BYLAW 2261/D&P/06

BEING A BYLAW OF THE TOWN OF STONY PLAIN IN THE PROVINCE OF ALBERTA FOR THE PURPOSE OF ADOPTING THE MERIDIAN COVE AREA STRUCTURE PLAN

WHEREAS Section 633(1) of the Municipal Government Act 2000 enables the Municipal Council to adopt by bylaw an area structure plan for the purpose of providing a framework for subsequent subdivision and development of an area of land in a municipality;

AND WHEREAS the Meridian Cove Area Structure Plan addresses the requirements of an area structure plan as outlined in Section 633(2) of the Municipal Government Act 2000;

NOW THEREFORE, the Council of the Town of Stony Plain in the Province of Alberta, pursuant to authority conferred upon it by the Municipal Government Act 2000 enacts as follows:

1. That this bylaw shall be cited as the "Meridian Cove Area Structure Plan";

2. That Schedule "A" attached hereto is hereby adopted as part of this Bylaw.

3. If any portion of this bylaw is declared invalid by a court of competent jurisdiction, then the invalid portion must be severed and the remainder of the bylaw is deemed valid.

4. That this bylaw shall come into force and take effect upon the date of third reading and signing in accordance with Section 213, Municipal Government Act, Revised Statutes of Alberta 2000.

Read a first time this 12h day of June, A.D. 2006.

Deputy Mayor Dee Louis

Randy Dubord, CMA
Director, Finance and Administration

Public Hearing held on 10th day of July, A.D. 2006.

Read a second time this 10th day of July, A.D. 2006.

Read a third time this 14th day of August, A.D. 2006.

Mayor Donna Cowan

Randy Dubord, CMA
Director, Finance and Administration

Bylaw 2261/D&P/06

MERIDIAN COVE

AREA STRUCTURE PLAN

BYLAW 2261/D&P06

August 2006

Prime Consultant
FRONTLINE INNOVATIONS & DESIGNS INC.

Suite 101, 12225-105 Avenue
Edmonton , Alberta
Canada T5N 0Y3
Phone 780-482-4444
Fax 780-482-5324
info@frontlineinnovations.ca

Developer:
1240400 ALBERTA LTD.

389 Estate Drive
Sherwood Park, Alberta
Canada T8B 1L9
Phone 780-497-8255

Project:

Meridian Cove Development
Stony Plain , Alberta

AREA STRUCTURE PLAN AMENDMENT APPLICATION

Meridian Cove Development

Area Structure Plan

Town Of Stony Plain

1.0 - Introduction

1.1 PURPOSE

The purpose of the Meridian Cove Development Area Structure Plan is to provide a framework for the residential development on the Southeast corner of 48th street and Highway 16A in the Town Of Stony Plain. As provided in Section 633 of Municipal Government Act, 1994 , as amended, an Area Structure Plan must describe the proposed land uses, population density, transportation routes, public utilities, and sequence of development or staging of an area proposed for development.

1.2 LOCATION AND AREA

The Meridian Cove Development Area Structure Plan area (the subject site) comprises approximately 7.03 ha (17.4 acres.) at the northern end of the Town Of Stony Plain. The boundaries of the subject site are: West, 48th street; North, Church property; East, 45th Street.

The legal description of the subject site is : NW ¼, SEC 16,TWP 52, RGE 28, W4TH MERIDIAN.

1.3 BACKGROUND

The development of Meridian Cove Development is the logical outcome of residential expansion on the east side of 48th Street in the Town Of Stony Plain. The broad concepts presented in the Municipal Development Plan of 2005-2020 are the guides to the development in this site.

1.4 LAND OWNERSHIP

The site comprises 6.22 ha (15.4 acres.) of land held under Certificate of Title 062 191 818 in the name of Smithson Real Estate Services Ltd. See attached Appendix A.

1.5 PLANNING COMPLAINCE

The Municipal Development Plan for the Town of Stony Plain takes into account the subject area and establishes the broad, town-wide framework of development for the Town. As such, it designates this subject site for residential development and establishes various broad policies under which development will occur. The Meridian Cove Development Area Structure Plan has been prepared under the provisions of the Municipal Government Act , 1994, As Amended, which provide for the adoption of Area Structure Plans by Bylaw in accordance with the Town's Municipal Development Plan. The Area Structure Plan has also been prepared in consideration of the terms of reference for Area Structure Plans provided by the Town Of Stony Plain.

