

# REGIONAL MUNICIPALITY OF WOOD BUFFALO

Fort McMurray Anzac Conklin Fort Chipewyan Fort Fitzgerald Fort McKay  
Gregoire Lake Estates Janvier Mariana Lake Sapræ Creek Estates



REGIONAL MUNICIPALITY  
OF **WOOD BUFFALO**

## **Prairie Creek Area Structure Plan**

**BYLAW NO. 98/065**

**This Area Structure Plan has been consolidated  
as per October 23, 2015**

**BYLAW NO. 98/065**

BEING A BYLAW OF THE MUNICIPALITY OF WOOD BUFFALO TO ADOPT AN AREA STRUCTURE PLAN FOR THE REGIONAL MUNICIPALITY OF WOOD BUFFALO RURAL SERVICE AREA.

WHEREAS Section 633 of the Municipal Government Act R.S.A. 1995 and amendments thereto authorizes Council to enact a bylaw adopting an Area Structure Plan.

NOW, THEREFORE, the Municipal Council of the Regional Municipality of Wood Buffalo, in the Province of Alberta, in open meeting, hereby enacts as follows:

1. This bylaw may be cited as "The Prairie Creek Area Structure Plan".
2. The "Prairie Creek Area Structure Plan" attached hereto as Schedule "A" is hereby adopted.

READ a first time in Council this *14th* day of *July*, 1998.

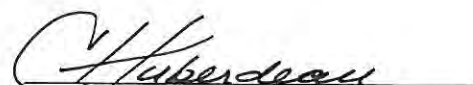
READ a second time in Council this *28th* day of *July*, 1998.

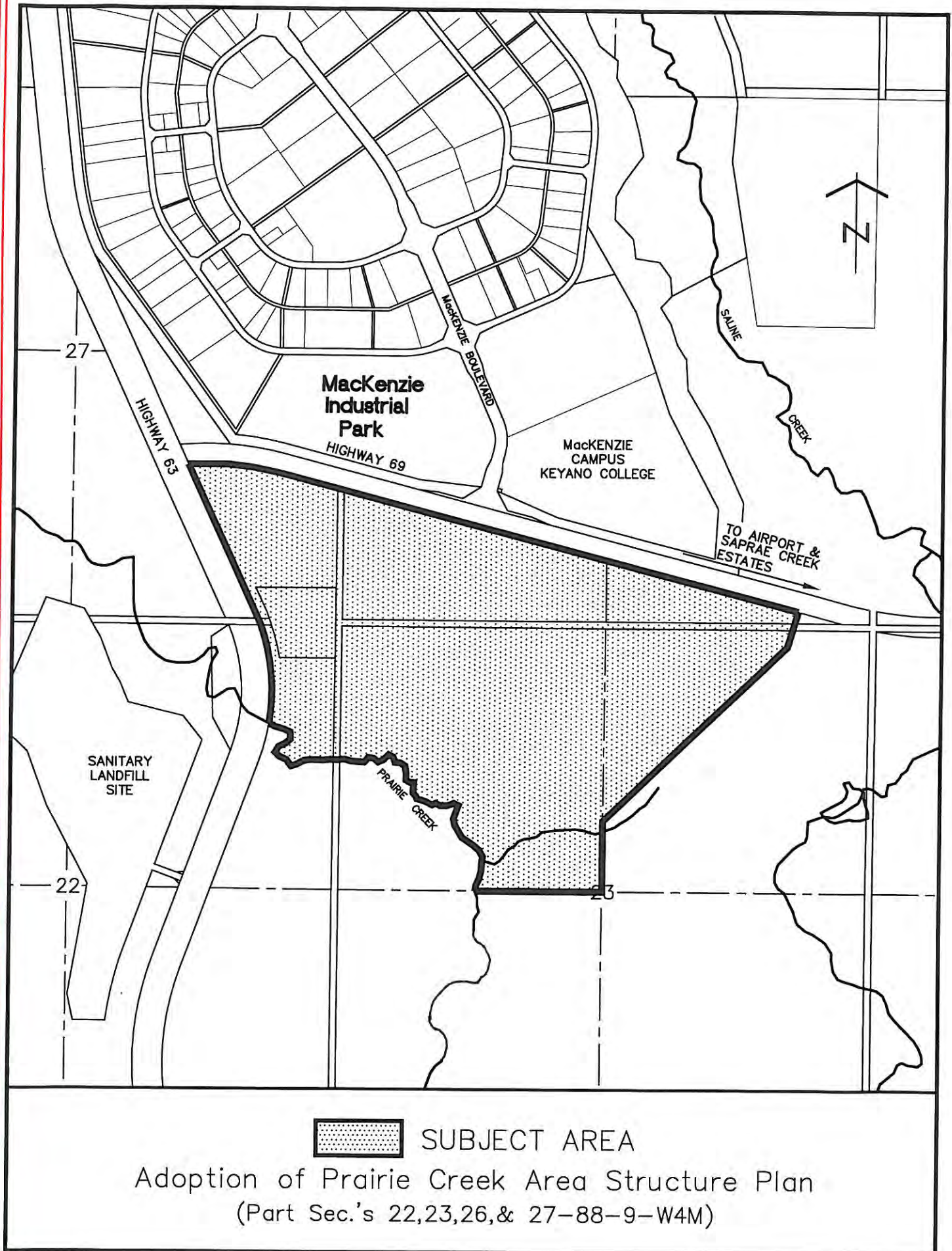
READ a third time in Council and passed this *28th* day of *July*, 1998.

CERTIFIED A TRUE COPY

  
Mayor

  
REGIONAL CLERK - DEPUTY

  
Regional Clerk - Deputy







**Prairie Creek  
Area Structure Plan  
in the Regional  
Municipality of Wood  
Buffalo**

**Revision #2  
June 1998**

**Prepared for:  
744310 Alberta Ltd.**

**Prepared by:  
Stanley Consulting Group Ltd.**

**File: 160 40751**

**Copyright 1998  
Stanley Consulting Group Ltd.**

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## **1.0 Introduction and Background**

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## **1.0 Introduction and Background**

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### **1.1 FORWARD**

This report and proposed Area Structure Plan has been prepared on behalf of 744310 Alberta Ltd., a major land owner within the subject area. The objective of the plan is to provide a framework for development of a planned area which encourages attractive and economical development in a manner which is compatible and complementary to existing developments in the Urban Services Area of the Regional Municipality of Wood Buffalo. Further, the development plan is based on development objectives to achieve the highest urban residential environmental standard possible, consistent with market requirements. The overall intent of the plan is to pursue orderly and economical staged development at the earliest date practical.

### **1.2 SCOPE OF THE PLAN**

The Area Structure Plan, as proposed, provides for the orderly development of the area, while recognizing the ongoing utilization of the majority of the area as natural grazing and open space lands. The plan will specify land uses, residential density patterns, parks requirements and locations, major roadway alignments, transportation requirements and servicing, and utility requirements in accordance with the provision of the Municipal Government Act. The design for the area is intended to establish a framework within which development will take place and incorporates municipal requirements for the area in order that consistent and coordinated development may occur in a manner which is responsive to the needs and requirements of the future residents. The Area Structure Plan will provide a sound framework within which municipal planning and review agencies may properly and fully evaluate subsequent detailed subdivision applications.

It should be noted that the Plan represents an optimum housing mix according to present trends. As such, it must be realized that within the time span for the implementation of the plan, flexibility is required to adjust to changing market demands in the areas of housing forms, building types, etc.

This document and accompanying plan have been prepared in accordance with Section 633 of the Municipal Government Amendment Act, 1995 and with the policies contained in the Fort McMurray General Municipal Plan, 1995 Urban Service Area, and recognizing the policies contained in the Fort McMurray Fringe Area Planning Study, 1986, of which this land forms a part of. This Area Structure Plan describes proposed land uses, density of development, location of major roads and utilities, and anticipated sequence of development.

