



REGIONAL MUNICIPALITY  
OF **WOOD BUFFALO**

## **Wood Buffalo Estates Area Structure Plan**

**BYLAW NO. 96/033**

**This Area Structure Plan has been consolidated  
as per January 6 2016**

BYLAW NO. 98/082

**BEING A BYLAW OF THE REGIONAL MUNICIPALITY OF WOOD BUFFALO TO  
AMEND BYLAW 96/033 BEING THE WOOD BUFFALO ESTATES AREA  
STRUCTURE PLAN.**

**WHEREAS** Section 633 of the Municipal Government Act, S.A., 1994, Chapter M-26.1 and amendments thereto authorizes Council to enact a Bylaw adopting an Area Structure Plan.

**AND WHEREAS** Section 692(1) of the Municipal Government Act, S.A., 1994, Chapter M-26.1 and amendments thereto authorizes Council to amend 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. That Bylaw 96/033, being the Wood Buffalo Estates Area Structure Plan, is hereby amended.
2. That Bylaw 96/033 is amended as shown on the attached Schedule "A".
3. That this Bylaw shall be passed and come into effect when it receives third reading and is signed by the Mayor and Regional Clerk.

READ a first time in Council this 6th day of October, 1998.

READ a second time in Council this 23rd day of February 1999, as amended.

READ a third time in Council and passed this 23rd day of February, 1999, as amended.

CERTIFIED A TRUE COPY

  
Mayor

  
Regional Clerk

  
Regional Clerk

**AREA STRUCTURE PLAN  
AMENDED FOR STAGE III  
WOOD BUFFALO ESTATES**

**February 5, 1999**

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## **1.0 INTRODUCTION**

The primary objective of the Wood Buffalo Estates Area Structure Plan is to provide a framework for the development of this site in a manner that is consistent with the goals and objective of the community. It is intended to guide the future development of Wood Buffalo Estates, a low density single family residential subdivision with opportunities to introduce multi-family development and higher density single-family development if market conditions permit. It establishes the future land use patterns of the area and provides details respecting proposed servicing, roads and open space.

## **2.0 THE DEVELOPMENT AREA**

### **2.1 Plan Area Location (Figure 1)**

The Wood Buffalo Estates site is located at the West End of Fort McMurray Urban Service Area as indicated on Figure 1. The lands proposed to be developed are described legally as follows:

1. Part of SW Section 24, Township 89, Range 10, West of the 4<sup>th</sup> Meridian, excepting the portion west of Real Martin Drive.
2. Part of NW Section 13, Township 89, Range 10, West of the 4<sup>th</sup> Meridian.
3. Part of SW Section 13, Township 89, Range 10, West of the 4<sup>th</sup> Meridian.
4. Part of the original Road Allowance adjacent to the west boundary of Section 13.

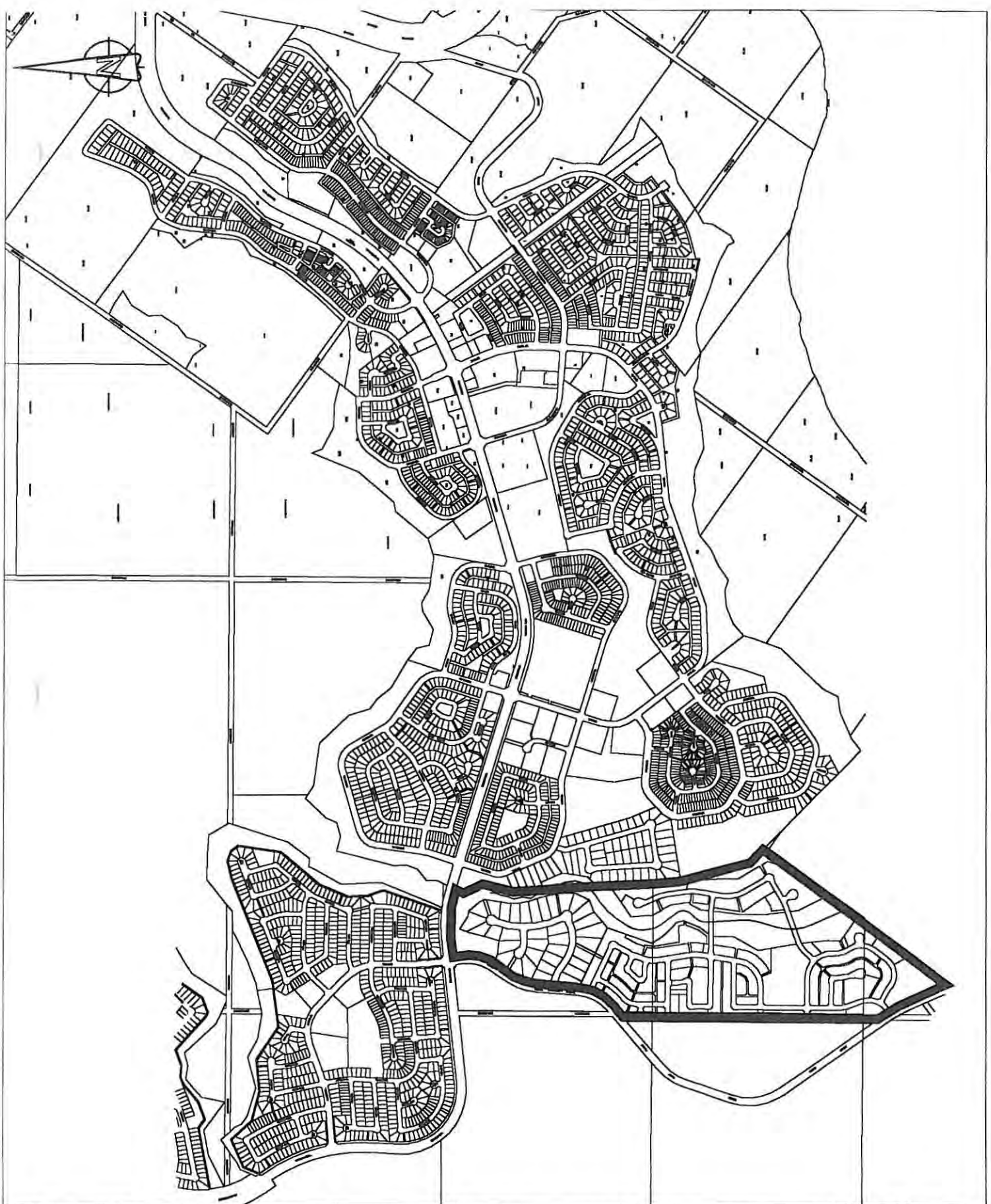
The site is bounded to the west by proposed development, to the south by an undeveloped road allowance, to the north by Thickwood Boulevard, to the northwest and southwest by Real Martin Drive. Existing low-density residential neighbourhoods, schools and recreational uses are located to the east of the plan area.