2.0 – SITE ANALYSIS

2.1 SITE CONTEXT

Meridian Cove lies immediately east of 48th street and north of town water reservoir/ tennis courts that are located on 43rd avenue that will occupy 7.03 ha (17.4 acres).

2.2 SITE CONDITIONS

At present the land is not used. The site slopes from the southeast corner to the northwest corner. The highest elevation is approximately 705.5 with the lowest elevation at approximately 702.0

A geotechnical investigation has been completed for the site by Thurber Engineering. The report indicates that the sites general soil stratigraphy consists of topsoil overlaying stiff clay. The report indicates that generally the subsurface soil conditions encountered are suitable for standard concrete footings for single family dwellings.

The report also indicates that the subsurface soil conditions for the site are considered excellent for the installation of underground utilities and construction of roadways.

3.0 – DEVELOPMENT CONCEPT

3.1 DEVELOPMENT OBJECTIVES

The Meridian Cove Development Area Structure Plan provides an overall framework for the development of the subject site.

Key objectives which have guided the preparation of the Meridian Cove Development Area Structure Plan area are as follows:

1. to create an attractive residential environment the is complementary to and integrated with the adjacent developments;

2. to create a development that enhances the quality of life for area residents and that compliments the Town Of Stony Plain;

3. to provide a safe and convenient transportation and circulation system;

4. to achieve orderly and economical expansion of the Town Of Stony Plain within the capabilities and guidelines of it's servicing systems.

3.2 THE DEVELOPMENT CONCEPT

3.2.1 General

The general development concept for the subject site is shown in Figure No 5 while development statistics are shown in Table No 1. One site is for low density single detached housing while the other site is for medium density semi detached housing. A storm water retention pond (dry pond) is shown that will form part of the park area around the storm retention pond.

Table NO. 1
LAND USE SUMMARY
MERIDIAN COVE DEVELOPMENT
AREA STRUCTURE PLAN

Land Use	Area (ha)	%	Dwelling Units	%	Population	%
Gross Area	7.03	100.0				
Roadways	2.18	31.0				
PUL (including storm pond)	0.46	6.5				
Residential	4.39	62.4	167	100.0	465	100.00
Low Density	1.41	32.1	47	28.1	165	35.5
Medium Density	2.98	67.9	120	71.9	300	64.5

Overall residential density: 21.0 persons per gross development hectare

Assumptions: 1. Residential densities

Low Density	34 dwellings per net hectare
Medium Density	40 dwellings per net hectare

2. Population densities

Low Density	3.5 persons per dwelling
Medium Density	2.5 persons per dwelling

TABLE NO. 2
POTENTIAL STUDENT POPULATION
MERIDIAN COVE
AREA STRUCTURE PLAN

	K-6	7-9	10-12	Total
Public System	36	15	15	66
Separate System	20	8	8	36
Total	56	23	23	102

Assumptions:

1. Numbers of Students per Dwelling: 0.61
   Number of Dwellings: 167

2. Proportion of Students in Public System: 65%
   Proportion of Students in Catholic System: 35%

3.2.2 Residential Land Use

Meridian Cove Development will offer a range of low density and medium density development. The neighborhood will provide for both single detached housing and semi detached housing.

The concept identifies and area for low density single detached housing and medium density semi detached housing shown on Figure 3.

Low density residential development will develop in the forms allowed within the R-1B.
Districts and medium density within R-2M Districts.

The R-1B area will be adjacent to the existing single detached housing, while the R-2M area will be adjacent to existing apartment style housing.

Low density residential land use will occupy 1.41ha (32.1 % of all the land in the plan area) and medium residential development will occupy 2.98ha (67.9 % of all the land in the plan area).

3.2.3 Parks, Open Space And Walkways

Parks and open space is dispersed within the Area Structure Plan area to serve the local needs of the immediate area as well as the broader community. The storm water retention pond area will be a landscape feature and amenities. A walkway will connect to the new proposed street.