The plan provides for the balance of residential and non-residential growth opportunities which serves to strengthen the municipality's residential and commercial assessment base and provide for an opportunity for residents to live and work within the same general area of the municipality.

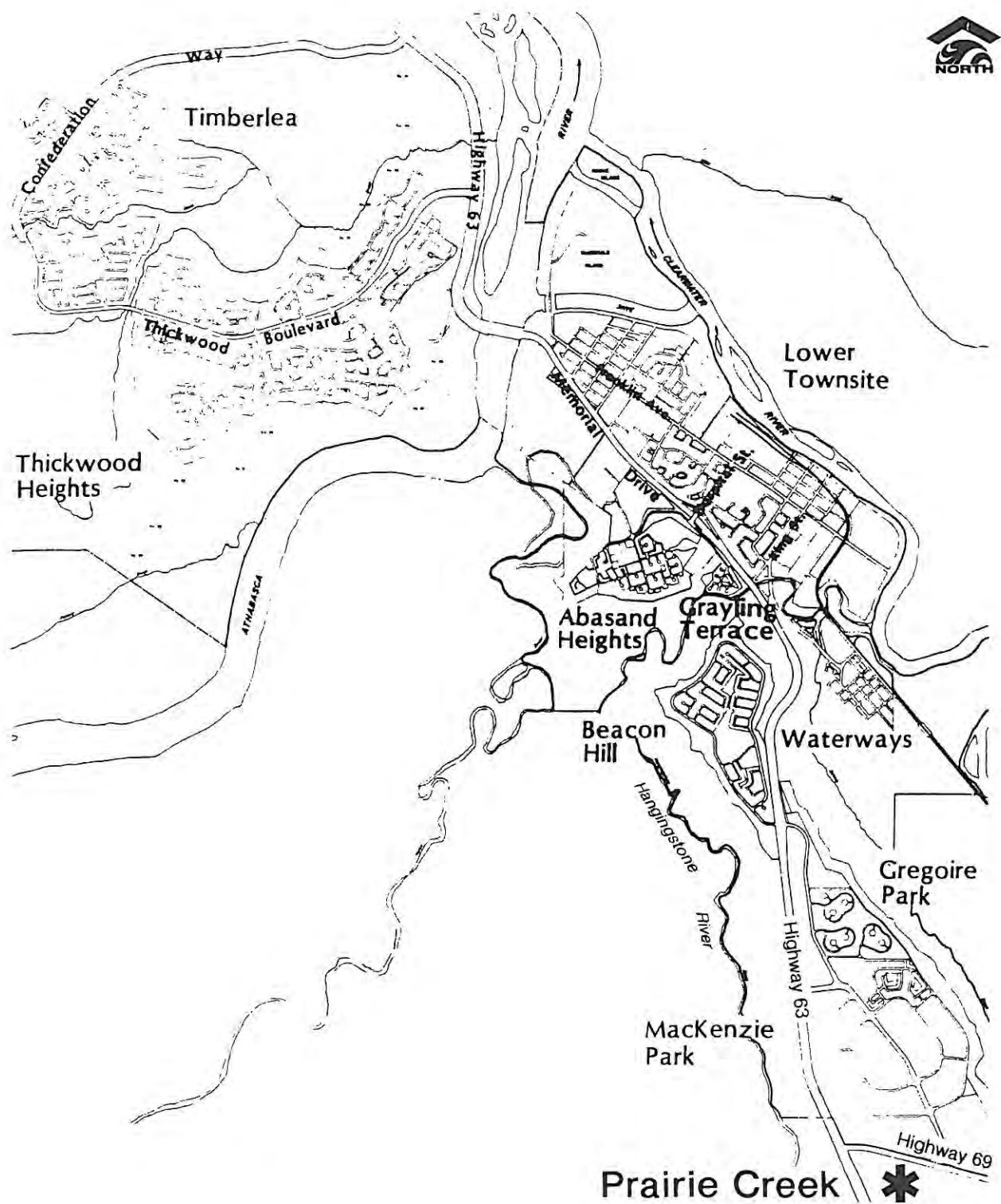


Figure 1  
Location Plan



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## **2.0 Existing Features and Factors Influencing the Plan**

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## **2.0 Existing Features and Factors Influencing the Plan**

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### **2.1 GENERAL**

In the preparation of the Area Structure Plan it was necessary to examine existing site conditions and inventory existing influences, both natural and man-made, on the type of development.

### **2.2 LOCATION AND URBAN CONTEXT**

The Area Structure Plan is comprised of approximately 126 hectares located adjacent to the south boundary of the Urban Services Area of the Regional Municipality of Wood Buffalo(See Figure 1). Immediately north of the property is Highway 69, a major east-west corridor linking the municipality and the Fort McMurray airport. To the west is Highway 63, the major transportation corridor which connects Fort McMurray to southern and central Alberta and provides the main access into the community(See Figure 2). To the south is the Prairie Creek, a natural stream course which flows from southeast to northwest.

Surrounding the subject lands, the Mackenzie Industrial Park is located immediately to the north of the subject area with the Fort McMurray sanitary landfill site located to the west across Highway 63. The area to the south and east is vacant and partially wooded, being used as an equestrian riding and grazing facility.

### **2.3 ENVIRONMENTAL ASSESSMENT**

#### **2.3.1 General**

A number of man-made factors and the area's natural features pose potential constraints and/or opportunities which should be explored in the planning of the Prairie Creek. These factors include current land uses within the area, soils vegetation, topography, transportation facilities, and policy constraints.

#### **2.3.2 Existing Land Uses**

The prominent land use within the area is primarily rural in nature, with a large portion of the area being utilized as an equestrian riding facility. A portion of the plan area to the east is undergoing logging. A transmitter and back beam marker site