### **2.2 Physical Features (Figure 2)**

As part of the requirement of the Stage II approved development, Conn Creek has been lowered to an elevation of 355.0 at the south end of the development. This has defined the Creek Drainage Channel and has defined the top of bank elevation at 357.0.

Stage I of Wood Buffalo Estates has been developed (35 Lots). Stage II (127 Lots) has been approved for development and has been cleared. Stage III of Wood Buffalo Estates is in its natural state and is heavily treed, characterized by a mixture of poplar and conifers. A detailed soils report for Stages II and III, prepared by Thurber Engineering Ltd., has been submitted to the Municipality under separate cover.





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WOOD BUFFALO ESTATES  
AREA STRUCTURE PLAN  
FIG. 1 LOCATION PLAN







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WOOD BUFFALO ESTATES  
AREA STRUCTURE PLAN  
FIG.2 PHYSICAL FEATURES



### **2.3 Development Constraints**

The presence of the Conn Creek ravine is the primary determinant in the development of Wood Buffalo Estates, as it essentially severs the site into two distinct nodes. The location of this feature creates significant challenges in terms of site design and servicing. At the same time, however, it provides a central natural amenity for the development.

A second development constraint is the presence of wildlife in the Plan area. Caribou are known to occupy the southern extremities of the site, and deer and moose frequent the Conn Creek tributary corridor. In addition, bears have been observed in the area.<sup>1</sup> As a result, the design of the subdivision ensures that migration patterns along the creek are not impeded.

A third constraint to this proposed development is the limited opportunity to provide access to the site. Physical access is limited to Real Martin Drive which abuts the extreme northwest and southwest boundaries of the site. Permanent access to Tundra Drive, located to the east of Wood Buffalo Estates, is hindered by the presence of established residential development and municipal reserve lands.

(<sup>1</sup> Based on information provided by Mr. Jim Songhurst, Alberta Fish and Wildlife.)

## **2.4 Site Area and Land Ownership**

The plan area contains a total of 73.9 ha (182.6 acres) of gross land area, 60.75 ha (150.1 acres) of which are developable. As of January 31, 1999, 35 acreage style lots in Stage I have been developed by Trak Enterprises (Fort McMurray) Ltd., and 127 single family lots in Stage II have been approved for development for 746300 Alberta Ltd. Of the 127 lots in Stage II, 24 have been serviced. The balance of the 73.9 ha (182.6 acres) is owned by 746300 Alberta Ltd.

## **2.5 Policy Framework**

### **Municipal Development Plan**

The Wood Buffalo Municipal Development Plan (MDP) is the primary planning policy document and Area Structure Plans are required to be consistent with the policies contained therein.<sup>2</sup> The MDP requires that Area Structure Plans address such subject matters as parks and open space, transportation, site conditions, population generation, environmental sensitivity and servicing. The MDP also specified that Area Structure Plans provide a “detailed statement addressing compliance with the General Municipal Plan.”

The unique nature of this development, integrating quality residential development with natural environmental amenities meets with the Municipality’s policy of encouraging “a reasonable choice in terms of type, cost and location within Fort McMurray and to encourage innovative land use and housing design” (Section 3, Part 1 – Residential Development Policy).

This plan is also consistent with the MDP recreation, parks and open space policy “to ensure that natural spaces are preserved, conserved, reclaimed or managed as an integral part of Fort McMurray’s open space” (Section 5). The proposed development concept is also in keeping with conservation policies (Section 6, Part 4) that “establish guidelines for development in such a manner that the integrity of significant and unique environmental features are maintained or enhanced (wetlands, wildlife habitats, etc.)”.

(<sup>2</sup> Municipal Government Act, SA 1995, Section 638.)