3.2.4 Schools

Assuming a density of 3.5 persons per dwelling for low density residential and 2.5 persons per dwelling for medium density residential the population for this area is 465 persons. The resulting school generation projections for Meridian Cove assuming a generation factor of 0.61 students per dwelling is 102 students. Existing nearby school facilities should accommodate the anticipated student requirement.

3.2.5 Other Land Uses

No sites are designated for religious assembly. The land immediately to the north is presently owned by a church organization.

There has been no identified need for additional community facilities or institutional facilities in the Meridian Cove Development Area Structure Plan.

3.3 TRANSPORTATION AND CIRCULATION

3.3.1 Access and External Roadway System

The general development concept for this site has no significant impact on the existing road systems. The traffic report from Alliant Engineering is included in Appendix B.

3.3.2 Internal Roadway System

Local roads will provide access to residential areas. All roadways will be designed and constructed to the standards of the Town of Stony Plain.

4.0 - SERVICES

4.1 WATER DISTRIBUTION

The main water supply for Meridian Cove will be the existing 250 mm diameter water mains at the north end of 46 Street and 250 mm stub which is located at the west end of 41 Avenue. Looping of water mains through this site will provide two sources of water supply. See Figure No 4. See Appendix C.

4.2 SANITARY SEWER SYSTEM

The existing 250 mm sanitary sewer main is located at the west end of 40 Avenue and 44 Street. There sufficient capacity in the town system for this site according to Associated Engineering report. The locations of these sanitary sewer mains and the internal sanitary collection system are shown on Figure No 5. See Appendix C.