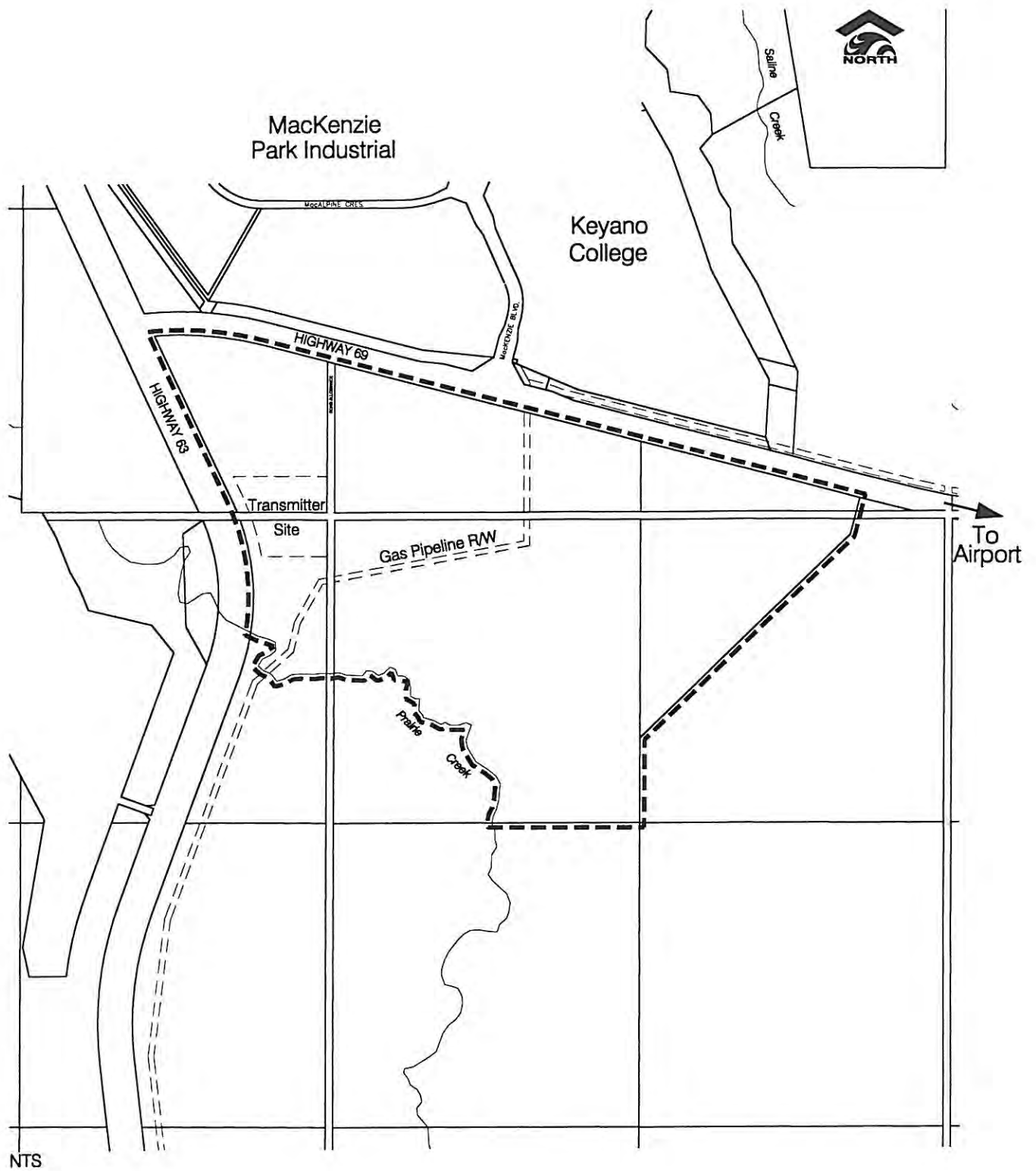


Figure 2  
Context Plan

for the airport is located in the western portion of the plan area and will remain throughout the life of the development. A Northwestern Utilities Ltd. gas pipeline right-of-way bisects the property with a multi-directional alignment from the southwest adjacent to Highway 63, to the north-central area adjacent to Highway 69 at the approximate location of MacKenzie Boulevard (see Figure 3). Existing land uses as noted above will be incorporated into the plan to the fullest extent possible.

### **2.3.3 Soils**

Soils in this area have been classified as Orthic Gray Luvisol indicating moderately well drained with development till and glaciolacustrine sediments. These soils are Class 5 acceptability of agriculture making them suitable for permanent pasture and hay with undesirable soil structure and excess water with some organics present.

These indicate potentially developable conditions but will require further investigation at the subdivision stage. In addition, sand and gravel deposits may exist in this area and should also be explored.

Initial indications suggest that the soils in the area are suitable for development. However, proper geotechnical evaluation of the development area will be done prior to final designs such that all soils conditions are allowed for in those designs. Initial indications indicate that the soils are suitable for development.

### **2.3.4 Vegetation and Natural Features**

The lands are situated within the Boreal Forest region of Canada. Approximately 50% of the lands are still forested. White and black spruce are common with some white birch and poplar. Vegetation is not expected to pose significant constraints to development.

### **2.3.5 Topography**

The subject area can be described as gently rolling hills, with an impressive vista area situated in the northwestern portion of the plan area. The plan generally slopes approximately from the northwest to the south, eventually into Prairie Creek.(See Figure 4) The topographical variation of approximately 15m in the area will present some restrictions to the development of the area and are further discussed in Section 4.0 - Servicing.

