Creek valleys to the north and its view of the Saamis Tepee, it is recommended the area be named Saamis Heights, rather than South Ridge Phase 6.

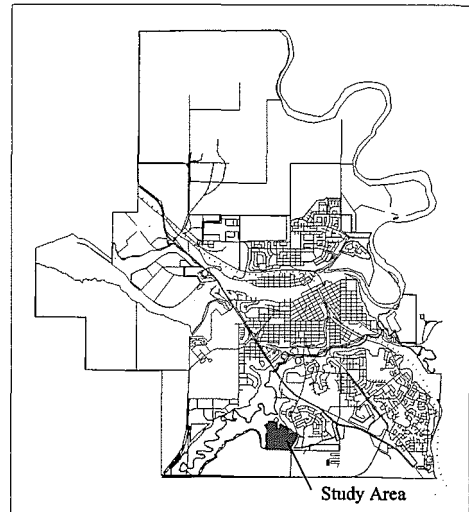


Figure 1 - Location of Saamis Heights

1.1 Site Location

Saamis Heights is located in the southern quadrant of the City, west of the South Ridge neighbourhood (see Figure 1). The study area is bounded by:

- South Ridge Drive to the east.
- Agricultural land to the south and west.
- Seven Persons Creek Coulee to the north.

2.0 STUDY AREA

The Plan covers approximately 109.2 hectares of land located primarily in the NE 1/4 Section 13-12-6-W4M, with portions lying within: NW 1/4 Section 18-12-5-W4M; NW 1/4 Section 13-12-6-W4M; SW 1/4 Section 24-12-6-W4M and SE 1/4 Section 24-12-6-W4M. The City of Medicine Hat owns 88.7 hectares of land in the plan area in a number of different titles, while 20.5 hectares of land in two separate parcels are held by private land owners. The largest lies in the westerly portion of the study area (NW 1/4 Section 13-12-6-W4M) containing 20 ha of land, while the other parcel containing 0.5 ha of land lies in the northwest corner (SW 1/4 Section 24-12-6-W4M) of the site (see Figure 2). The northwesterly portions of the site overlook the Par 3 and Cottonwood Coulee Golf Courses located in the Seven Persons Creek valley. The entire site is currently designated UR "Urban Reserve" in the City of Medicine Hat Land Use Bylaw, pending completion of more detailed planning. The site is presently vacant, but was previously leased out for grazing purposes.

2.1 Site Analysis

The topography of the study area is relatively flat, sloping gently toward the north at about 1.6% grade. The total elevation difference in the site varies from an elevation of 734.7 in the southeast corner to a low of 710.0 in the northwest corner. The topography of the site does not present any obstacles that prevent this area from being developed. However, the flatness of the site introduces some engineering issues for sanitary sewer servicing.

2.2 Site Constraints

The site is constrained to the north and west by Seven Persons Coulee, South Ridge Drive to the east and a 26 m Utility Right of Way along the quarter line to the south. Road access to the site will be from an intersection at South Ridge Drive and Strachan Road. No gas wells or gas pipelines exist within the study area. The main water feeder line to the South Reservoir is located in a 26 m utility right of way running along the south boundary of the study area. A 13 kv overhead electric line is also located within this utility right of way, south of the water line. During the construction of the South Ridge Drive overpass, a borrow area of approximately 7.9 ha was created in the northeasterly corner. This area was lowered by approximately one metre, however, this will not impact development of this area.

2.2.1 Dairy Operation

A 100 ± head dairy operation is located in the north east corner of the SE 1/4 Sec. 13, Twp 12, Rge 6, W4M. The location of this dairy will have an impact on the development of the south easterly portion of the study area. Good planning practise requires a separation be maintained between an intensive livestock operations and residences. At the present time there are no regulations with specific separation distances. In previous Subdivision Regulations a 320 m setback was required. At the subdivision stage, this portion of Phase 2 will be subject to further consideration in terms of the impact of the dairy operation and appropriate separation from the residential development.

Saamis Heights

AREA STRUCTURE PLAN

Figure 2

LAND OWNERSHIP

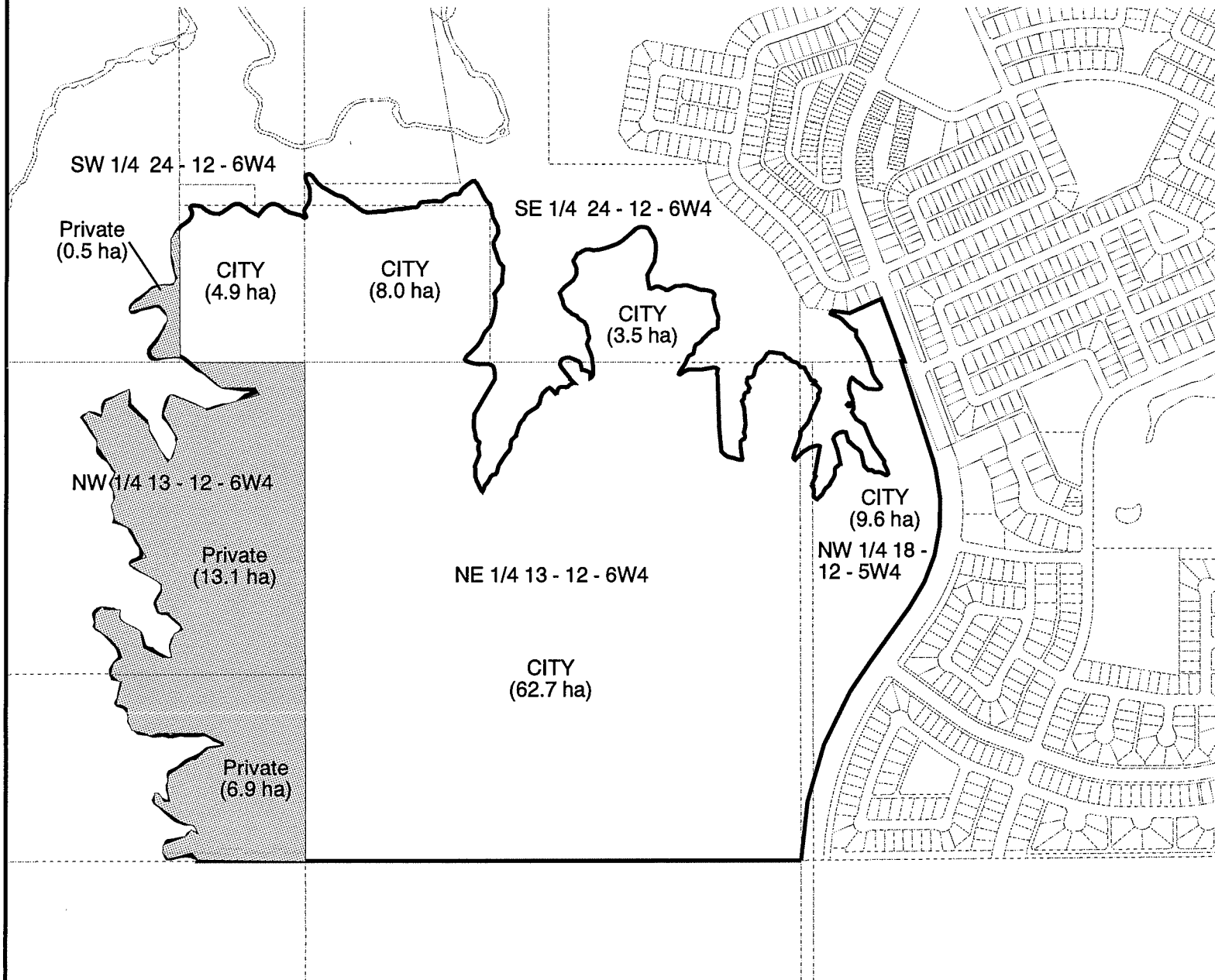
City 88.7 ha

Private 20.5 ha

TOTAL 109.2 ha
(Gross Area)

Note: areas include ER land

NTS



2.3 *Geotechnical Investigation*

As part of the Reid Crowther & Partners Ltd. Engineering Study for this area, a Phase 1 Geotechnical Investigation was undertaken by AGRA Earth & Environmental Consultants. The report indicated the ground conditions are favourable for development and no exceptional mitigation measures are required. Due to the existence of subsurface clay at 0.7 to 1.7 m's, weeping tile around all basements is recommended. Based on an analysis of the soil conditions, slope gradients, slope type and slope heights, the study recommended a development setback from any slope greater than 15% be established. The recommended development setback limits are shown on Figure 3 and vary according to slope height, but will be no less than six metres from the top of the slope. The areas that lie between the recommended setback line and the top of the slope should be designated environmental reserve as should be the escarpments themselves. This area may be used for trails and other related uses provided these uses do not negatively impact the stability of this area.

2.4 *Environmental Impact Assessment*

An Environmental Impact study was prepared by URSUS Ecosystem Management Ltd as part of the Engineering study. This report indicated approximately 69% of the study area consisted of native vegetation (prairie grass) while the remaining 31% consisted of non-native vegetation. While no rare plant species were found on the area to be developed, some rare plant varieties were found in three of the adjacent treed ravines. The report advises the ravines provide a significant wildlife habitat and movement corridors with considerable security cover. A significant portion of the native grassland will be directly altered by the development of this site, however, this is not considered environmentally significant habitat.

The environmental reserve area between the top of the escarpment and the development setback will serve to preserve some native grassland and assist in minimizing the impact on wildlife by maintaining the coulee integrity as movement corridors.

2.5 *Historic Resources Impact Assessment*

An Historic Resources Impact assessment was carried out on the study area and it was determined there were no new archaeological sites beyond the three known sites (EaOq 16, EaOq 17 and EaOq 46). Alberta Community Development reported Sites EaOq 17 and EaOq 46 have been mitigated in the past and no further investigation is required, however Site EaOq 16, a feature consisting of a stone circle required testing. The report recommends a mitigation program of detailed feature mapping of this ring and excavation of two 1 x 1 metre units in the centre of the ring. If these test units prove to yield additional information with significant archaeological potential, recommendations for additional excavation may be required. In accordance with the Historic Resources Act, this work must be done prior to the start of development in the study area.