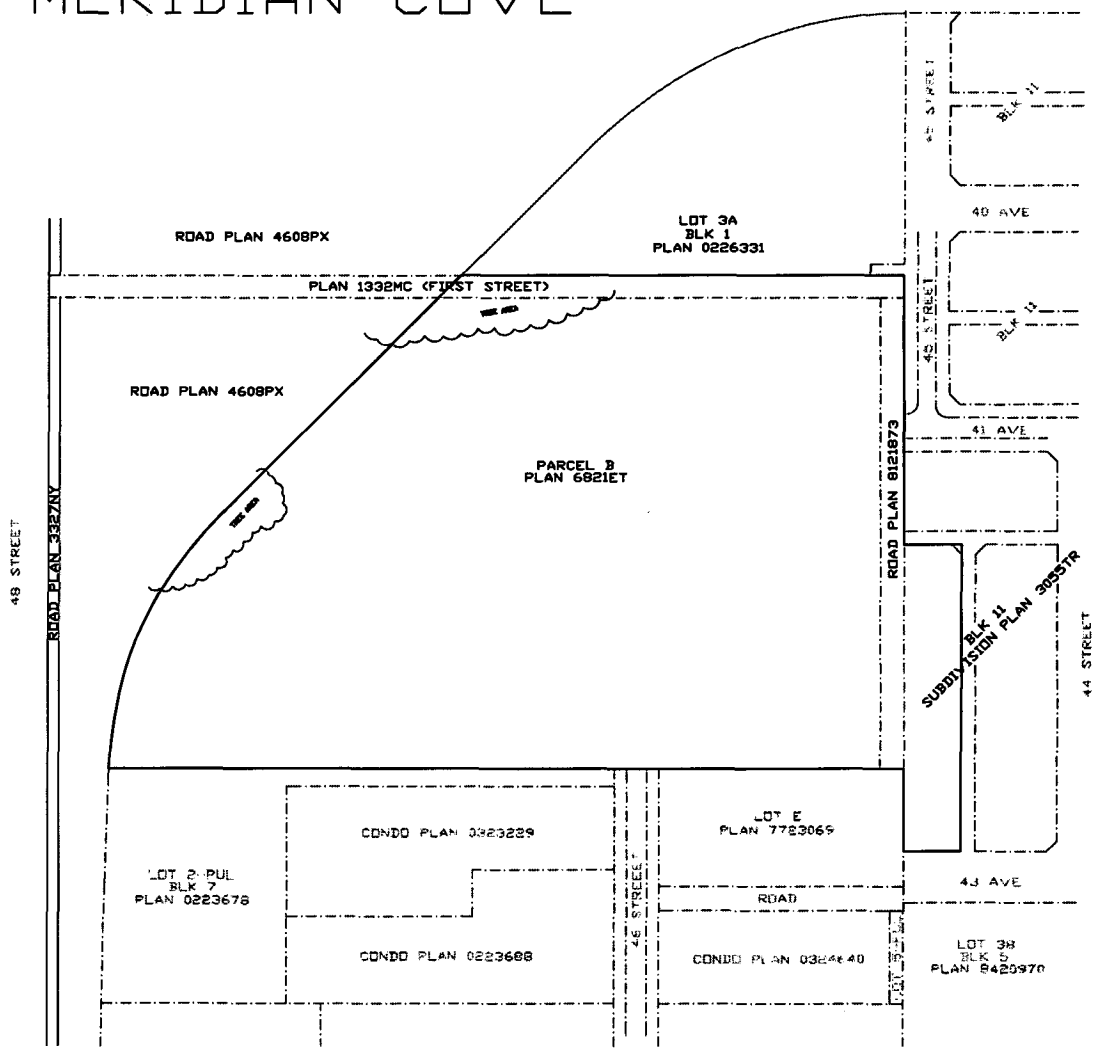
4.3 STORMWATER SYSTEM

The natural drainage for Meridian Cove is to the north west corner of the property into existing road way drainage ditch. The ditch drainage is from the northwest corner along the road way towards the east until the surface water connects with the Town's drainage system know as Stream Course No 1. The drainage pattern will be altered as shown on Figure No 6 to have the whole area drained towards the proposed storm water retention pond. Discharge to the existing drainage course will be restricted to pre-development flows and the quality of the discharge water will meet the environmental standards of the Town of Stony Plain. See Appendix C.

4.4 SHALLOW UTILITIES

Natural gas, electrical power, telephone and cable television are available for Meridian Cove and will be extended in conjunction with the development.