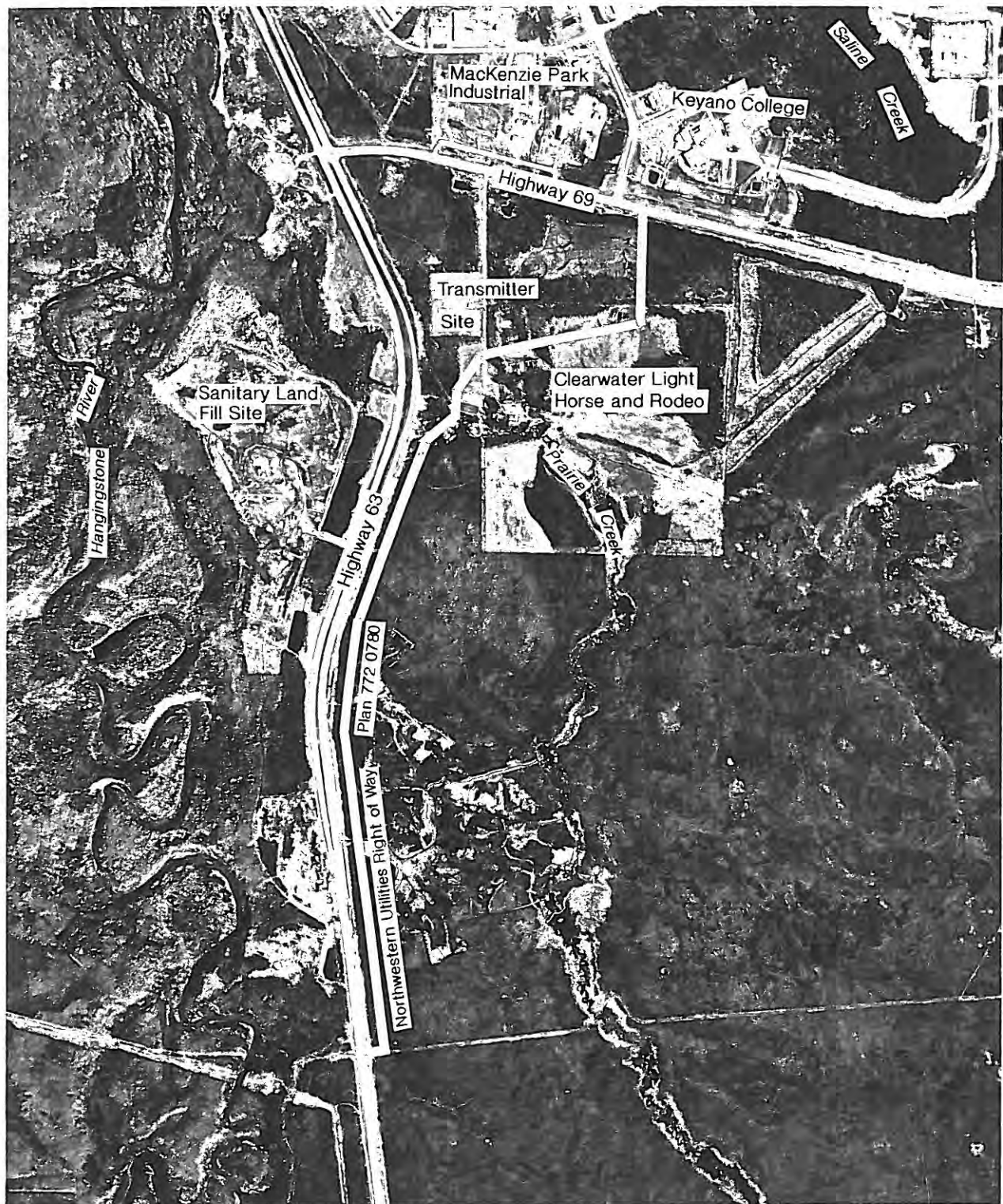


Figure 3  
Existing Site Features



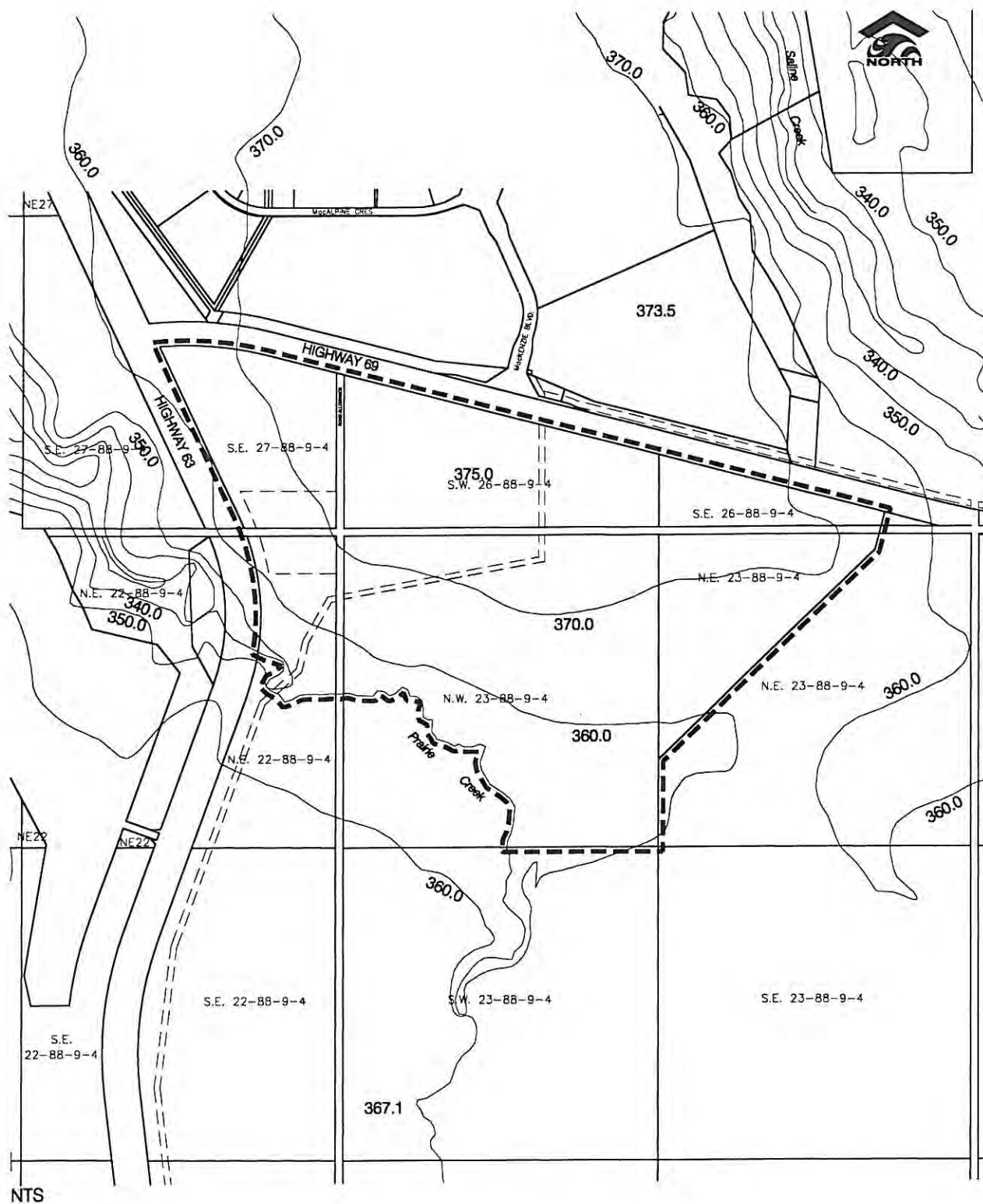


Figure 4  
Contour Plan

Elevations shown are in Meters.

### **2.3.6 Transportation Facilities**

The plan area is bounded on the west by Highway 63 and on the north by Highway 69. Highway 63 is the major north-south transportation corridor linking the Urban Services Area of Wood Buffalo to central and southern Alberta. It is therefore a significant transportation facility which will require careful attention with respect to access. It is anticipated that only a service road will be permitted to provide the necessary access onto the adjacent land uses. Highway 69, adjacent to the northern portion of the plan area, is an intra-municipal transportation facility providing access to the Fort McMurray airport and small settlements to the east. To the north of Highway 69 is MacKenzie Boulevard, a major industrial collector serving the MacKenzie industrial area.

### **2.3.7 Historical Resources**

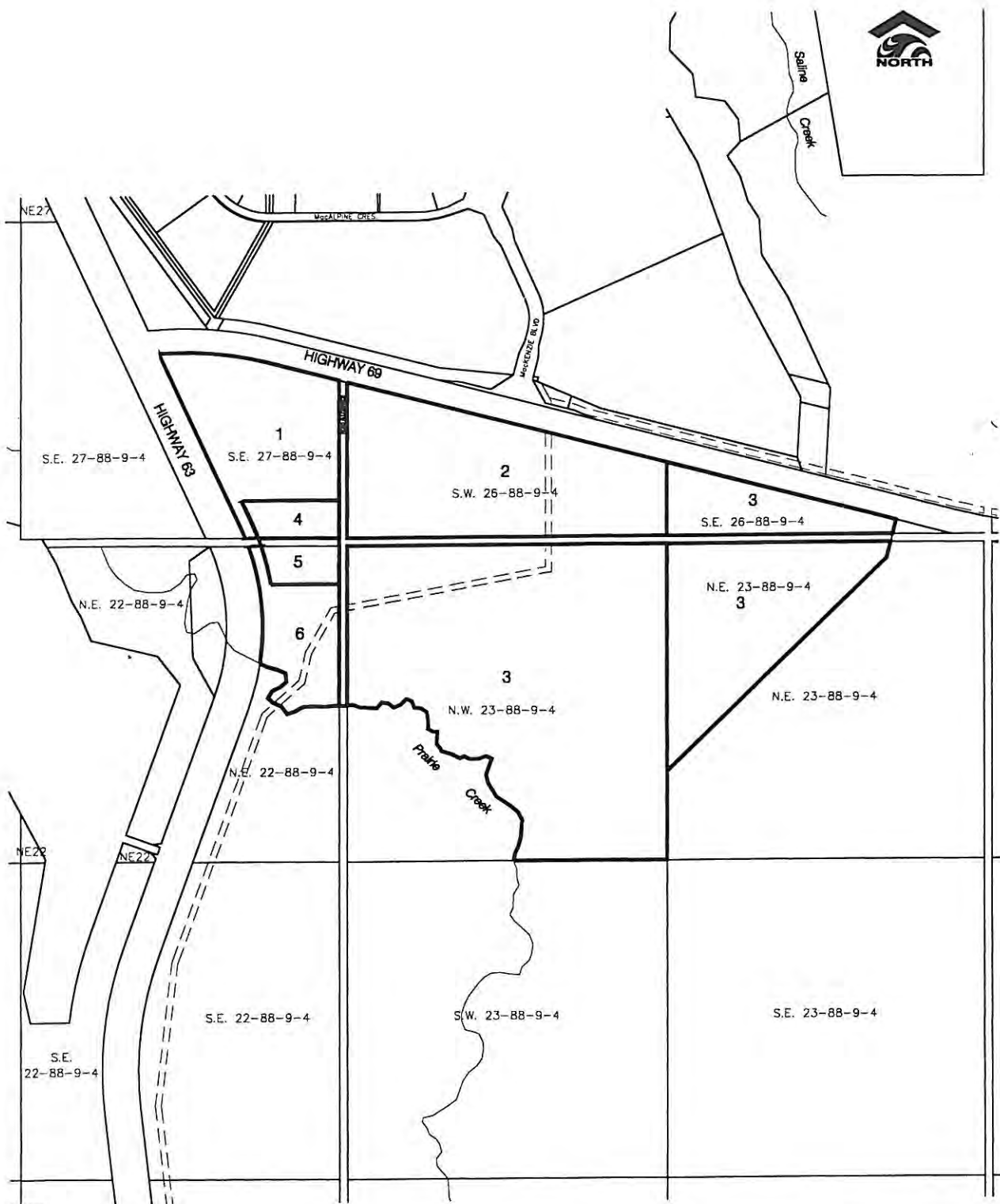
Historical research pertaining to the subject lands was undertaken by the Fort McMurray Historical Society. Their findings indicate that the area contains no historic significance.

## **2.4 LAND OWNERSHIP**

The subject area is primarily owned by Her Majesty the Queen with the exception of SW ¼ Sec 26-88-9-4 which is owned by 744310 Alberta Ltd. Grazing Leases have been given to the Clearwater Light Horse and Rodeo for the majority of the site (See Figure 5) with Bituminous oil sands lease also affecting section 22 and 23 in the southern portions of the plan area.