### **Land Use Bylaw (Figure 3)**

Stage I of the Wood Buffalo Estates was approved as an acreage style low density single family residential subdivision. Stage II of the development was approved as low-density single family development. It is intended that Stage III be designated as lot-density multi-family development and low density single family.

## **3.0 PLANNING ANALYSIS**

### **3.1 Land Use Concept (Figure 3)**

The Wood Buffalo Estates Area Structure Plan proposes the development of a low density subdivision that takes advantage of the natural amenities of the site and is compatible with environmentally sensitive nature of the area.

Stage I of Wood Buffalo Estates consists of 35 lots averaging approximately 0.30 ha (0.75 acres). Stage II of Wood Buffalo Estates consists of 127 single-family lots and are smaller in size than those in Stage I. Stage III of this development consists of 280 single-family lots and an additional 4.0 ha (10.0 acres) designated as multi-family development.

The 52 lots in Phase III on the east side of Conn Creek average 0.11 hectares (0.28 acres) in size. This size of lots is compatible with those in the existing subdivisions to the east of this development.

Although the development and circulation pattern for the subdivision is dictated by the physical constraints of the site, design has been prepared to maximize lot exposure to the open space network.

A detailed breakdown of land uses is provided in Table 1. The dominant land use is low density residential, which accounts for 57% of the total developable area. Based on a total of 442 lots, this translates to a development density of 12.7 units per net hectare (5.2 units per net acre). An additional 6.6% of the plan area is composed of multi-family development at a density of 44 units per hectare (18 units per acre).

### 3.2 Population Generation

It is anticipated that this development will generate a population of approximately 1770 persons as outlined in Table 2. This forecast is based on a density of 3 persons per unit for single-family<sup>1</sup> residential and 2.5 persons per unit for multi-family development.

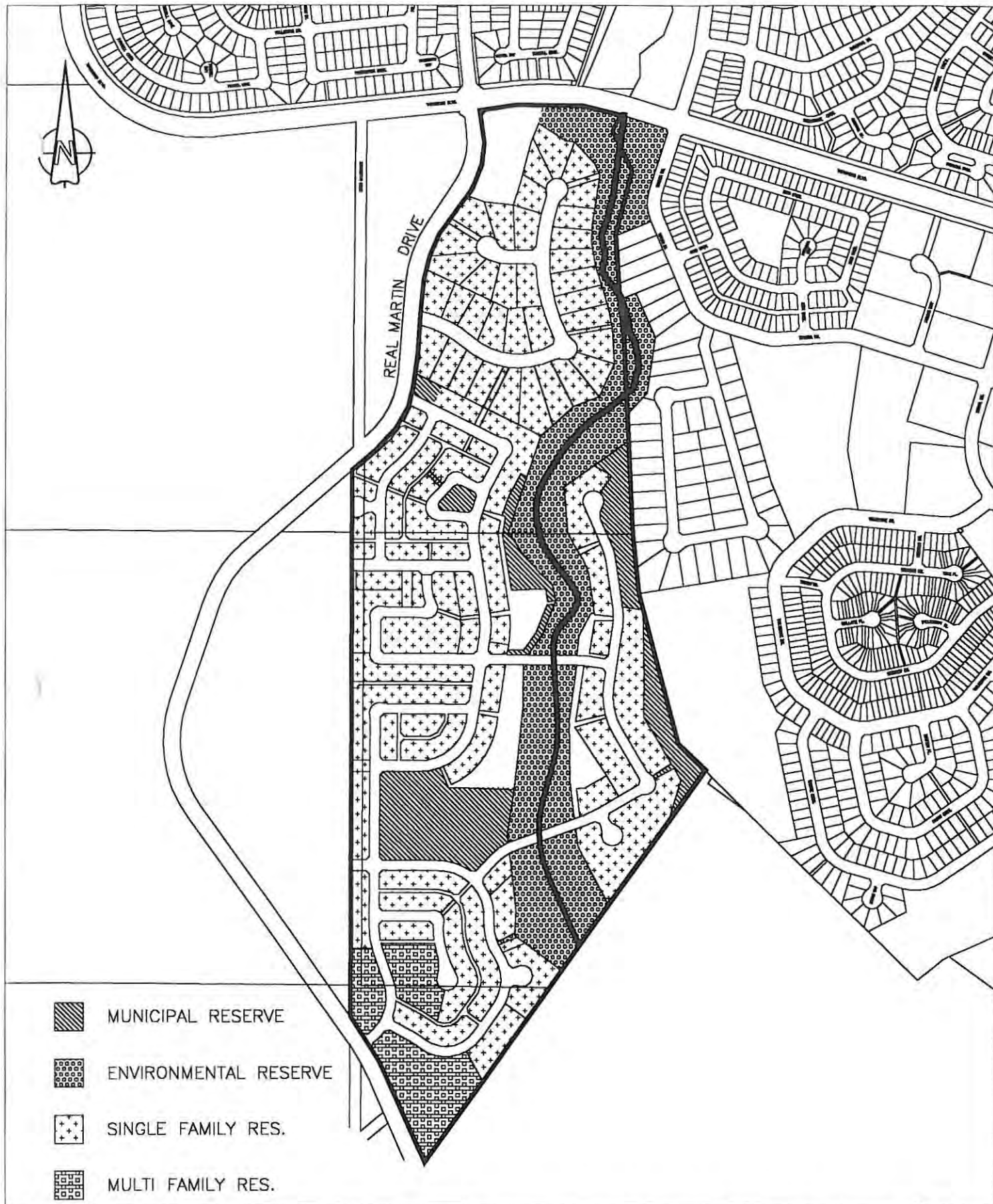
Of the 1770 persons proposed to reside in the area, it is anticipated that approximately 30% of the population (530 individuals) will be of school age. An allocation of 4.5% of the developable area has been allotted for a school.