MERIDIAN COVE



4

NOTES / LEGEND

ASD Boundary

Total Site Area 6.74 ha

MERIDIAN COVE

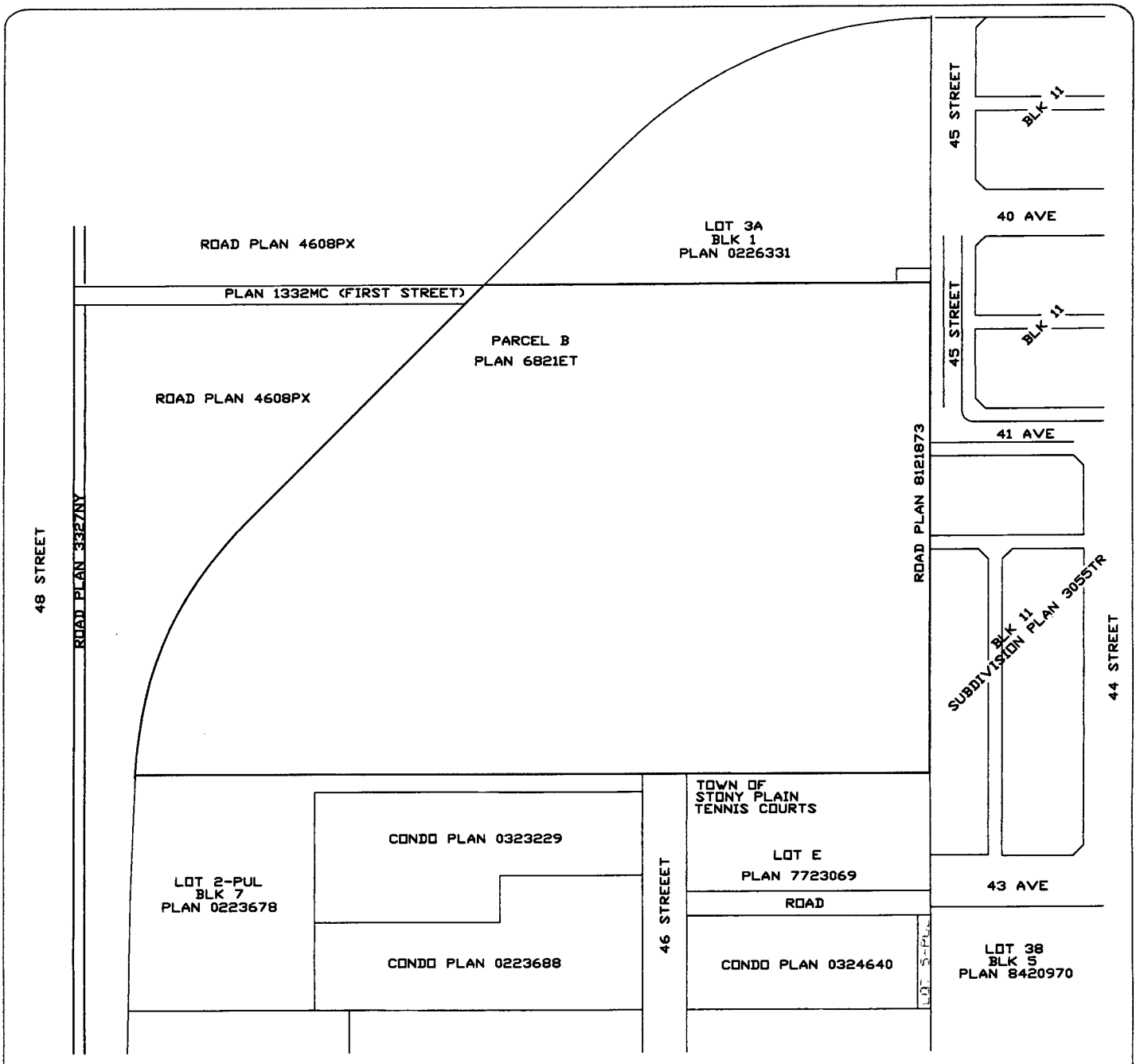
AREA STRUCTURE PLAN

PARCEL "B", NW 1/4 SEC. 36-52-28-W4

TOWN OF STONY PLAIN, AB

Date:
2006/06/05

Figure No.
1



LEGAL DISCRIPTION

MERIDIAN COVE DEVELOPMENT
PARCEL "B" NW 1/4 SEC. 36-52-28-W4
TOWN OF STONY PLAIN, ALBERTA

PRIME CONSULTANT

FRONTLINE
INNOVATIVE CONSULTANTS INC.
SUITE 101, 12225-105 Ave.
EDMONTON, ALBERTA, T5N 0Y3
PH 780.482-4444 FAX 780.482-5324