## **2.5 PUBLIC CONSULTATION**

A public information meeting was undertaken to inform the public at large about the plan and the process. Although there were some minor concerns raised concerning the adjacent equestrian facility, the plan was generally supported by the people in attendance. Some questions concerning the target market strategy of affordable housing were also presented, which indicated a preference for larger lots among those in attendance.



NTS  
LEGEND

- |   |  |   |                                       |
|---|--|---|---------------------------------------|
| 1 | Her Majesty The Queen<br>(Non Patent)  | 5 | Her Majesty The Queen                 |
| 2 | 744310 Alberta Ltd.  | 6 | Her Majesty The Queen<br>(Non Patent) |
| 3 | Her Majesty The Queen<br>(Forestry, Lands and Wildlife)<br>Grazing Lease re: Clearwater<br>Light Horse and Rodeo |   |                                       |
| 4 | Her Majesty The Queen  |   |                                       |

Figure 5  
Land Ownership

In addition, the owner met separately with the President and Executive of the Clearwater Light Horse and Rodeo Club. The Club expressed their support for the proposal and were particularly excited about the potential for fire fighting, permanent underground servicing, and natural gas becoming available to them as a result of the development.

## **2.6 CONCLUSION**

The plan proposed for the Prairie Creek must recognize various environmental factors in the design of this residential and commercial employment area. The natural and man-made environs will provide a number of opportunities to be incorporated in the area to form the future urban environment which will be a benefit to the community. The manner in which these factors are utilized, and the opportunities manifested, are the subject of future sections of this document and are fostered by development objectives formulated for the Prairie Creek Area Structure Plan.



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## **3.0 Factors Influencing the Plan**

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## **3.0 Factors Influencing the Plan**

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The Area Structure Plan provides the overall policy framework for the development of the area. The plan indicates possible design concepts for collector road patterns and residential density distribution. The concept is preliminary at this stage and the flexibility to adjust to changing market and development conditions in the Wood Buffalo area will be recognized at the subdivision plan stage.

The recognition of the potential role of the development area as an important segment of the urban fragment of the Urban Services Area of the Regional Municipality of Wood Buffalo, leads to the formulation of a number of objectives which should guide the development of the area. The immediate development area is essentially residential with associated commercial development to the west. The balance of the area will be left as an equestrian facility and will be subject to further planning studies prior to development. The area will be developed in accordance with the following development objectives.

### **3.1 DEVELOPMENT OBJECTIVES**

#### **3.1.1 Municipal Development Plan**

The Area Structure Plan complies with the residential goals as outlined in the Fort McMurray Municipal Development Plan.

- i) To ensure that all residents are adequately housed.
- ii) To ensure that future residential development provides for a mix of unit types as defined by size, amenity, space, and access. Family-oriented housing will be especially encouraged.
- iii) To bring the housing inventory into compliance with the other urban centers in Alberta.

The Area Structure Plan complies with the general commercial goals as outlined in the Fort McMurray Master Development Plan.

- i) To ensure that commercial and service facilities are adequate to serve the needs of the residents of Fort McMurray and the Region.



### **3.1.2 Overall Objectives**

- i) To conserve and optimize the use of the natural environment through sensitive integration of the development with natural features, including development adjacent to the equestrian area and Prairie Creek.
- ii) To develop a community that is consistent and compatible with same, while being reasonably self-sufficient in terms of services and amenities that define its sense of community.
- iii) To preserve any significant viewpoints and vistas and other significant views provided from the area.
- iv) To provide services to the standards of the municipality.
- v) To offer commercial employment opportunities in close proximity to residential areas sensitively integrated into the area through the use of controls to protect against any adverse visual, aesthetic, or other impacts.
- vi) To provide planning flexibility to stimulate innovation of planning and design of residential areas through the use of architectural and development controls.
- vii) To encourage energy efficiency in planning wherever possible with the use of proper site orientation techniques and vegetation.
- viii) To allow for economical, phased development at the earliest practical date consistent with municipal policies.

### **3.1.3 Residential Objectives**

- i) To provide a needed accommodation area as an additional, affordable housing alternative to create an attractive residential community to accommodate approximately 1,000 people.
- ii) To conform to neighbourhood planning requirements utilizing quality urban design principles.
- iii) To promote the establishment of a heterogeneous community and establish a hierarchy of neighbourhood and sub-neighbourhood units containing a variety of housing types.

- iv) To create sub-neighbourhood sectors which are flexible to change at subsequent planning stages dependent upon area analysis and market conditions at that time.

#### **3.1.4 Commercial Objectives**

- i) To provide a range of commercial land uses to serve the community and neighbourhood convenience commercial needs of the Prairie Creek Lands population.

#### **3.1.5 School Objectives**

- i) To provide additional students to more efficiently utilize the existing schools in Gregoire Park and Beacon Hill.

#### **3.1.6 Open Space/Parks Objectives**

- i) To meet the needs of future residents for parks, both passive and active.
- ii) To recognize the green area of Prairie Creek as a recreational opportunity.
- iii) To fulfill the statutory requirements of the Municipal Government Act by providing up to 10% of the area for open space.

#### **3.1.7 Transportation Objectives**

- i) To provide for safe and convenient access for vehicles and pedestrians.
- ii) To provide an efficient hierarchical circulation system for automobiles, pedestrians, bicycles, and public transit within the neighbourhoods which connect with major arterials.
- iii) To recognize Highway 63 as a major thoroughfare and provide adequate service road access to commercial properties adjacent to this facility.

#### **3.1.8 Utility Objectives**

- i) To provide an economical servicing system and phasing sequence based on extending municipal services and utilities.
- ii) To utilize stormwater retention and detention facilities in the plan as an amenity area wherever practical.



- iii) To retain and incorporate the existing transmitter and back beam marker sites into the plan in the most efficient manner possible.

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## **4.0 Land Use Concept**

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## **4.0 Land Use Concept**

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### **4.1 LAND USE CONCEPT**

#### **4.1.1 General**

The following provides a brief explanation of the various land uses proposed within the Prairie Creek Area Structure Plan and a brief rationale for these uses.

#### **4.1.2 Residential**

The majority of the northernmost portion of the land within the Prairie Creek Area is designated for residential purposes. The plan provides for the development of a range of building types, including single-detached, semi-detached, and street townhousing, permitting a choice of accommodation. With the need for more affordable housing in Fort McMurray, pre-manufactured housing is also a viable alternative choice. Prairie Creek provides these opportunities. Approximately 145 pre-manufactured housing units will be developed in the central and western areas. In addition, approximately 40 conventional single family and 90 zero lot line residential lots will be available in the eastern portion of the plan area. The higher density land uses have been located adjacent to the entrance and collector areas. (See Figure 6). These developments will consist of Row Housing units at maximum densities of 40 units per hectare and could total approximately 200 units.