**Table 1 – Land Use Area Estimate**

LAND USE	LAND AREA		PERCENT OF
	Hectares	Acres	
<b>Gross Land Area</b>	<b>73.90</b>	<b>182.60</b>	
Less Environmental Reserve	13.15	32.49	
<b>TOTAL DEVELOPABLE AREA</b>	<b>60.75</b>	<b>150.11</b>	<b>100.0</b>
Single-Family Residential	34.63	85.57	57.0
Multi-Family Residential	4.03	9.96	6.7
Commercial	0.00	0.00	0.00
Roads	11.31	27.95	18.6
Public Utility Lots	4.16	10.28	6.8
Municipal Reserve	3.39	8.38	5.6
School and Park	3.23	7.99	5.3

(<sup>1</sup> Estimate of persons per dwelling unit based on discussions held with Mr. Doug Parish, Community Development Planner, Regional Municipality of Wood Buffalo.)





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WOOD BUFFALO ESTATES  
AREA STRUCTURE PLAN  
FIG.3 LAND USE CONCEPT



**Table 2 – Potential Population**

<b>Area</b>	<b>Number of Units</b>	<b>Population</b>
Single Family – Stage I (Approved)	35	105
Single Family – Stage II (Approved)	127	381
Single Family – Stage III (Proposed)	280	840
Multi-Family – Stage III (Proposed)	177	444
<b>Totals</b>	<b>619</b>	<b>1770</b>

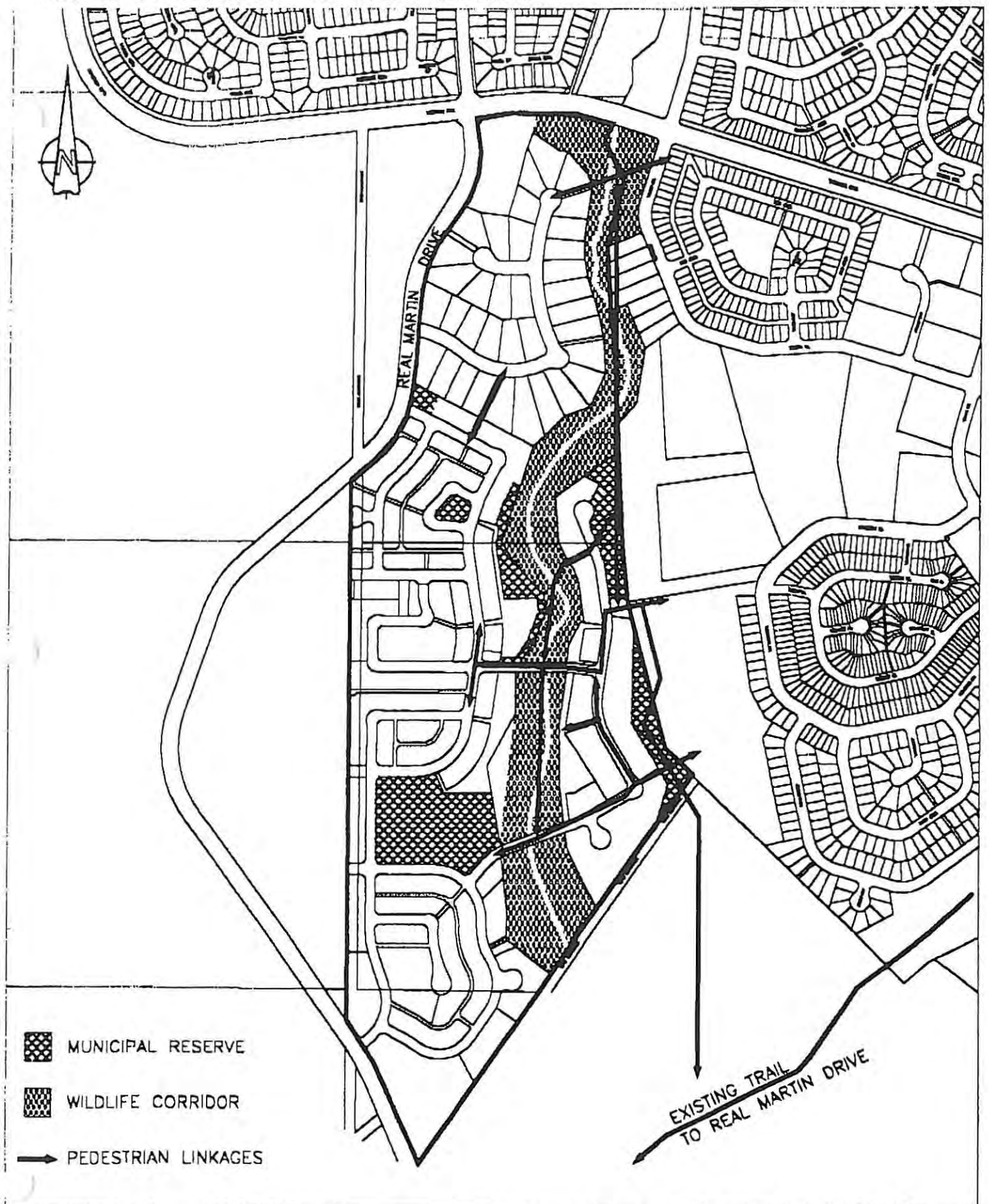
### **3.3 Open Space Concept**

An integral component of this development is the provision of open space and future linkages to the existing urban park system. The proposed park and pedestrian network is illustrated on Figure 4.