Saamis Heights

AREA STRUCTURE PLAN

Figure 3

SITE CONSTRAINTS

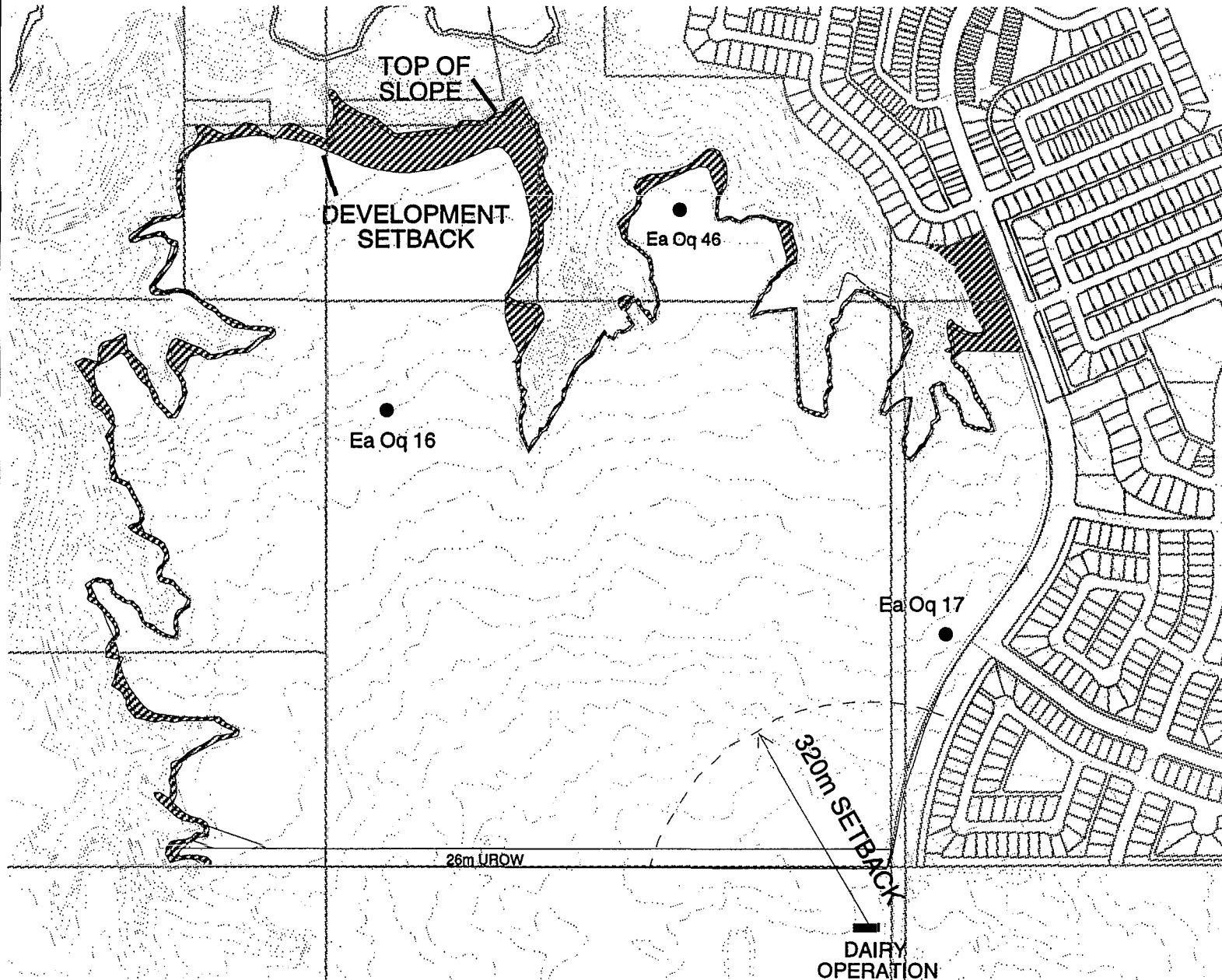
 ENVIRONMENTAL
RESERVE

 ARCHEOLOGICAL
SITES

NTS



5



3.0 LAND USE AND TRANSPORTATION

3.1 *Plan Goals and Objectives*

The goal of the Saamis Heights Area Structure Plan is to establish a future planning and utility servicing framework for this area by developing a sustainable neighbourhood.

3.1.1 *Plan Objectives*

More specifically, the Area Structure Plan addresses the following community development objectives:

- to incorporate imaginative urban design and land development concepts into the plan;
- to achieve a compact, environmentally effective urban area which compliments and reinforces the physical form of the immediate setting;
- to ensure that utility infrastructure is designed to service the area in an economical and efficient manner;
- to provide for a town centre to adequately meet the needs of the residents;
- to provide parks, recreation and school sites which meet the needs of future residents;
- to develop a continuous linkage of parks, boulevards, trails and open spaces contributing and connecting to the urban trail system to ensure pedestrian/bicycle mobility;
- to examine the potential of higher density urban developments;
- to provide the opportunity to implement the innovative housing strategy;
- to develop a circulation system which follows the topography of the site and the City's Transportation Master Plan;
- to facilitate and promote the use of public transportation.

3.2 *Land Use Concept*

The Saamis Heights Area Structure Plan concept is shown on figure 4. The Major elements of this concept are listed below:

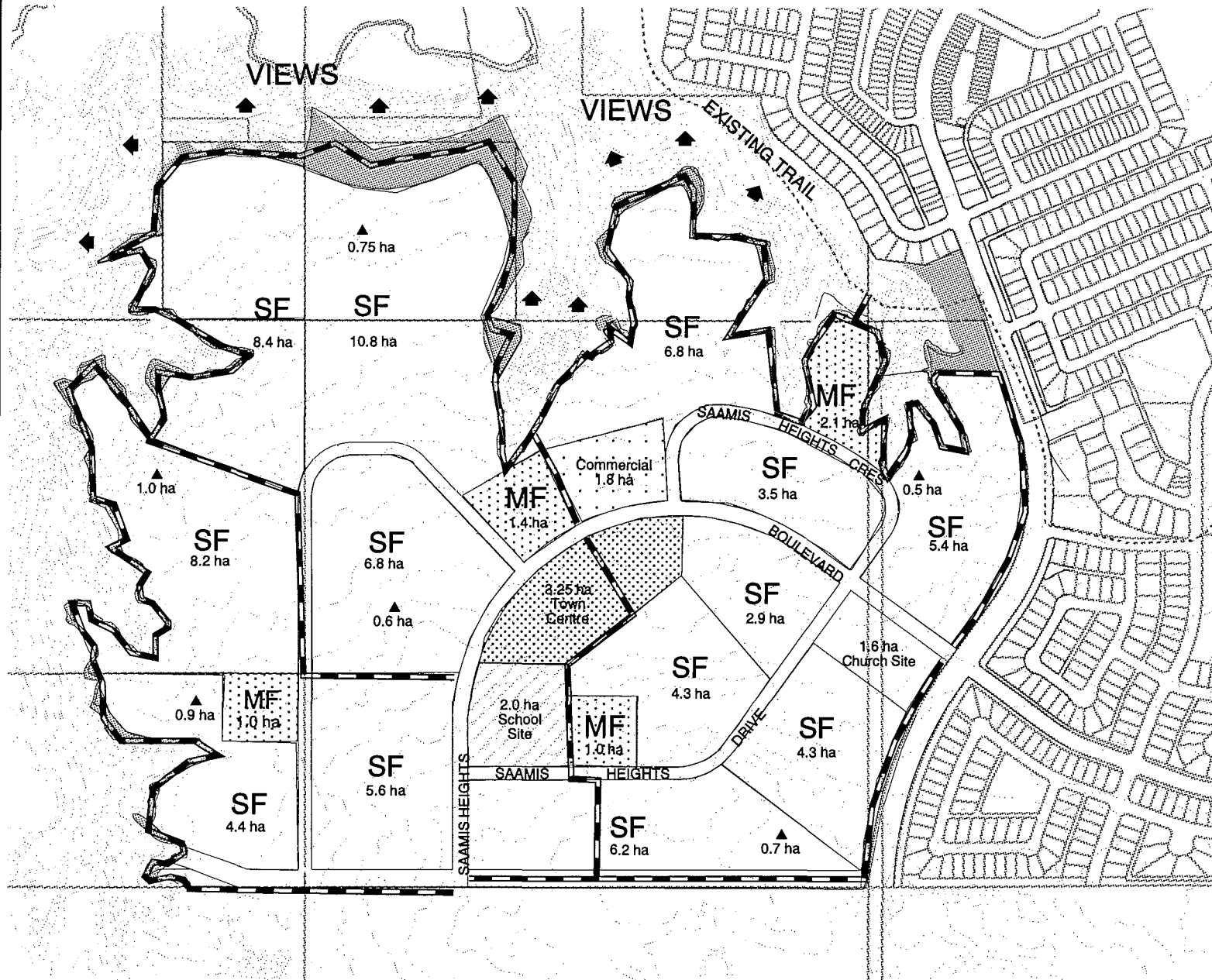
- A focal point of the plan is a 3.25 ha 'town centre' parcel. The purpose of this site is to serve as the central focus for the neighbourhood and the location for community wide recreation facilities and associated community related buildings or uses such as a community hall, etc. This town centre site is located on the major collector road and will include a two ha municipal reserve site and a 1.25 ha institutional site.
- 1.8 ha neighbourhood commercial site is proposed across the major collector from the town centre.
- A 2 ha school site has been set aside south of the town centre site at the request of one of the School Board. There are no plans at this time to construct a school on this area. However, in the interest of good planning a site is being reserved. Since this site is in one of the

Saamis Heights

AREA STRUCTURE PLAN

Figure 4

CONCEPT PLAN



ENVIRONMENTAL RESERVE

MUNICIPAL RESERVE

PROPOSED TRAIL SYSTEM

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latter phases of development, if it is determined that the site is not required for a school, the site could be used for additional park, recreation sites or other community oriented uses.