DEVELOPER

1240400 ALBERTA LTD
389 ESTATE DRIVE
SHERWOOD PARK, ALBERTA
T7X 5A1
CONTACT NO. 1-780-497-8255

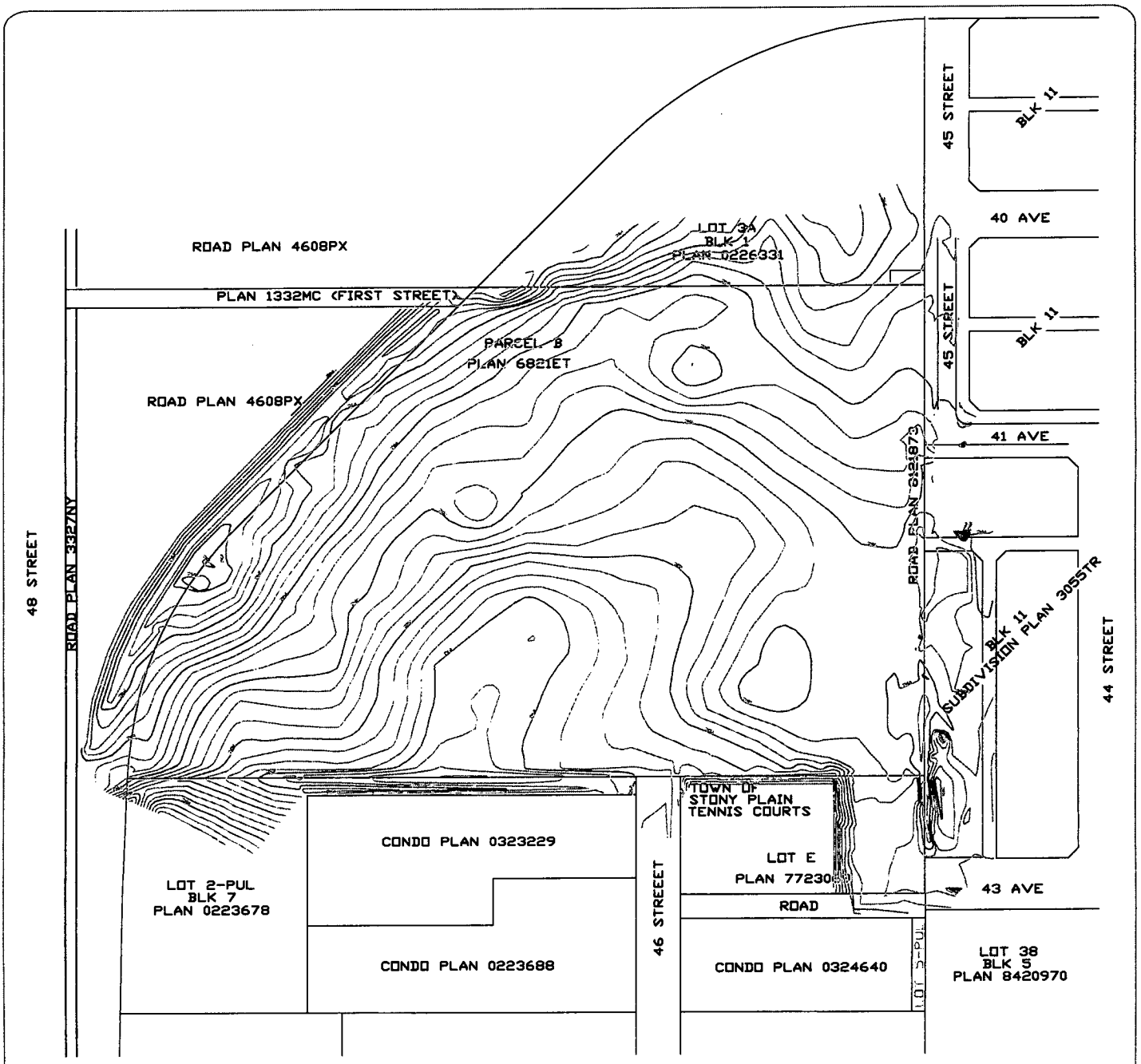
DRAWING TITLE

AREA STRUCTURE PLAN

ISSUED BY	DRAWING NUMBER	DATE
FRED YAKIMCHUK	FIGURE NO.1	JULY 12, 2006

PROJECT

MERIDIAN COVE DEVELOPMENTS
STONY PLAIN, ALBERTA



LEGAL DISCRIPTION

MERIDIAN COVE DEVELOPMENT
PARCEL "B" NW 1/4 SEC. 36-52-28-W4
TOWN OF STONY PLAIN, ALBERTA

DRAWING TITLE

AREA STRUCTURE PLAN

ISSUED BY	DRAWING NUMBER	DATE
FRED YAKIMCHUK	FIGURE NO.2	JULY 12, 2006

PROJECT

MERIDIAN COVE DEVELOPMENTS
STONY PLAIN, ALBERTA

PRIME CONSULTANT

FRONTLINE
INNOVATIVE CONSULTANTS INC.
SUITE 101, 12225-105 Ave.
EDMONTON, ALBERTA, T5N 0Y3
PH 780.482-4444 FAX 780.482-5324