Open space is allocated through a combination of municipal reserve parcels and an environmental reserve corridor. Pedestrian linkages are to be provided along road and utility rights-of-way to connect the residential nodes on either side of the Conn Creek corridor.

As indicated in Table 1, a total of 3.39 hectares (8.38 acres) is to be dedicated as municipal reserve. This reserve land is provided in the form of four parcels in the west side of the development and two parcels on the east side which serve as a buffer strip to development to the east. In addition to providing recreation open space for the development, these parcels are also located to serve as a link from the proposed residential development to the Conn Creek corridor. In addition to the municipal reserves, 3.23 hectares (7.99 acres) is designated for a school site. The total area of municipal reserve and school and park site total is 6.62 hectares (18.27 acres) which is 10.9% of the total developable area.





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WOOD BUFFALO ESTATES  
AREA STRUCTURE PLAN  
FIG.4 MUNICIPAL RESERVE  
& PATHWAY NETWORK





→ DIRECTION OF DEVELOPMENT

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WOOD BUFFALO ESTATES  
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 FIG.5 PROBABLE  
 FUTURE STAGING



### **3.3 Open Space Concept (cont'd)**

The Conn Creek tributary is to be protected by an environmental reserve parcel that runs the length of the development and constitutes approximately 18% of the Plan area. This corridor will allow for the free movement of wildlife through the development and will ensure that an adequate development setback is maintained.

### **3.4 Staging of Development (Figure 5)**

Figure 5, Probable Future Staging, shows staging sequences of development. The first stage to the extreme north has been essentially completed with access from Real Martin Drive and a pedestrian link to Tundra Drive. Future stages will develop from north to south generally.

## **4.0 ENGINEERING ANALYSIS**

### **4.1 Road Network (Figure 6)**

Wood Buffalo Estates will be accessed by three locations from Real Martin Drive with additional access possible from the development to the west. The access from Real Martin Drive will be into Stage I and Stage II at the north end and into Stage III at the southernmost end of the Plan area. The roads will be constructed to Municipal Standards. Turning radii and alignments will be designed to accommodate bus movements and emergency vehicles.

## **4.2 Municipal Services**

### **4.2.1 Storm Drainage (Figure 7)**

Storm run-off will be designed to discharge to Conn Creek through a series of well-defined drainage corridors. The need for the retention of stormwater flows from the area will be based on the existing 1500mm diameter culvert located at the Thickwood Boulevard crossing. Storm run-off in Stage I is collected through a controlled flow ditch system, which discharges, into Conn Creek. Storm run-off in Stage II and Stage III will be collected in a system of catch-basins and manholes and discharged into biological filter holding ponds and into Conn Creek by controlled flow outlets.