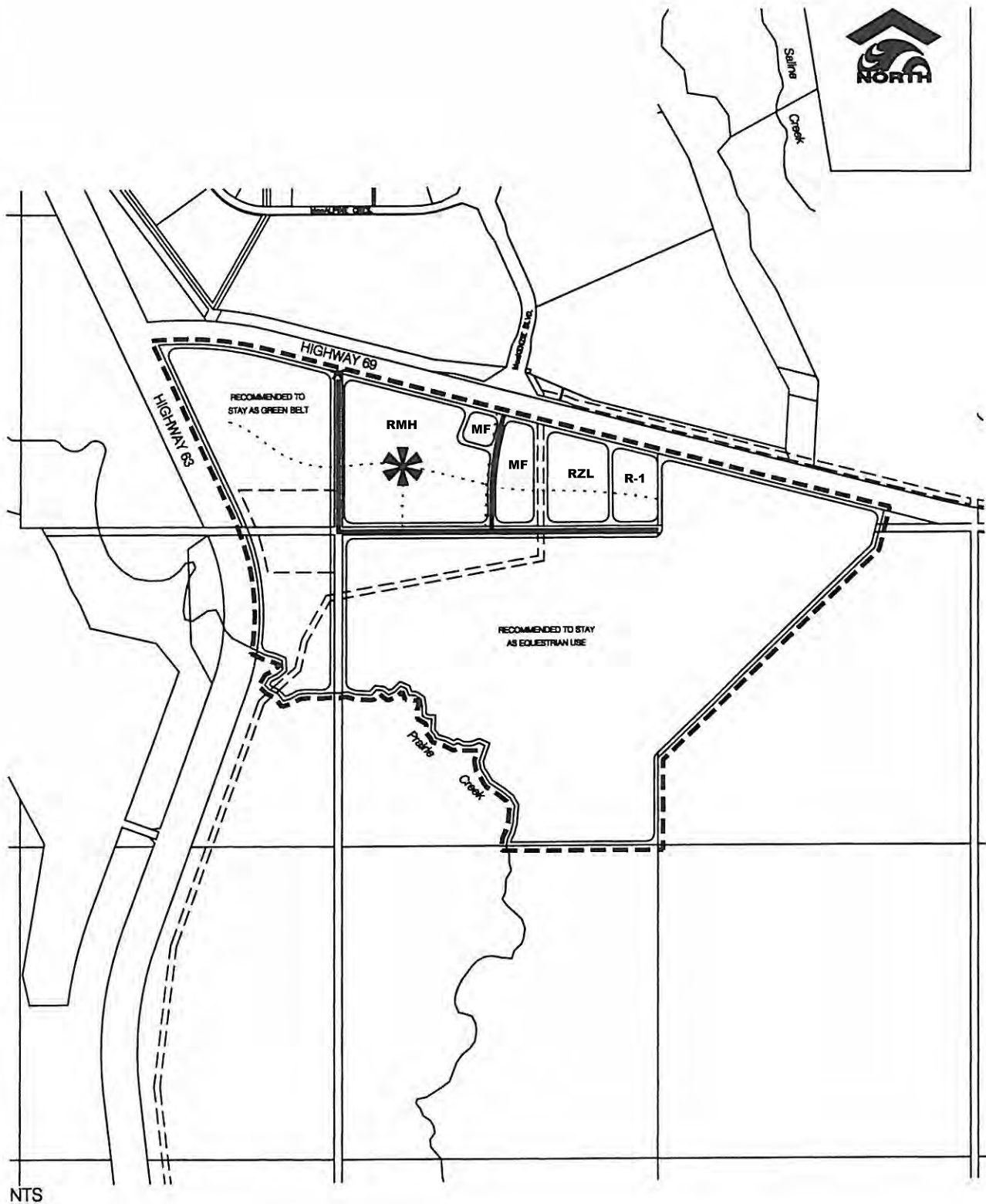
#### **4.1.3 Commercial**

The Area Structure Plan provides for one convenience commercial site located at the entrance to the plan area opposite MacKenzie Boulevard. This site is intended to accommodate the day-to-day convenience commercial needs of the residents. In addition, sufficient space will also be available for minor institutional uses such as day cares.

#### **4.1.4 Institutional**

Social service requirements have not been identified. Churches and other institutional uses will be located in a manner which minimizes the impacts on local street traffic and adjacent residential uses. As noted above, space will be available to accommodate requirements for day care, health clinics, and other social facilities within the convenience commercial site on a limited basis, however. These services





#### LEGEND

R-1 Residential Single Detached  
 RMH Residential Manufactured Homes  
 MF Multiple Family Residential  
 RZL Residential Zero Lot Line  
 CNC Convenience Commercial

Service Road Access Only  
 ★ Maintain Existing Access  
 .... Pedestrian Linkage  
 ★ Neighbourhood Park

Figure 6

## Land Use Concept



will be primarily accommodated in the MacKenzie Industrial area and lower town site. School requirements will be accommodated within the existing Gregoire Park and Beacon Hill area and will be accessed via the municipal transit system.

#### **4.1.5 Open Space/Parks**

Public open space for Prairie Creek will be provided in accordance with the provisions of the Municipal Government Act. Up to 10% of the gross developable area will be provided in the form of a central park area. Various open space linkages will connect the main park area to most residents and will provide convenient access to the equestrian facility to the south. An open space buffer zone will be provided between the residential and Highway 63. This space will function as an equestrian linkage between the Equestrian Facility and the Urban Service to the north.

#### **4.1.6 Equestrian Facility**

An equestrian facility currently exists in the southern portion of the plan area under a land lease with the Government of Alberta. The current equestrian use is expected to continue in the foreseeable future. The plan, therefore, does not contemplate future development of this area. However, should development of this area be viable in the future, additional planning studies will be required prior to development proceeding in this area.

### **4.2 COMMUNITY IMPACTS**

The development of the Prairie Creek Area Structure Plan will result in several benefits to the Fort McMurray community.

The estimates of benefits outlined below are based on our understanding of construction and other costs and revenues as they may relate to Fort McMurray. Our findings are not based on detailed analyses of the project or the surrounding market.

**Construction Benefits:** The Prairie Creek project will include both labour and material costs as part of the total direct construction contribution. The labour costs include all of the soft costs and about half the hard construction costs. Based on 400 units, the total labour income could be as great as \$10 million. This translates into approximately 270 person-years work of labour (based on average annual gross earnings of \$40,000 per construction worker).

Materials for the Prairie Creek project could be about \$27,000 per unit or about \$11 million for the entire residential component.

***Property Tax Contributions:*** Based on current residential tax rates, the Prairie Creek project could contribute as much as \$1.2 million per year in property taxes to local and provincial government.

***Employment Impacts:*** In addition to the construction employment that can be created by Prairie Creek, the convenience commercial development could ultimately generate as much as 60 full-time equivalent jobs, employing upwards of 70 to 80 full-time and part-time workers.

***Public Open Space:*** The plan for Prairie Creek calls for 4.5 hectares of parks buffering, and a stormwater management facility. These will become amenities for the whole community and will enhance the overall parks and open space system in Fort McMurray.

The proposed Prairie Creek development will result in local construction job generation, local material sourcing, and ongoing local employment. In addition, the project will contribute to the overall community on an ongoing basis through annual property tax contributions and the creation of an attractive open space and park system. Finally, the addition of approximately 1,000 people will result in increased consumer spending in the community.



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## **5.0 Servicing**

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## **5.0 Servicing**

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### **5.1 WATER SUPPLY AND DISTRIBUTION**

The Municipality of Wood Buffalo presently has adequate treated water available to serve development of the Prairie Creek. Supply is from the water reservoir located in MacKenzie Industrial Park and will meet peak and fire flow requirements. Final design sizing will require a water analysis be done to confirm the design meets all flow requirements. A feeder main will be constructed up MacKenzie Boulevard to the development.

### **5.2 SANITARY SEWAGE COLLECTION**

Sanitary sewerage for the development area is available via a connection to the MacKenzie Industrial area (see Figure 8).

A sanitary lift station will be required to service the development. The entire residential portion is easily serviced down MacKenzie Boulevard. Confirmation during design stages of downstream capacities should be made if infiltration is presently a problem. Storage to off-peak hours may be required. This should not be a problem in the earlier stages.