- The majority of the study area will consist of single family residential with a number of interspersed multifamily sites. A variety of multifamily sites ranging from lower density townhouses to medium density apartment sites are proposed.
- The plan designates a pedestrian/bicycle trail system that follows the environmental reserve areas along the top of the escarpment, 26 m Utility Right of Way and links the park systems, school and Town centre. The proposed trail will link to existing trails in the area to extend the City's overall trail network. In some instance within the developed areas the trails may follow regular sidewalks rather than dedicated trails. Where trails run between the top of the escarpment and the back of lots, an increased setback may be required to provide adequate separation between the trail, the escarpment and the residential properties.

3.3 *Commercial Land Use*

The Saamis Heights neighbourhood will have a population of approximately 3000 people which is of sufficient size to support a local commercial site. A single local commercial site is proposed on the north side of the major collector road (Saamis Heights Boulevard) across from the town centre. The purpose of this parcel is to provide a site for neighbourhood related developments such as a gas bar, a convenience store, video outlets, etc.

3.4 *Residential Land Use*

3.4.1 *Low Density (Single Family Residential)*

The residential land use in the Saamis Heights area will be predominantly single family dwellings. However, it is intended that a variety of other housing types will also be provided. In this area structure plan, the low density classification includes one, two, three and four unit dwellings. At the conceptual plan/subdivision stage, details regarding lot sizes and mixes will be established taking into account the market demands of the day. To provide a better social integration, the various housing types should be scattered throughout the study area rather than in concentrated pockets. It is estimated that the single family land use will generate 12 housing units per ha and 2.6 persons per unit for an average population density of 31 persons per ha.

3.4.2 *Medium Density (Multi Family Residential)*

A number of higher density multi family sites are planned for this area. These sites are proposed to accommodate a variety of housing types for a varied market. To reduce traffic impacts, the multifamily sites along the major roads and on bus routes will be used for higher density apartment style developments while the sites located in the outer areas will be used for townhouses or lower density style residential developments. Some of the multifamily sites along the escarpments are intended to provide an increase in the overall density and provide an alternative to the traditional single family residences. It is estimated that multifamily

developments will generate on average 50 units per ha and 1.6 persons per unit for an overall population density of 80 persons per ha.

3.4.3 *Other Housing*

In keeping with the City's Innovative Housing Policy, the plan encourages the inclusion of areas to accommodate innovative housing or nontraditional housing types. These sites will be determined at the Conceptual Plan stage.

3.5 *Parks & Open Space*

The following table shows the breakdown of the reserve as required by the Municipal Government Act:

TABLE 1 - RESERVES

	CITY	PRIVATE	TOTAL
Total Site (ha)	88.7	20.5	109.2
Environmental Reserve (ha)	6.3	1.6	7.9
Municipal Reserve (ha)	6.2	1.9	8.1
School Reserve (ha)	2.0	0	2.0

3.5.1 *Environmental Reserve*

All area that may be undevelopable due to unstable soils or slopes greater than 15% will be designated environmental reserve. The environmental reserve areas will include all escarpments adjacent to the site as well as the areas between the top of the escarpment and the development setback line established by the geotechnical study. In accordance with the Municipal Government Act, environmental reserve areas may be used as parks or left in a natural state. A trail is an appropriate use provided it will not have a negative environmental or geotechnical impact. Prior to establishing a trail in an environmental reserve areas, further environmental and geotechnical investigations may be required.

3.5.2 *Municipal Reserve*

The Municipal Government Act requires the owner of land to be subdivided to provide reserve land or money in place of reserve land equivalent to 10% of the total site area less environmental reserve area. The required reserves should be allocated as shown in Figure 5. The locations are only conceptual and the detailed locations are to be worked out as part of the Conceptual Scheme process and dedicated at the subdivision stage. To ensure usability and

maintenance efficiency, reserve parcels should be a minimum of 0.5 ha in size and close to roads and trails to allow maximum access to all residents.

3.5.3 School Reserve

The plan provides for a 2 ha school site south of the Town centre. This site was requested by one of the School Boards. No firm plans exist to develop this site at this time, however since this site is in one of the later phases of development, if it is determined this site is not required, it can be used for additional park, recreation facilities or other community facilities.

3.5.3 Trail System

As part of the open space system, a series of pedestrian/bicycle trails is proposed along the top of the escarpment and the Utility Right of way to the south. These trails will link through the study area with the town centre and other existing city trails in the area. Within the developed areas, sidewalks will form the links between trails. Along the major collector, it is recommended that a separate trail be constructed in the buffer area, rather than the standard monolithic curb and sidewalk. To ensure that the proposed trail does not create any environmental or geotechnical problems, at the detailed planning stage further review may be required. In some areas the setback may need to be extended to provide adequate separation between the trail and the top of slope and adjacent properties. A detailed standard should be worked out prior to the subdivision stage.

3.6 Other Land Uses

3.6.1 Institutional

In addition to the 1.25 ha institutional site proposed for the 'town centre' which could be used for a church, group home, or other public service/institutional use, a specific request has been made to provide a 1.6 ha church site near the entrance of this development. A site is proposed on the south side of Saamis Heights Boulevard at the intersection of Saamis Heights Way. This site will only have access off of Saamis Heights Way, not from Saamis Heights Boulevard.

3.6.2 Utility Right of Way




A 26 m Utility Right of Way runs along the southern boundary of the study area. This right of way is required to protect the 600 mm water transmission main to the new South Ridge water reservoir and an overhead power line which is one of the main lines that form part of the City's power network. The portion to the west of Saamis Heights Boulevard may be used to provide a future road link to the properties to the west and the portion to the east be used to construct a trail which will serve as part of the trail network for this area.