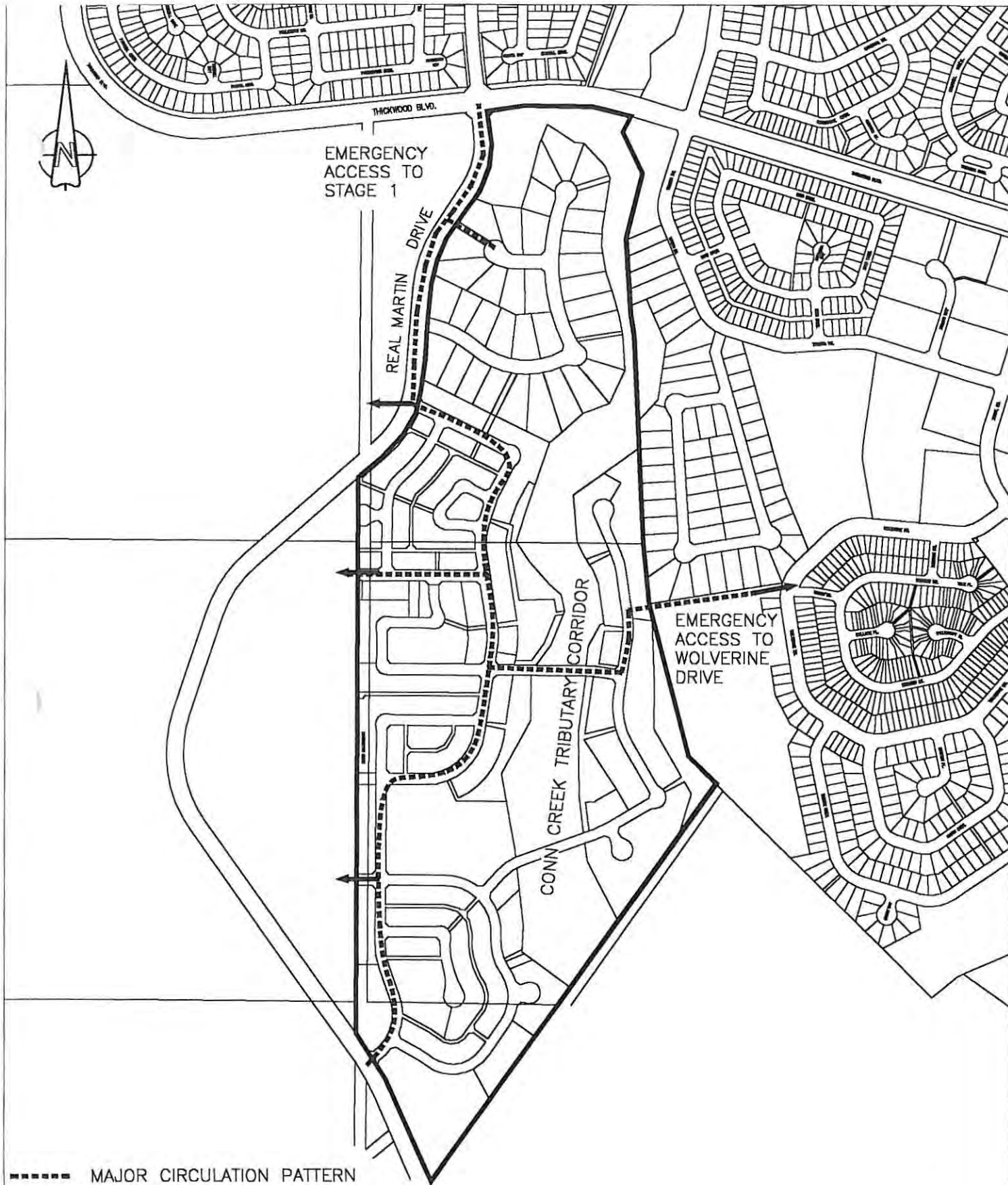
### **4.2.2 Water Distribution (Figure 8)**

The proposed water distribution network will be designed to accommodate the demands of Wood Buffalo Estates with looping of mains, as necessary, to provide an efficient system with adequate fire flows. The system could be looped from Tundra Drive through to the Westwood Heights Subdivision to a main on Wolverine Drive. The timing of the looping will be dictated by demand and the ability of the system to provide adequate fire protection. A detailed Hardy-Cross analysis has been done for Stages I, II and III and the Regional Municipality is currently reviewing water supply in adjacent neighbourhoods.

### **4.2.3 Sanitary Sewers (Figure 9)**

Drainage of Wood Buffalo Estates will be to the existing sanitary trunk sewer on Tundra Drive. Because of the relatively flat nature of the site, gravity drainage will only be possible for lands generally lying within the SW 1/4 Sec. 24 – 89 – 10 – W4. Development to the south will be by a combination of gravity sewers, a lift station and force mains. The site and location of the facilities will be determined in consultation with the Municipality. The precise boundary of the gravity system will be dictated by the final layout of the subdivision. The Tundra Drive trunk sewer, as determined by the Municipality, has capacity to accommodate a population of 2,750 persons. This is currently under review.