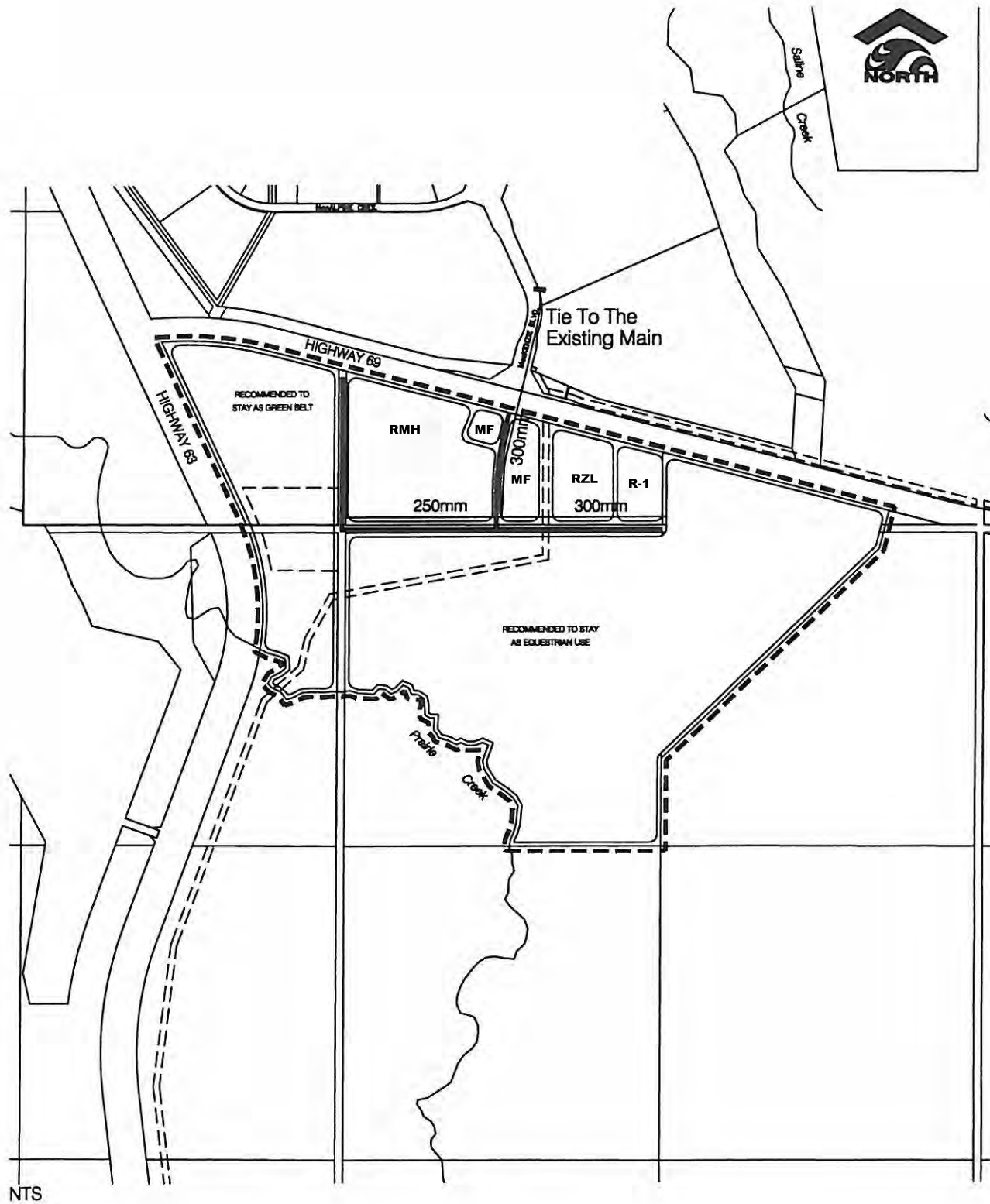
### **5.3 STORMWATER DRAINAGE**

Stormwater drainage is to be handled through stormwater management. Runoff will be restricted to predevelopment rates by the use of a stormwater detention pond. The area structure plan shows a possible location for the pond to control the drainage of the Prairie Creek.

The natural pattern within the area drains in a southerly direction. The total area generally drains to a proposed detention pond located on the south boundary of the collector road. The runoff from this pond is transported south to the existing Prairie Creek.

A stormwater management report will be required to properly plan the staging of the system. The use of the existing highway ditch to the west of the area will also be considered in final designs for the area.





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Figure 7  
Water Servicing Plan