Saamis Heights

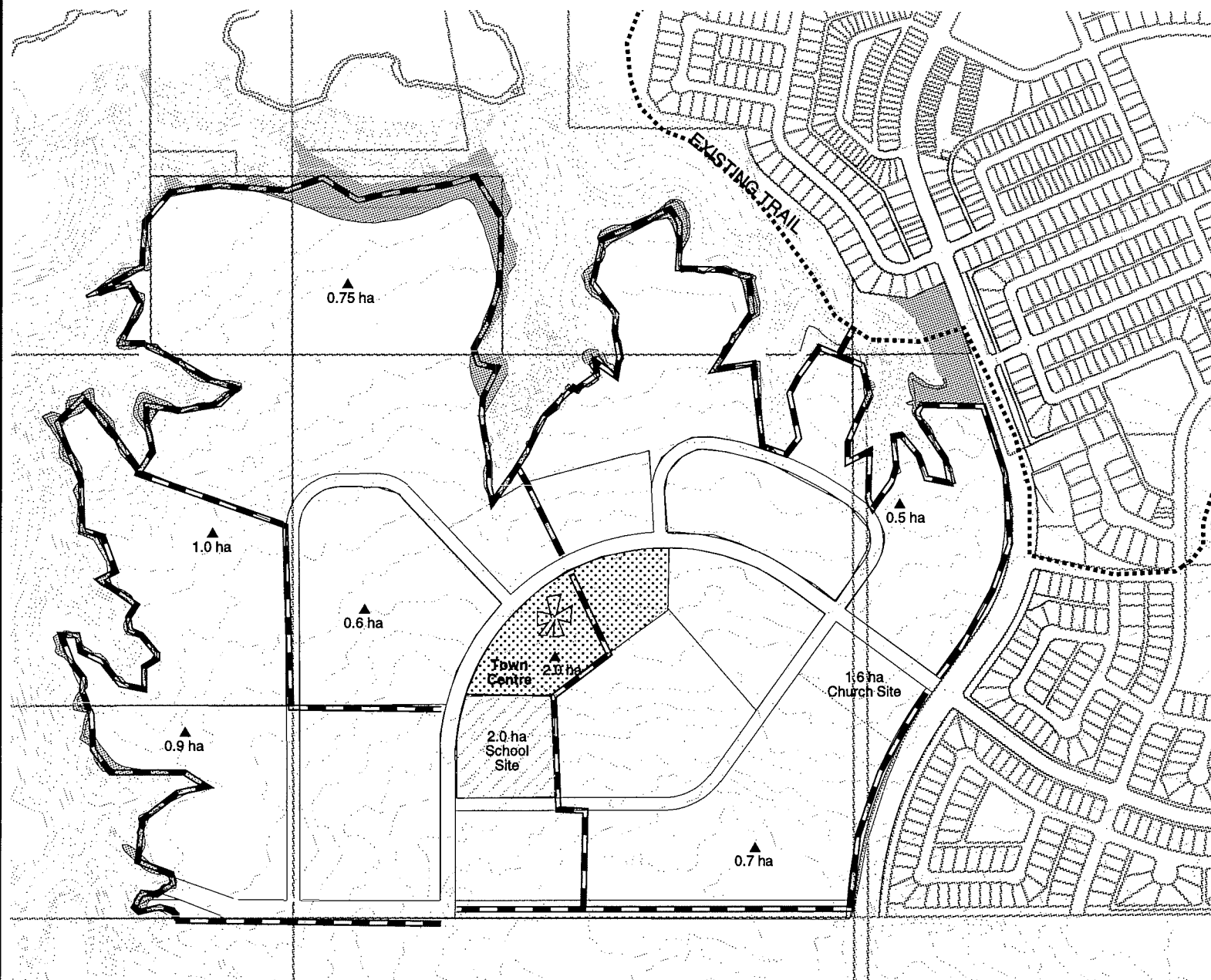
AREA STRUCTURE PLAN

Figure 5

PARKS AND OPEN SPACE

-  ENVIRONMENTAL RESERVE
-  PROPOSED TRAIL SYSTEM
-  NEIGHBORHOOD PARK
-  COMMUNITY PARK

NTS



3.7 *Transportation*

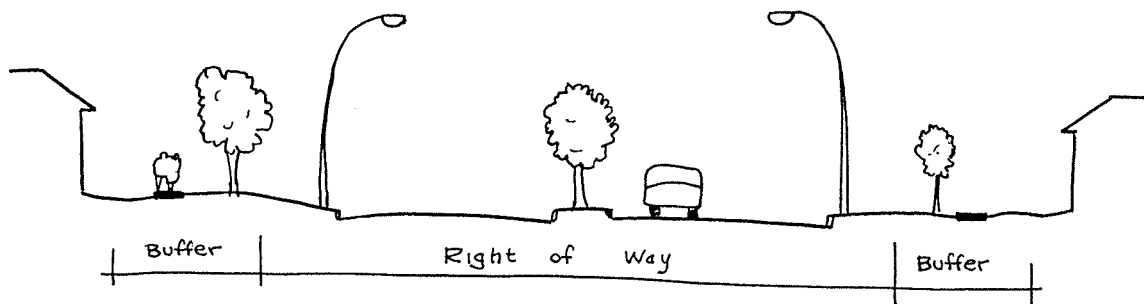
3.7.1 *Road Systems*

The Development Concept shown on Figure 4 illustrates the proposed collector road system for the study area. The road system follows the concept shown in the City of Medicine Hat Municipal Development Plan (see Figure 6). The major road for this neighbourhood, Saamis Heights Boulevard will be an extension of Strachan Road. This road will function as the major collector and will be constructed to loop through the centre of the site, then turn to the south to the study area boundary. As the surrounding areas develop, the road will be continued southerly then easterly through the privately owned land, eventually connecting with roads in the Southlands area.

Three residential collectors (Saamis Heights Crescent, Saamis Heights Drive, Saamis Heights Way) intersect with the major collector to provide access to the residential pockets. (See Figure 4) The spacing between the residential collectors intersections should be maintained at between 200 to 250 m. Direct access to this major collector should be minimized with access to the residential areas via the residential collectors.

To provide access to properties to the west of this site, a road connection is proposed from Saamis Heights Boulevard west on the 26 m Utility Right of Way. Locating a road on this utility right of way takes advantage of the fact the area was disturbed during the construction of the water main and minimizes the impact on the coulee located along the westerly edge of the study area.

To enhance the appearance of this neighbourhood, it is recommended a tree lined centre boulevard be established along the entire length of the major collector to create an attractive feature for this development. This boulevard should be at least 3 m in width. A 5 m buffer strip is also recommended along both sides of the major collector, Saamis Heights Boulevard.



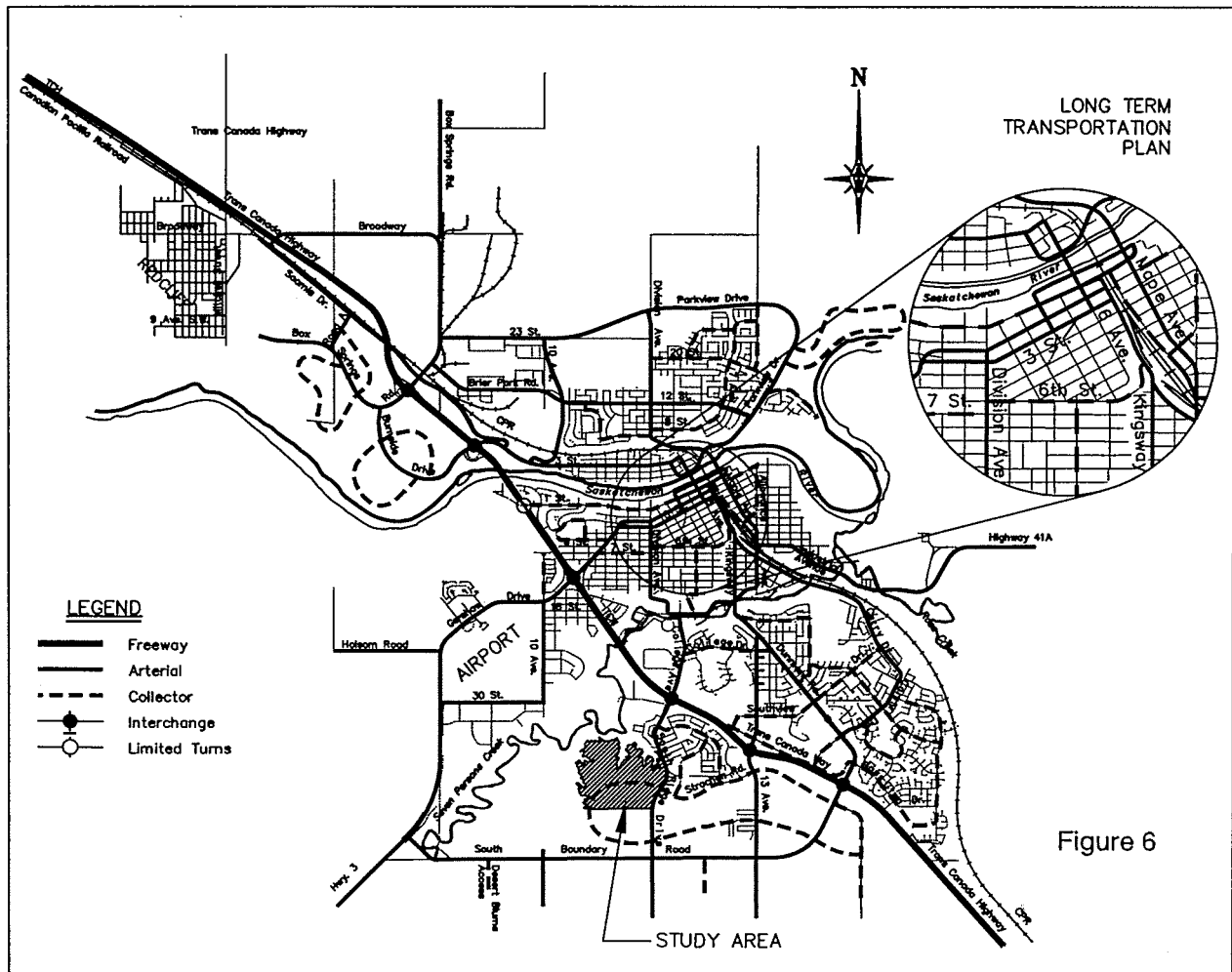
All roads in the study area will be constructed to the City of Medicine Hat standards, namely:

Major Collector	22 m Right of way
Residential Collectors	18 m Right of way
Residential Roads	16 m Right of way

In keeping with the concept of sustainable development, the question of lanes versus no lanes, or a mix may be an issue that should be addressed prior to the preparation of Conceptual Plans for the study area.

3.7.2 Transit

As the City expands further outward from the centre, it presents challenges for the transit servicing. The design concept is laid out such that if by using the residential collectors as the transit routes no resident should be more than 400 m from a bus route. During the preparation of the Conceptual Schemes and subdivision designs, walkways and street alignments should take the needs of transit into account. Similarly, during the design of the major collector, bus bays or lay over points should be accommodated.



3.8 Land Use Statistics

TABLE 2 - Land Use Statistics

	Area (ha)	%	
Residential			
Single Family (Low Density)(City)	56.9	52.1	
Multi-family (Medium Density)(City)	4.5	4.1	
TOTAL (City)	61.4	56.2	
Single Family (Low Density)(Private)	14.9	13.6	
Multi-family (Medium Density)(Private)		1.0	0.9
TOTAL (Private)	15.9	14.6	
Commercial			
Local Commercial (City)	1.8	1.6	
Institutional			
Town Centre (City)	1.25	1.1	
Church site (City)	1.6	1.5	
Reserves			
Environmental Reserve(City)	6.3	5.8	
(Private)	1.6	1.5	
Municipal Reserve (City)	4.5	4.1	
(Private)	1.9	1.7	
Buffers (City)	1.7	1.6	
School (City)	2.0	1.8	
Major Roads			
Major Collector (City)	2.5	2.3	
Residential Collector (City)	3.9	3.6	
(Private)	0.9	0.8	
Other Land Use			
Utility Right of Way (City)	1.7	1.6	
(Private)	0.2	0.2	
TOTAL	109.2	100	

3.8.1 Land Use Statistics by Phase

TABLE 3 - Land Use Statistics by Phase (Gross Developable Areas)

Phase 1	Area (ha)	Dwelling Units	Population
Single Family (Low Density)(City)	32.8*	310	805
Single Family (Low Density)(Private)	11.6*	126	328
Multi-family (Medium Density)(City)	4.5	225	360
Town Centre (City)	3.2		
Church site (City)	1.6		
School (City)	2.0		
Commercial (City)	1.8		
Major Collector (City)	2.2		
Residential Collector (City)	3.1		
Residential Collector (Private)	0.3		
Utility Right of Way (City)	1.4		
TOTAL (Phase 1)	63.1	758	1745
Phase 2	Area (ha)	Dwelling Units	Population
Single Family (Low Density)(City)	30.3*	364	946
Single Family (Low Density)(Private)	3.3*	40	104
Multi-family (Medium Density)(Private)	1.0	50	80
Residential Collector (City)	2.5		
Residential Collector (Private)	0.6		
Utility Right of Way (City)	0.3		
Utility Right of Way (Private)	0.2		
Total (Phase 2)	51.6	454	1130
Total (Developable Land)	101.3	1212	2875

Note: * includes unallocated municipal reserves shown on Figure 5

4.0 UTILITY SERVICING

4.1 *Water Supply*

Water for the Saamis Heights area will be supplied via a 450mm transmission main from the new South Reservoir, being constructed in South Ridge Phase 5. When all 3 cells of the South Reservoir are completed, 17ML of storage will be provided. The South Reservoir will form a new pressure zone within the City. The reservoir will meet the water demands for the area including fire storage and through an attached booster pump station will supply the required pressure for the distribution system for Saamis Heights. Saamis Heights has a projected population of 3,000. At an average daily demand of 1090 litres per capita per day this population will require an average daily supply of 3,270 cubic metres per day.