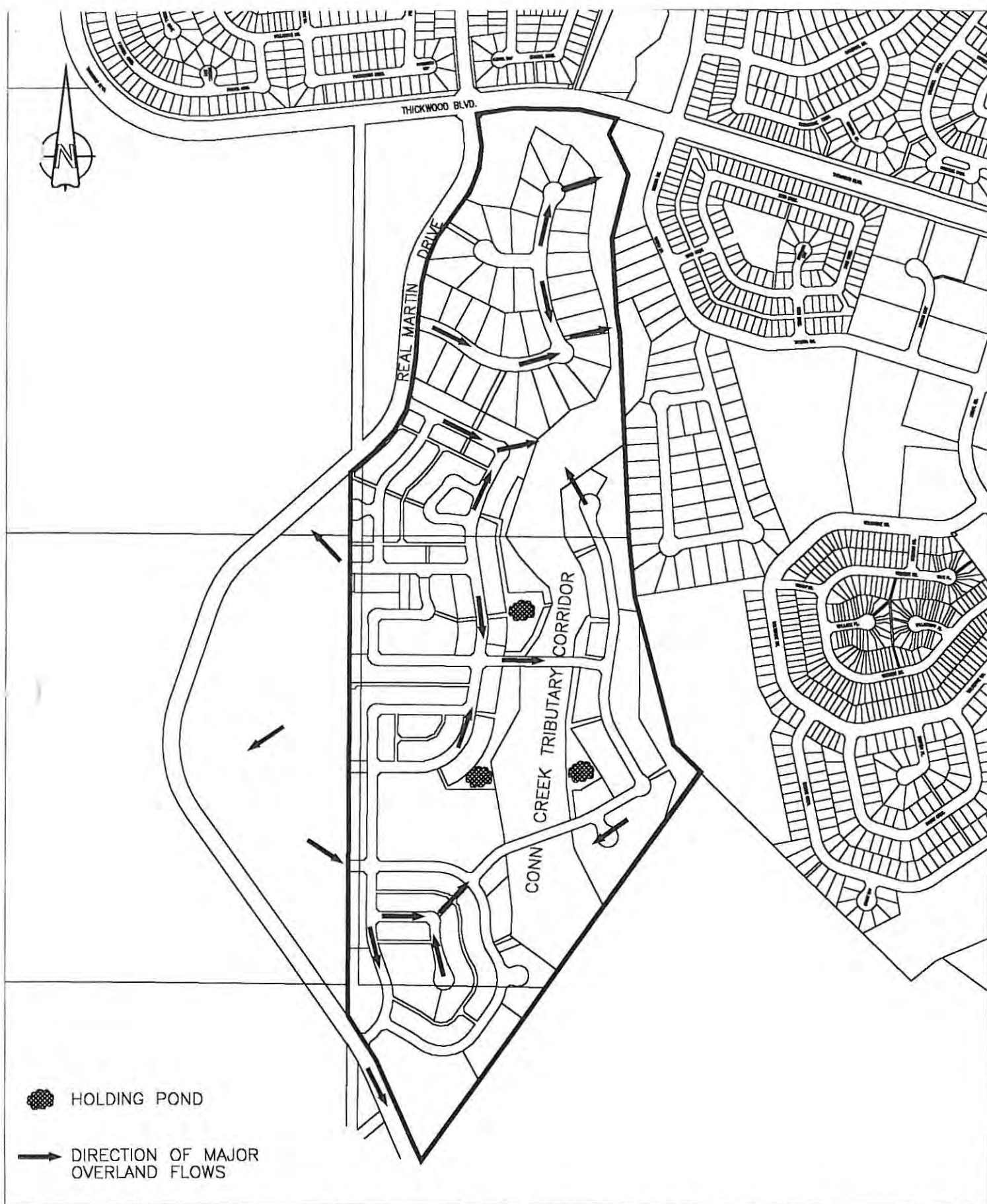


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WOOD BUFFALO ESTATES  
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FIG.6  
TRANSPORTATION NETWORK





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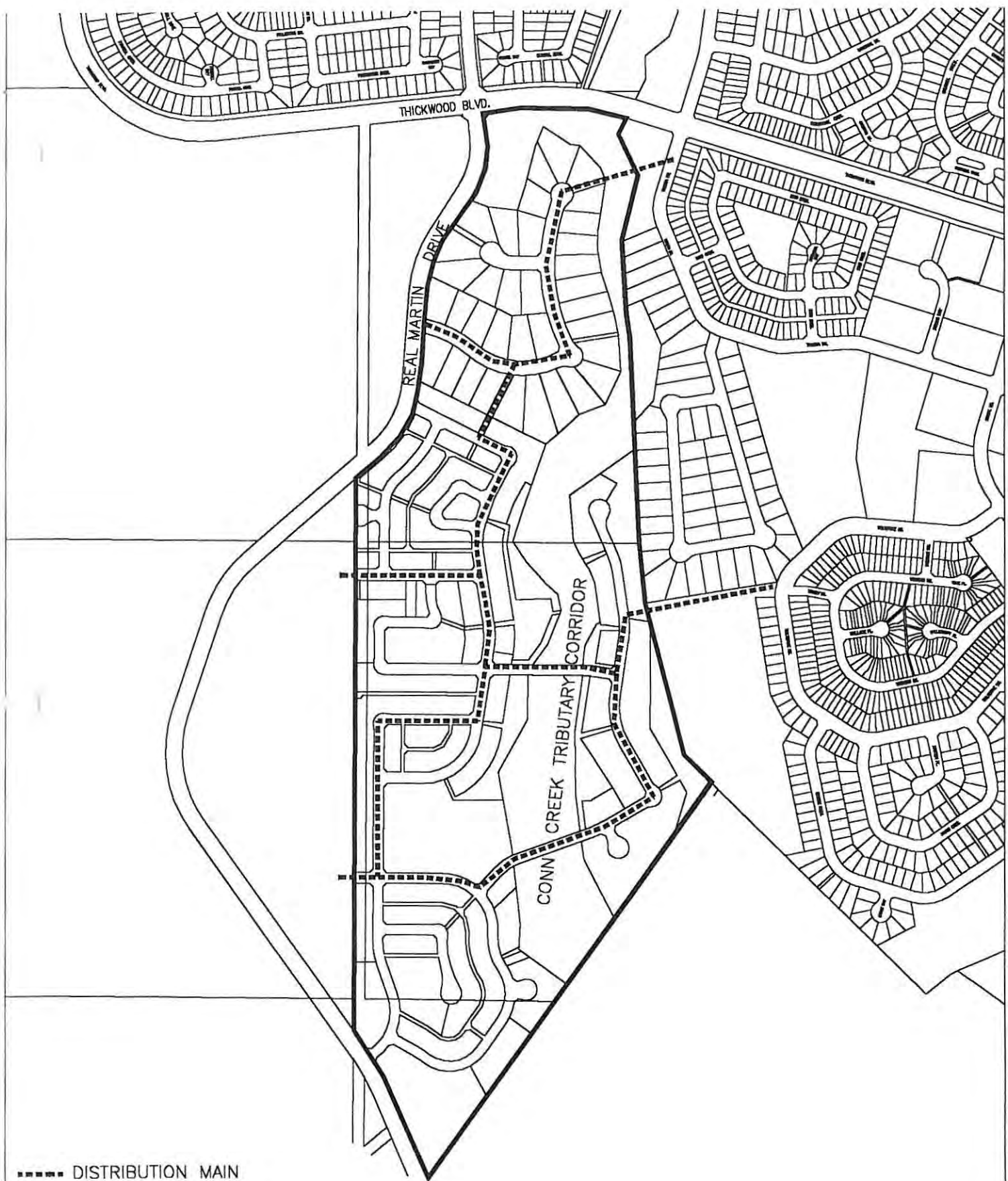
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WOOD BUFFALO ESTATES  
AREA STRUCTURE PLAN  
FIG.7  
STORM DRAINAGE CONCEPT