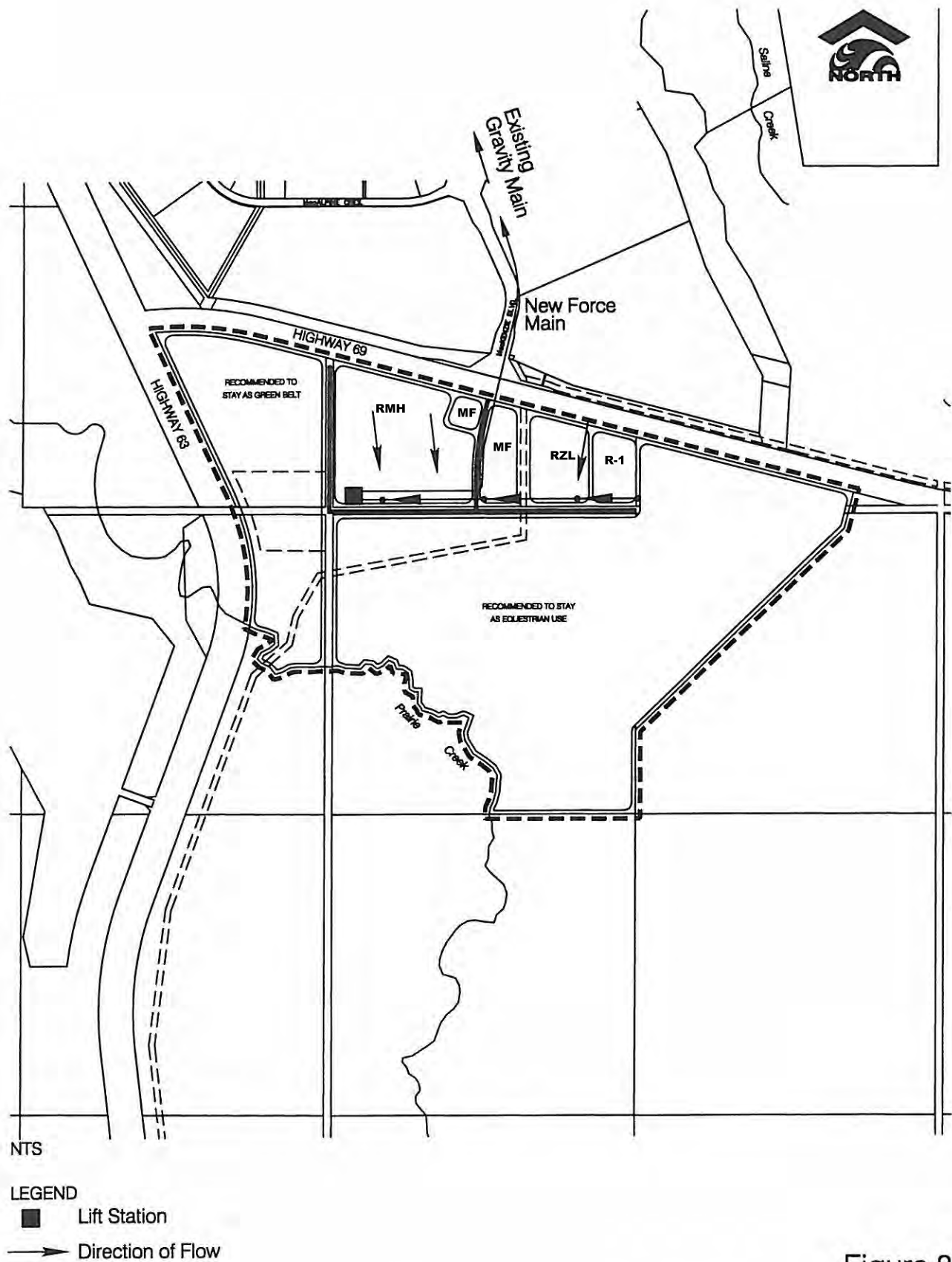


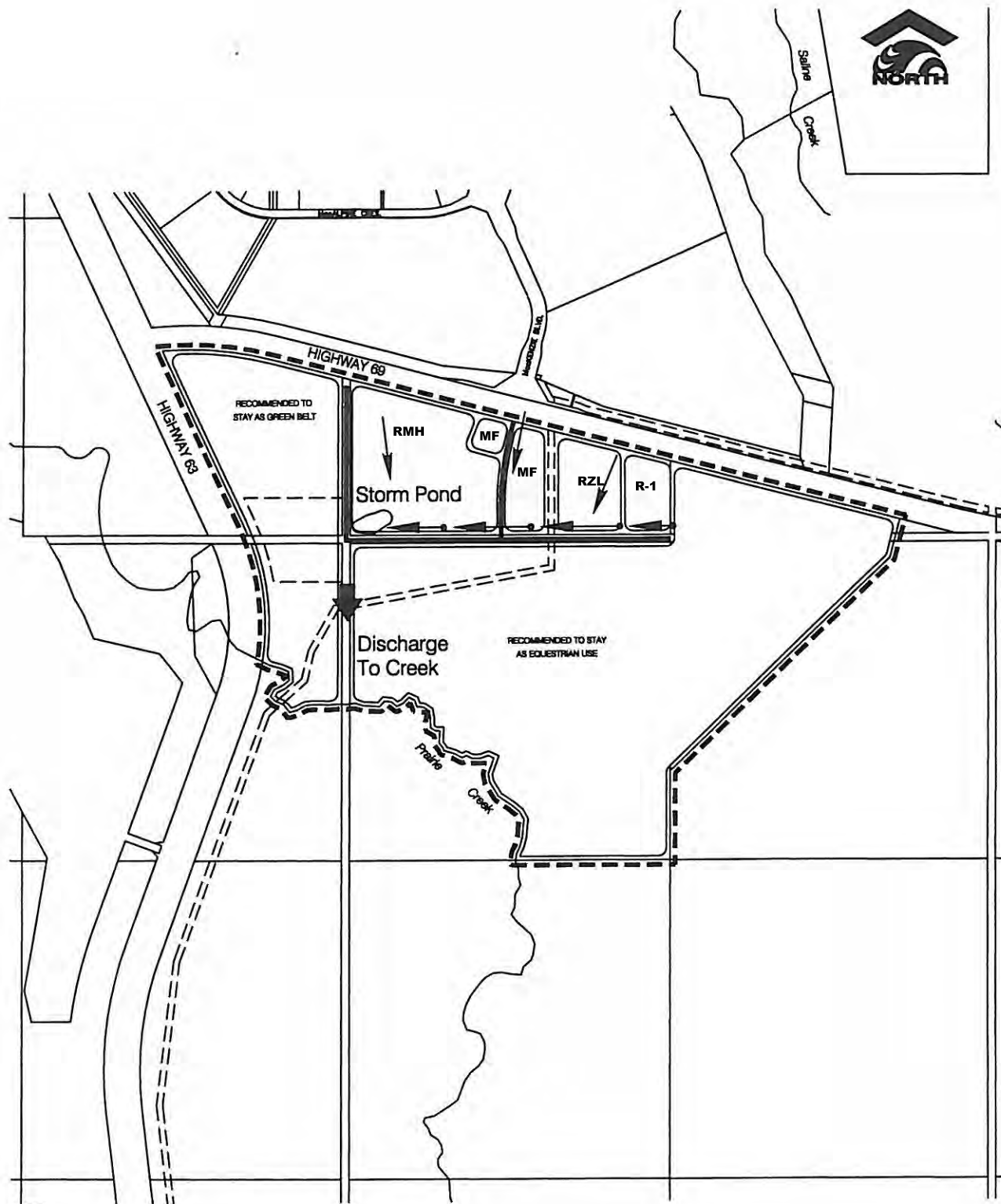
Figure 8  
Sanitary Servicing Plan

The pond will be designed to accommodate a 100 year storm event. The drainage swales and detention area which form integral components of the overall stormwater management concept may be dry except during periods of heavy rain. As a consequence, these could be vegetated and grassed to form part of the open space system within the area.(See Figure 9).

The location of the pond is schematic and will be located in final design such that infiltration between the storm and sanitary sewer systems would be eliminated.

#### **5.4 SHALLOW UTILITIES**

In reviewing this plan with representatives of the shallow utility companies (Alberta Power, Telus, Northwestern Utilities, Shaw Cable Systems) it was agreed supply that to the area was possible. During subdivision final design of the lands, shallow utility meetings with the design group will ascertain exact requirements.



NTS

#### LEGEND



-  Discharge to Creek
-  Direction of Flow

Figure 9

## Storm Servicing Plan



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## 6.0 Transportation

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<b>6.0 TRANSPORTATION</b>	<b>6.1</b>
6.1 Roadways	6.1
6.2 Transit	6.1
6.3 Pedestrian	6.1

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## **6.0 Transportation**

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Transportation is one of the key components to the success of any Area Structure Plan. Major transportation facilities exist adjacent to the plan area. Highway 69 connects the Urban Service Area to the airport and small communities eastward. Highway 63 is the main highway link to the Fort McMurray area, with other parts of central and southern Alberta. The plan area is conveniently located with efficient access to both of these facilities, directly to Highway 69 and via Highway 69 to Highway 63.

### **6.1 ROADWAYS**

No access will be permitted between Highway 63 and the residential portion of the plan area. The existing access off Highway 69 will be maintained, providing convenient access and egress to the riding stables and airport transmitter site. As well, one additional collector road access is proposed from Highway 69 at Mackenzie Boulevard. The existing Government Road allowance which separates Section 23 and 26 will be maintained and incorporated into the plan as collector roadway. Local roads will be serviced off of this collector system. (See Figure 6).

### **6.2 TRANSIT**

Transit service is presently available within the MacKenzie Industrial area to the north. This service will be extended into Prairie Creek to provide efficient access to other parts of the Urban Service Area and will be the primary mode for the students to access schools outside of the area.

### **6.3 PEDESTRIAN**

The Prairie Creek area is located adjacent to a natural area to the south. Adequate pedestrian access within the neighbourhood will be provided to take advantage of this natural feature. Roadways will be constructed with walks and inter-connecting linkages to provide safe and convenient access to the natural area and other local park areas.



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## **7.0 Implementation**

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<b>7.0 IMPLEMENTATION</b>	<b>7.1</b>

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## 7.0 Implementation

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It is anticipated that implementation of the plan will follow typical planning procedures. Amendments to the Land Use Bylaw will be undertaken to the appropriate land use district with subdivisions following on a staged basis. The neighbourhood will be developed from the north-central area commencing at Highway 69 and MacKenzie Boulevard and will continue southward. Further development in the vicinity of the equestrian facility and the western oil sands lease area is not expected to occur for several years and has therefore been identified accordingly. Further study will be required prior to any development occurring in these areas.



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## Appendix A - Statistics

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**Stanley**  
Urban Land

## Preliminary Development Statistics Prairie Creek

	Hectares	% of GDA			
GROSS AREA	125.10				
Back Beam Marker & Transmitter Site	4.30				
Pipeline R.W	1.80				
Special Study Area (Equestrian Facility)	76.31				
Green Belt	17.27				
GROSS DEVELOPABLE AREA (GDA)	25.42				
Neighbourhood Parks and Buffering	2.54	10.00%			
Stormwater Management Facility	2.00	7.80%			
Roads (assume 20% of GDA)	<u>5.08</u>	<u>20.00%</u>			
NET DEVELOPABLE AREA	15.80	62.10%			
Land Use	ha	Units <sup>1</sup>	PPU	Population	Students <sup>2</sup>
Residential Single Detached	2.23	44	2.80	123	17
Residential Manufactured Homes	5.82	145	2.80	406	58
Residential Zero Lot Line	3.47	86	2.80	240	34
Multiple Family Residential	3.29	131	1.60	209	32
Convenience Commercial	0.99				
Total	15.80	406		978	141

Notes:

- Unit generation based on 25 upha (net) for residential manufactured homes and residential zero lot line, 20 upha (net) for residential single detached and 40 upha (net) for multiple family
- Student generation based on 0.4 elementary students per R-1, RMH, and RZL unit and 0.25 for multiple family unit.