4.2 *Sanitary Sewer*

The Reid Crowther & Partners Ltd. Engineering Report proposed to service the study area with three sanitary sewer catchment areas. Approximately 56 ha of the site can be serviced by gravity flow, while the northern portion of the site will be serviced by two lift stations. The three catchment areas will flow into a 300 mm main collector which will connect to a control/splitter manhole in South Ridge Drive. From this manhole, flows will be diverted on a 30% / 70% split into the College Avenue and the Southview Drive Trunks respectively.

Following a more detailed analysis, it has been determined that by constructing a second collector north of the 300 mm line, the area serviced by gravity is increased by approximately 27.8 ha, thus reducing the area serviced by a lift station. This second line results in a splitting of the sewer loads between the College Avenue and Southview Drive Trunks, therefore eliminating the need for the control/splitter manhole.

4.3 *Stormwater Management*

Storm drainage from Saamis Heights will be directed northerly to an outfall into Seven Persons Creek which runs along the north toe of the escarpment. The Saamis Heights drainage system will consist of two components, a minor system consisting of storm sewer pipes and a major system to accommodate surface runoff resulting from a storm event that exceeds the capacity of the minor system. The minor drainage system will consist of a series of storm trunks leading to two outfall locations which will flow into Seven Persons Creek. To prevent erosion, the Reid Crowther Engineering study recommended that the piped system extend to the creek rather than allowing water to flow from the top of the escarpments. The major system designed to safely convey runoff from a 1 in 100 year event, will follow roadways, natural and man-made channels using a series of trapped lows through the development to the receiving stream. The issue of treating storm water prior to entering the adjacent streams must be addressed. In addition, to ensure the environmentally sensitive areas are not impacted, caution will have to be exercised in selecting the outfall routes.

4.4 *Gas Servicing*

A 200 mm gas feeder main will be required along South Ridge Drive to supply the Saamis Heights and Bonavista areas. A 150 mm gas feeder main is require on Saamis Boulevard to provide a major feed to the Saamis Heights area. A new gas distribution station will not be required to provide gas service to the Saamis Heights area.

4.5 *Electric Service*

A 69m kv high-tension and 13.8 kv under-built low-tension overhead line runs East -West along the south boundary of the site. Electrical supply to existing areas of South Ridge is underground. The initial major feed to Stage 1 will be from existing underground system along South Ridge Drive and with a second major tie from the 13kV line along the south boundary being made at a later date. In addition, a third smaller tie is required in the northeast corner to incorporate this area into the South Ridge distribution area.

4.6 *Telephone and Cable*

Telephone and cable services will be extended from existing areas of South Ridge.

Note: Additional utility servicing information, is included in the Reid Crowther & Partners Ltd. Engineering Report. A copy of the Utility Servicing Maps is included in Appendix "A."

5.0 PHASING AND IMPLEMENTATION

5.1 *Phasing*

The Saamis Heights area is of sufficient size that it will be developed in several Phases. The Phasing Plan shown on Figure 7 takes into account the road network, the servicing of the study area and land ownership.

The current practise in the City is to develop areas of 100 to 150 lots at a time. Taking this into account, each phase will be developed as a number of sub-phases. The number of sub phases will be determined at the time of subdivision taking into account the engineering, servicing requirements and market demands.

5.2 *Implementation*

The purpose of this Area Structure plan is to establish a frame work for the future planning and utility servicing for this area of the City. This plan provides the overall structure of land use, transportation and servicing for this area, however, before this site can be subdivided more detailed planning is required. Typically, a conceptual scheme is prepared prior to the submission of a subdivision application. A conceptual scheme should provide the following:

- Detail the local street network, including transit.
- Identify proposed land use classifications.
- Identify specific sizes and locations of environmental, municipal and school reserves and trail system.
- Detail engineering for the utility servicing.
- Identify specific locations of other land uses such as Commercial and institutional.
- Development Guidelines

Development of the first Phase of Saamis Heights is scheduled to commence in the fall 1999/ spring 2000. To reduce the approval process, a tentative subdivision design has been included. The purpose of including this design and the proposed land use classifications for a portion of the Phase 1 is to eliminate the need for a conceptual scheme for this portion of Phase1. A conceptual scheme will still be required for the remainder of Phase 1 and Phase 2. The preparation of a conceptual scheme for the remainder of study area is required to coordinate the subdivision design for the area of land owned by the city and private developer. This is particularly important to coordinate the design of the two sanitary collector mains and sewer lift station. The design of this lift station needs to be commenced during in the initial stages of development so that the required provision are made in the 300 mm gravity main to accommodate the force mains. Oversizing of all utilities will have to be taken into consideration during the design stages. The coordination of development and the oversizing issues will be worked out through the conceptual scheme and service agreement processes.

Saamis Heights

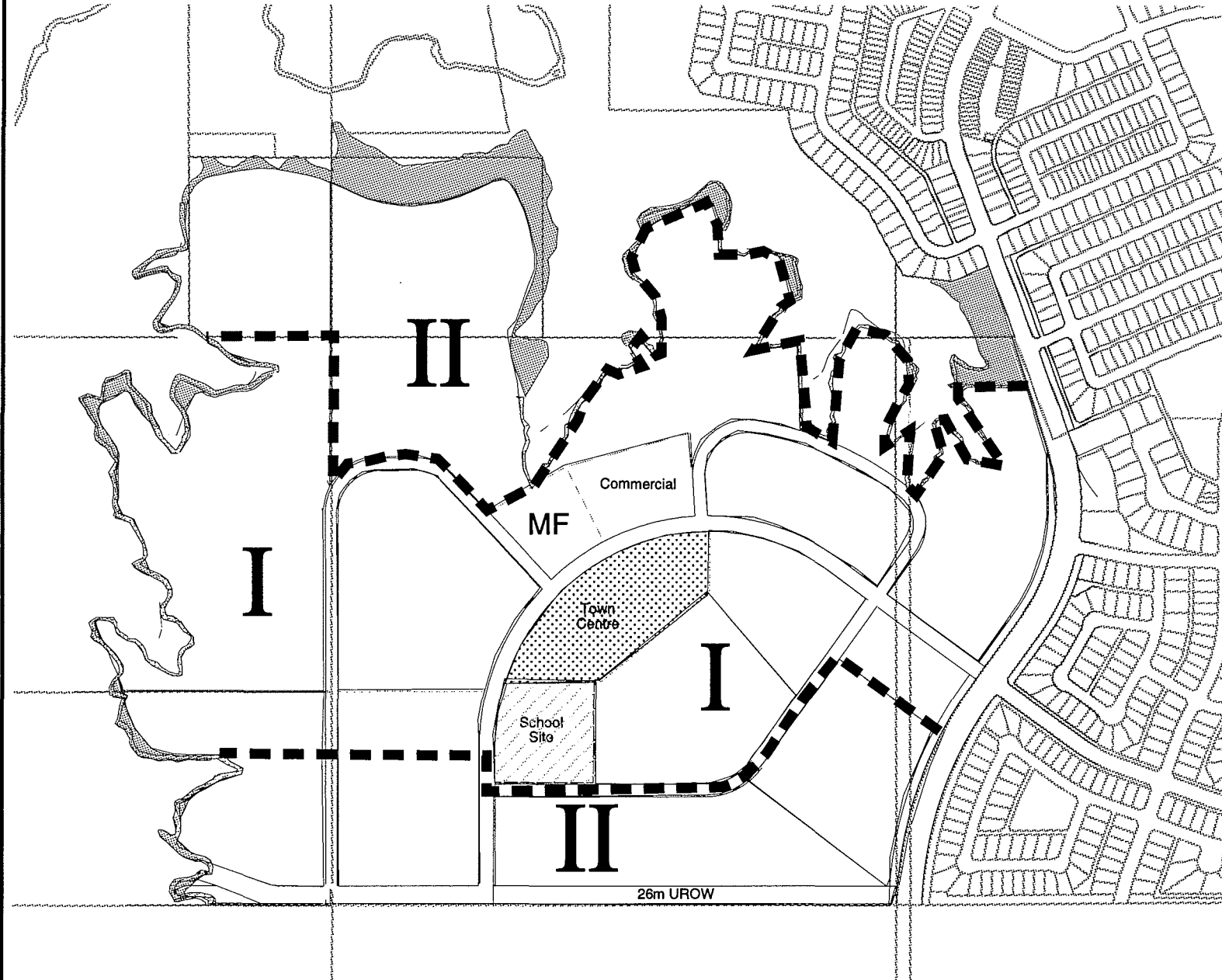
AREA STRUCTURE PLAN

Figure 7

PHASING

-- BOUNDARY

NTS



The owners of the SW 1/4 Sec. 13, Twp 12, Rge 6 W4M have asked to have the portion of their quarter that lies along the coulee that defines the westerly edge of the study area included in the area structure plan. This small area lies outside the study area boundary and has not been included. However, at the time the conceptual scheme for the adjacent area is being prepared, the potential to service and include this area as part of Saamis Heights could be investigated. If it is considered appropriate to include this area, the area structure plan can be amended as part of the conceptual scheme adoption.

5.2.1 Fire Protection

It has been determined that the Saamis Heights area lies beyond the effective fire suppression response perimeter. As a result, the installation of residential fire sprinklers is recommended in this area. As part of the land sales agreement, a notification to prospective purchasers shall be included advising that this area lies beyond the effective fire suppression perimeter and residential sprinklers are recommended.

5.3 Subdivision Design

Figure 8 shows the proposed subdivision design for Phase 1A of Saamis Heights. The purpose of this design is to detail the subdivision plan for the first two or three years of development in Phase 1. Sufficient detail is provided so that a conceptual scheme for this area will not be required.