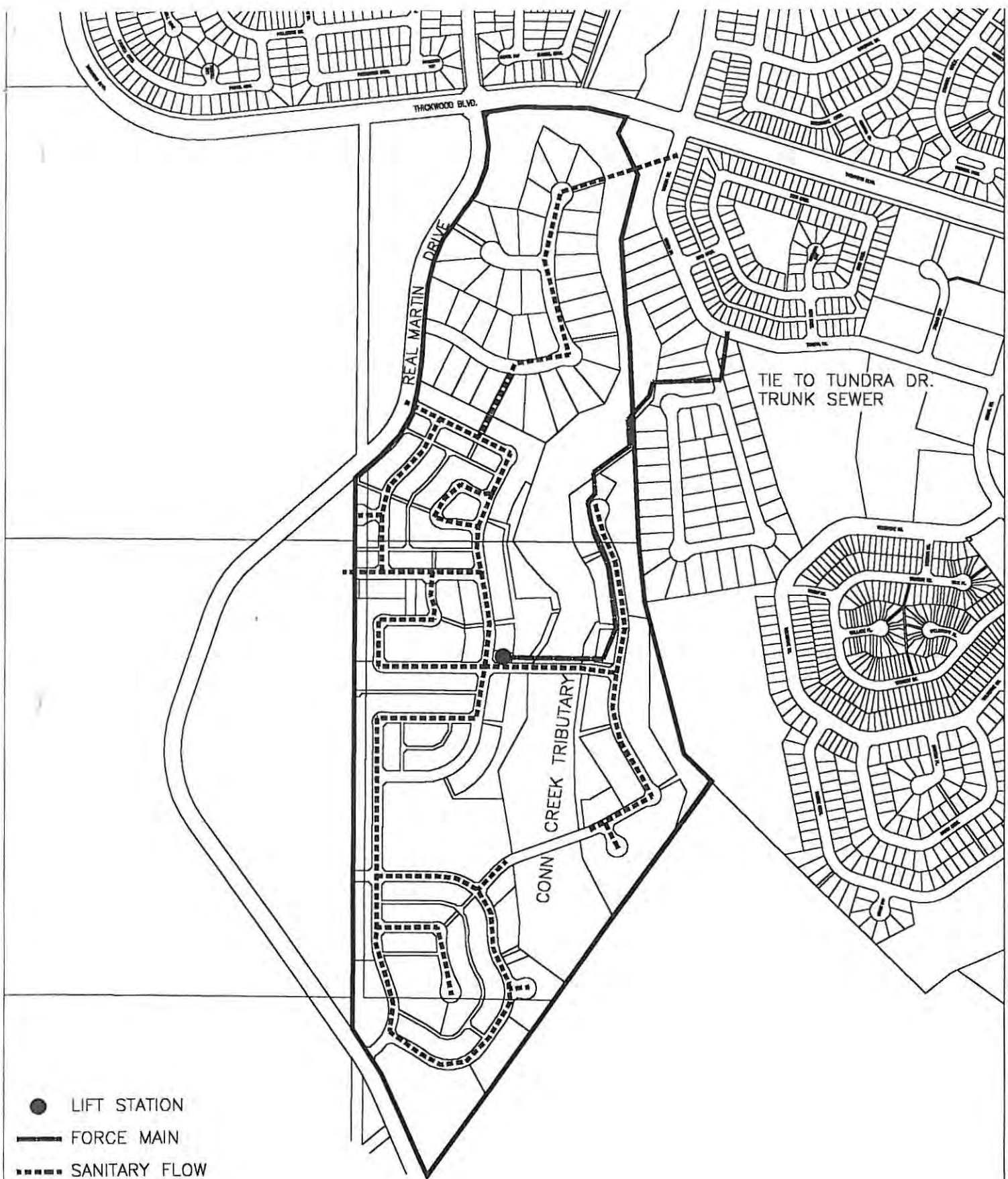
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WOOD BUFFALO ESTATES  
AREA STRUCTURE PLAN  
FIG.8 WATER  
DISTRIBUTION CONCEPT







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WOOD BUFFALO ESTATES  
AREA STRUCTURE PLAN  
FIG.9 SANITARY  
SERVICING CONCEPT



#### **4.3 Shallow Utilities**

Power, telephone, cable TV and natural gas have advised that their networks have sufficient capacity to provide service to the fully developed Wood Buffalo Estates by extension of their existing facilities.

#### **4.4 Lot Grading**

To minimize disturbance to the natural topography, lot grading will be minimal outside the rights-of-way. A lot grading plan will be prepared by the developer in consultation with the Municipality and provision will be made that requires all building projects to conform with the drainage plan.

The lot grading plan will be designed to minimize the necessity of tree clearing particularly in and adjacent to reserve lands and existing subdivisions.