The subdivision design for the remainder of Phase 1 and all of Phase 2 will be finalized through the preparation of a conceptual scheme. This conceptual scheme will allow the coordination of the subdivision and utility designs for the City and privately owned property.

5.3.1 Density Calculations (Phase 1A)

Dwelling Type	No. of Lots	% Lots	No. of Units	% Units
R-1 Single Family	220	92	220	45
R-2 Duplex	11	5	22	5
R-3 Fourplex	4	2	16	3
R-3 Apartment/Town House	3	1	225	47
Total	238	100	483	100

Density: 11.1 Units /Hectare (4.5 Units/Acre)

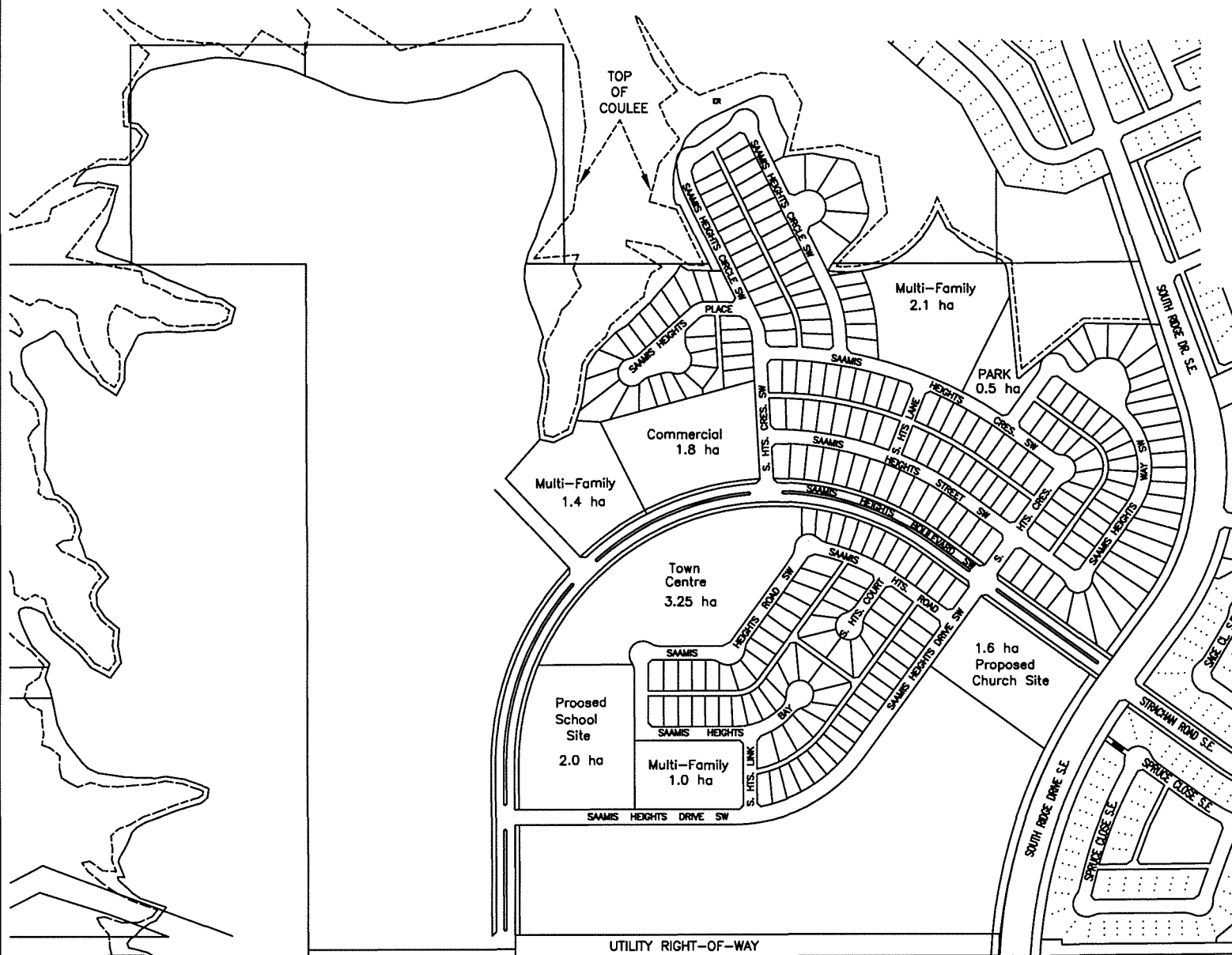
5.4 Land Use Amendment

Currently the study area is classified UR "Urban Reserve District". As part of the adoption of this area structure plan, the land use amendments shown on Figure 9 for the Phase 1A should be adopted.

AREA STRUCTURE PLAN

SUBDIVISION DESIGN

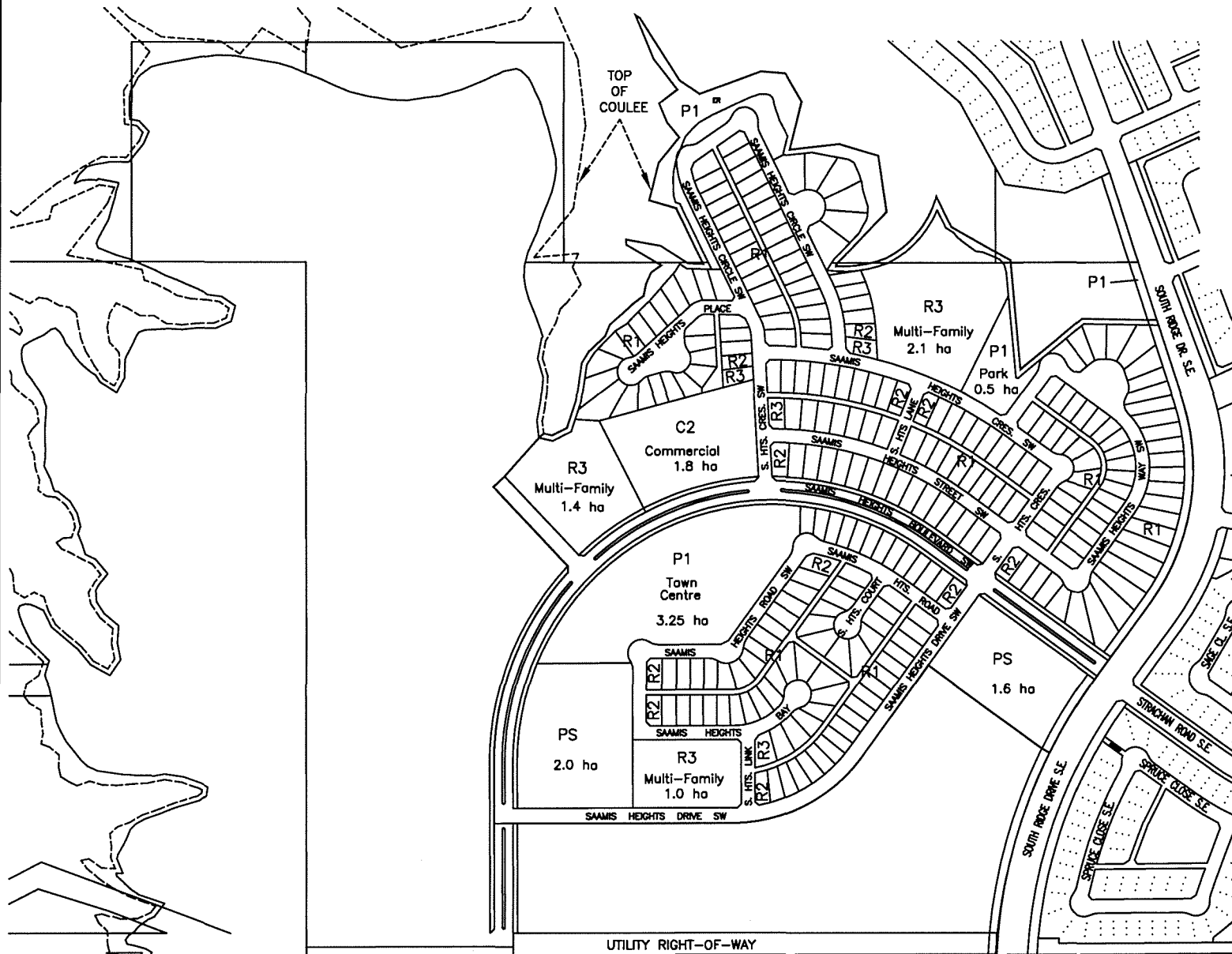
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AREA STRUCTURE PLAN

PROPOSED LAND USE AMENDMENT

NTS



APPENDIX A

ENGINEERING STUDY (Utility Servicing Maps)



Medicine Hat
The Gas City

Public Services Division
Planning & Engineering Services Department

SUBDIVISION DEVELOPMENT
SERVICING STUDIES
SOUTH RIDGE PHASE 6

- ② SUBCATCHMENT NUMBER
--- SUBCATCHMENT BOUNDARY
Size (mm) STORM SEWER (MINOR) SYSTEM
A B
→ MINOR SYSTEM INFLOW
SF SINGLE FAMILY
MF MULTI FAMILY
MR MUNICIPAL RESERVE

OVERLAND FLOWS
DISTRIBUTED (TYP.)

ER
(TYP.)

STORM SEWER
OUTFALLS

M (OUT)

EX OUTFALL

COMMUNITY
CENTRE

EX CB

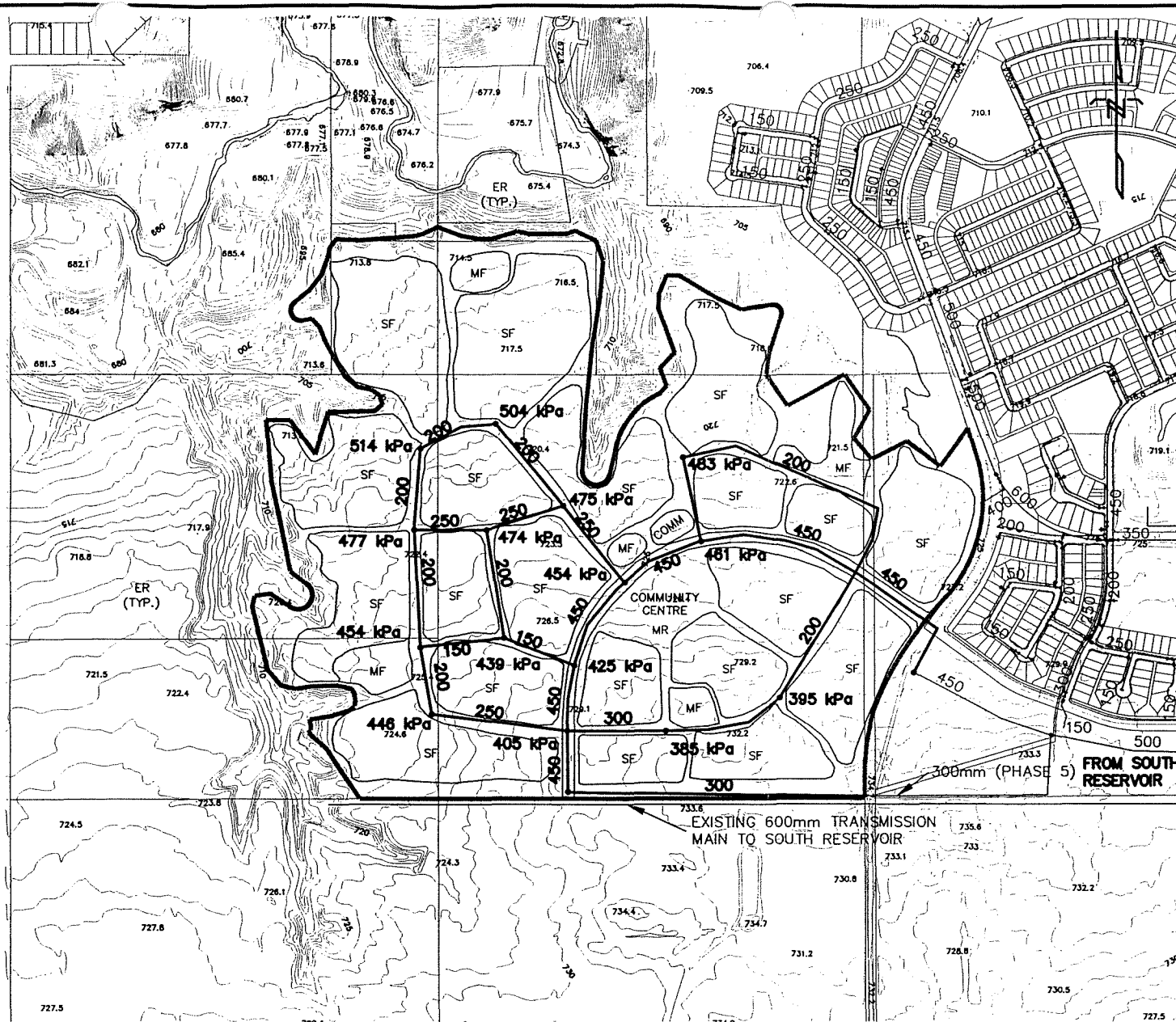
Reid
Crowther

Reid Crowther & Partners Ltd.
Consulting Engineers

PROJECT NUMBER 2567602
STORMWATER
MANAGEMENT
SYSTEM

SCALE 1:7500

FIG 5.1



Medicine Hat
The Gas City

Public Services Division
Planning & Engineering Services Department

**SUBDIVISION DEVELOPMENT
SERVICING STUDIES
SOUTH RIDGE PHASE 6**

300	PROPOSED WATERMAIN & SIZE IN mm
300	EXISTING WATERMAIN & SIZE IN mm
342 kPa	NODE PRESSURE FOR MAXIMUM DAY

**Reid
Crowther**

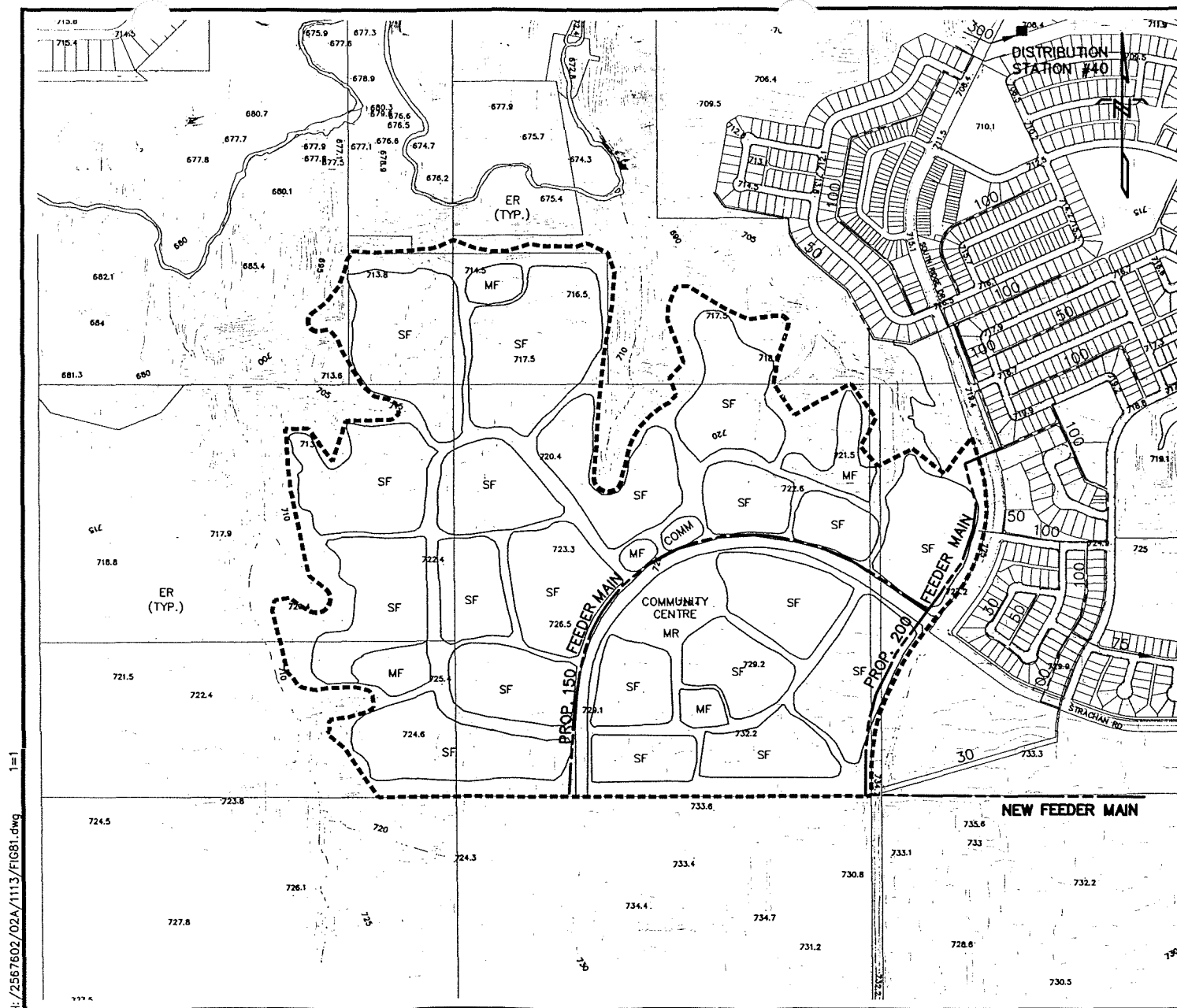
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Consulting Engineers

PROJECT NUMBER **2567602**

WATER DISTRIBUTION

SCALE 1:7500

FIG 6.1



Public Services Division
Planning & Engineering Services Department

**SUBDIVISION DEVELOPMENT
SERVICING STUDIES
SOUTH RIDGE PHASE 6**

50
EXISTING GAS MAINS
PROPOSED GAS MAINS

Reid
Crowther

Reid Crowther & Partners Ltd.
□ Consulting Engineers

PROJECT NUMBER **2567602**

GAS SERVICING

SCALE 1: 7500

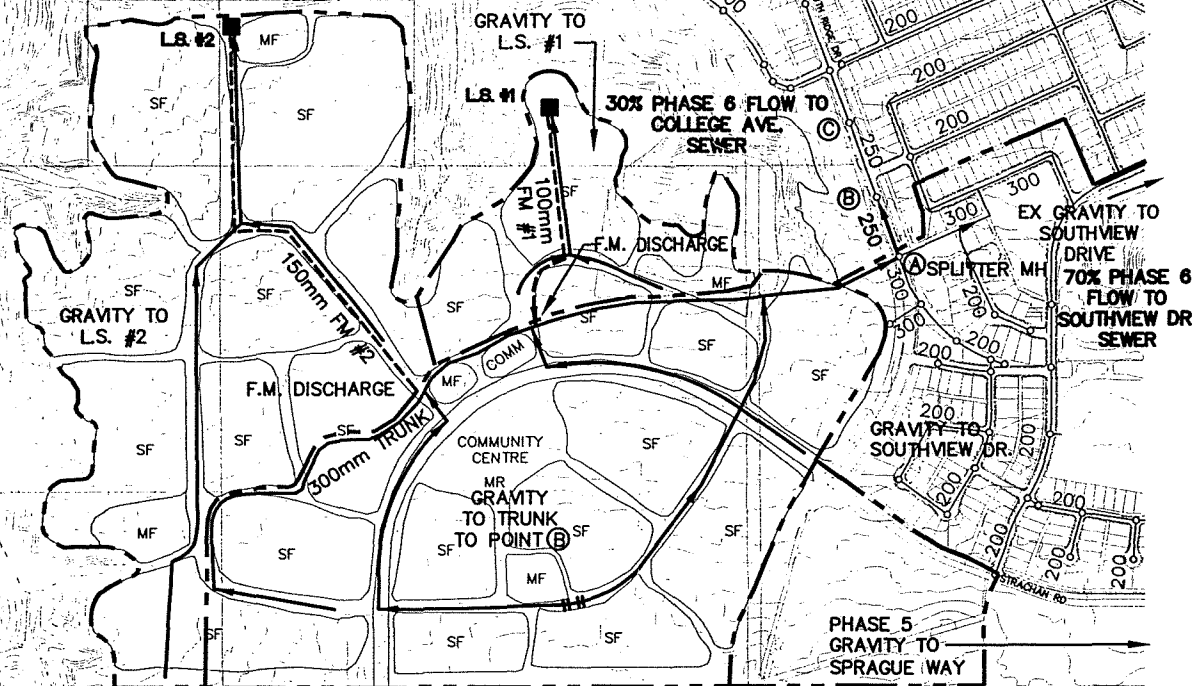
FIG 8.1



Medicine Hat
The Gas City

Public Services Division
Planning & Engineering Services Department

**SUBDIVISION DEVELOPMENT
SERVICING STUDIES
SOUTH RIDGE PHASE 6**



- CATCHMENT BOUNDARY
- - - - - PROPOSED FORCEMAIN
- PROPOSED GRAVITY SEWER
- EXISTING GRAVITY SEWER

**Reid
Crowther**

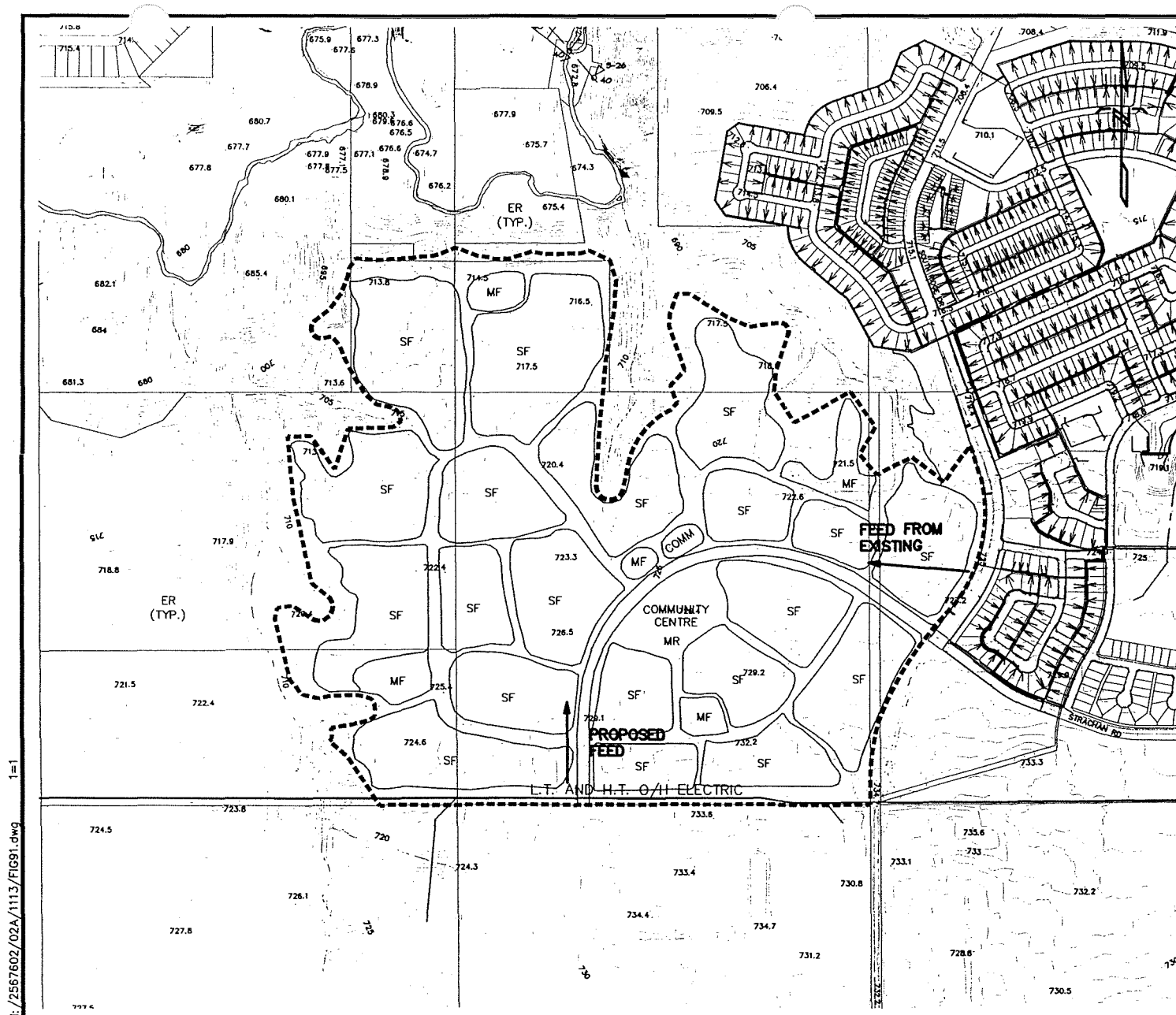
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Consulting Engineers

PROJECT NUMBER **2567602**

SANITARY SEWER

SCALE 1:7500

FIG 7.2



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Planning & Engineering Services Department

**SUBDIVISION DEVELOPMENT
SERVICING STUDIES
SOUTH RIDGE PHASE 6**

Reid
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□ Consulting Engineers

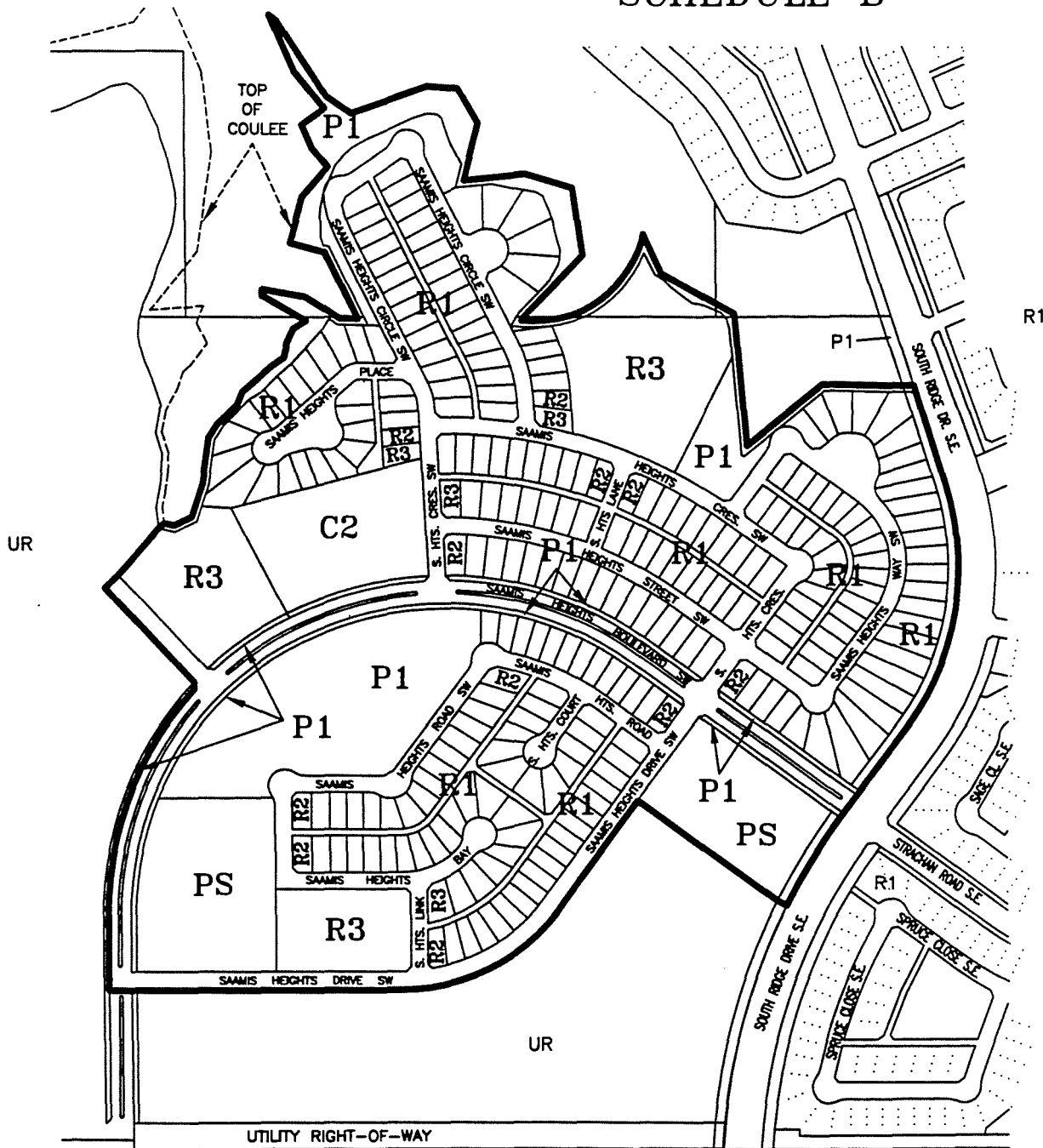
PROJECT NUMBER **2567602**

ELECTRICAL SERVICING

SCALE 1:7500

FIG 9.1

SCHEDULE B



LEGAL DESCRIPTION:

PTN NE 1/4 SEC 13, TWP 12, RGE 6 W4M

PTN SE 1/4 SEC 24, TWP 12, RGE 6 W4M

PTN NW 1/4 SEC 18, TWP 12, RGE 5 W4M

**PROPOSED LAND USE
AMENDMENT**