DEVELOPER

1240400 ALBERTA LTD
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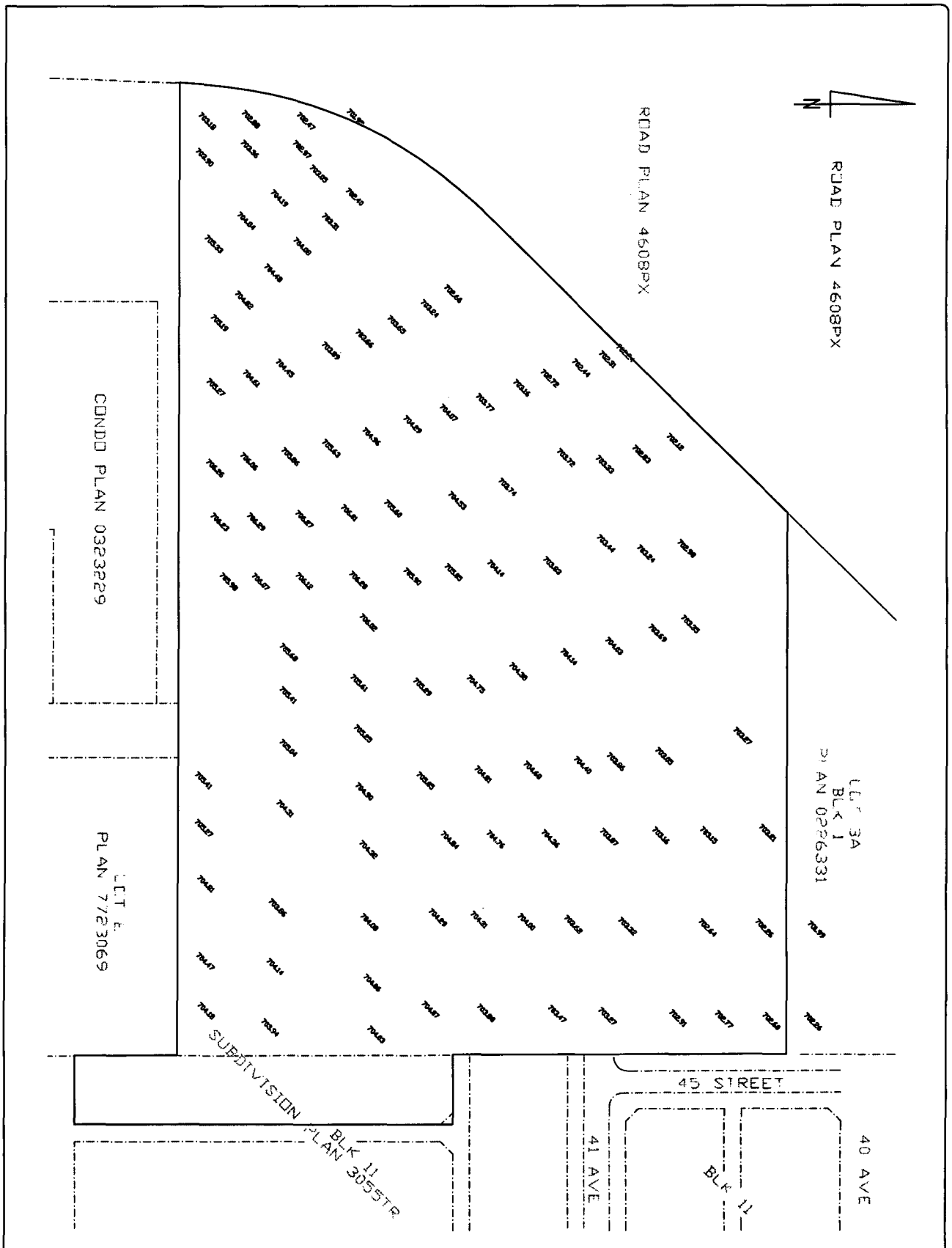


NOTES / LEGEND

ASD Boundary

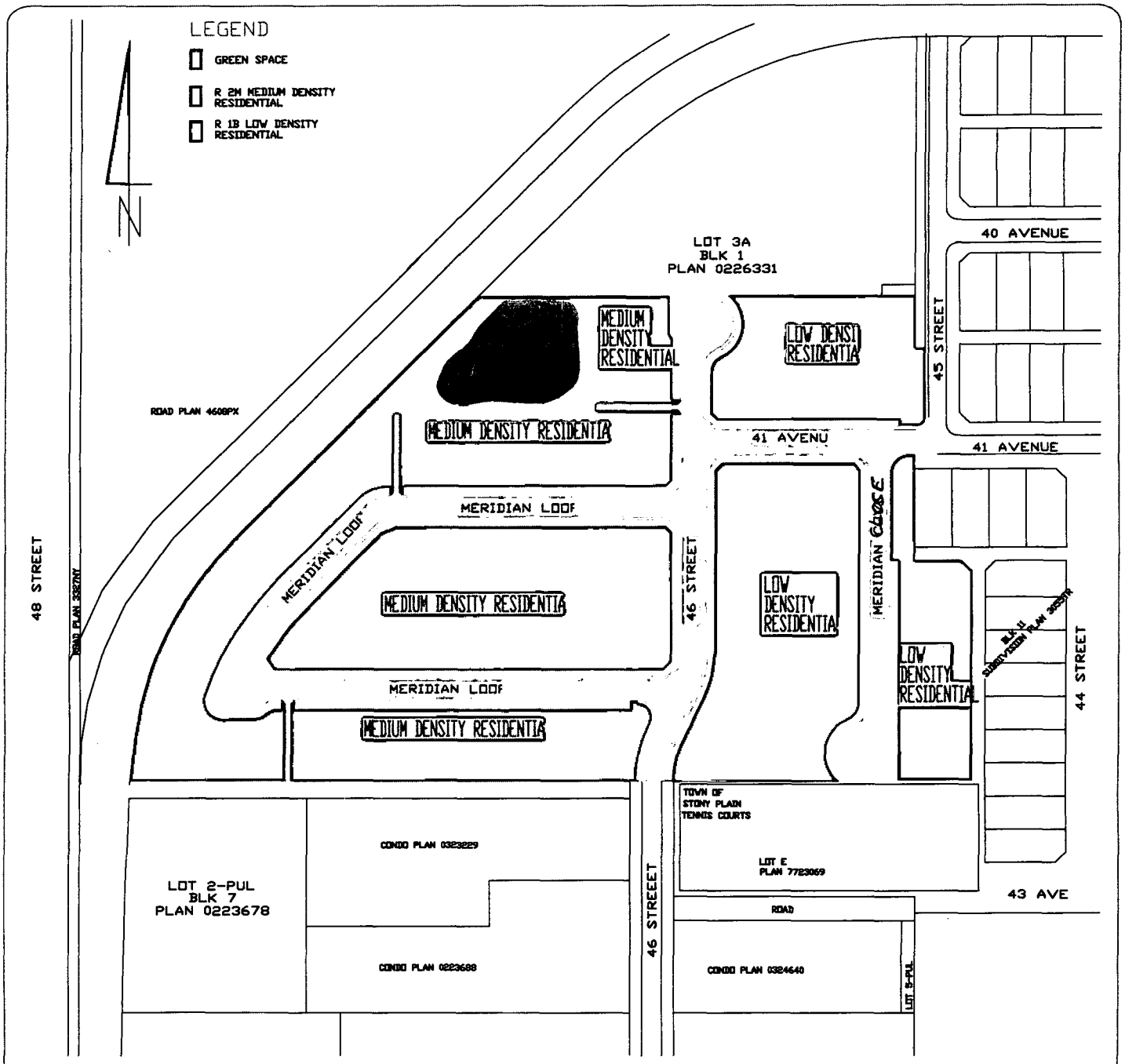
Total Site Area 6.74 ha

MERIDIAN COVE
SITE CONDITIONS
AREA STRUCTURE PLAN

PARCEL "B", NW 1/4 SEC. 36-52-28-W4
TOWN OF STONY PLAIN, AB

Date:
2006/06/05

Figure No.
2



LEGAL DISCRIPTION

MERIDIAN COVE DEVELOPMENT
PARCEL 'B' NW 1/4 SEC. 36-52-28-W4
TOWN OF STONY PLAIN, ALBERTA

PRIME CONSULTANT

FRONTLINE
INNOVATIVE CONSULTANTS INC.
SUITE 101, 12225-105 Ave.
EDMONTON, ALBERTA, T5N 0Y3
PH 780.482-4444 FAX 780.482-5324

DEVELOPER

1240400 ALBERTA LTD
389 ESTATE DRIVE
SHERWOOD PARK, ALBERTA
T7X 5A1
CONTACT NO. 1-780-497-8255

DRAWING TITLE

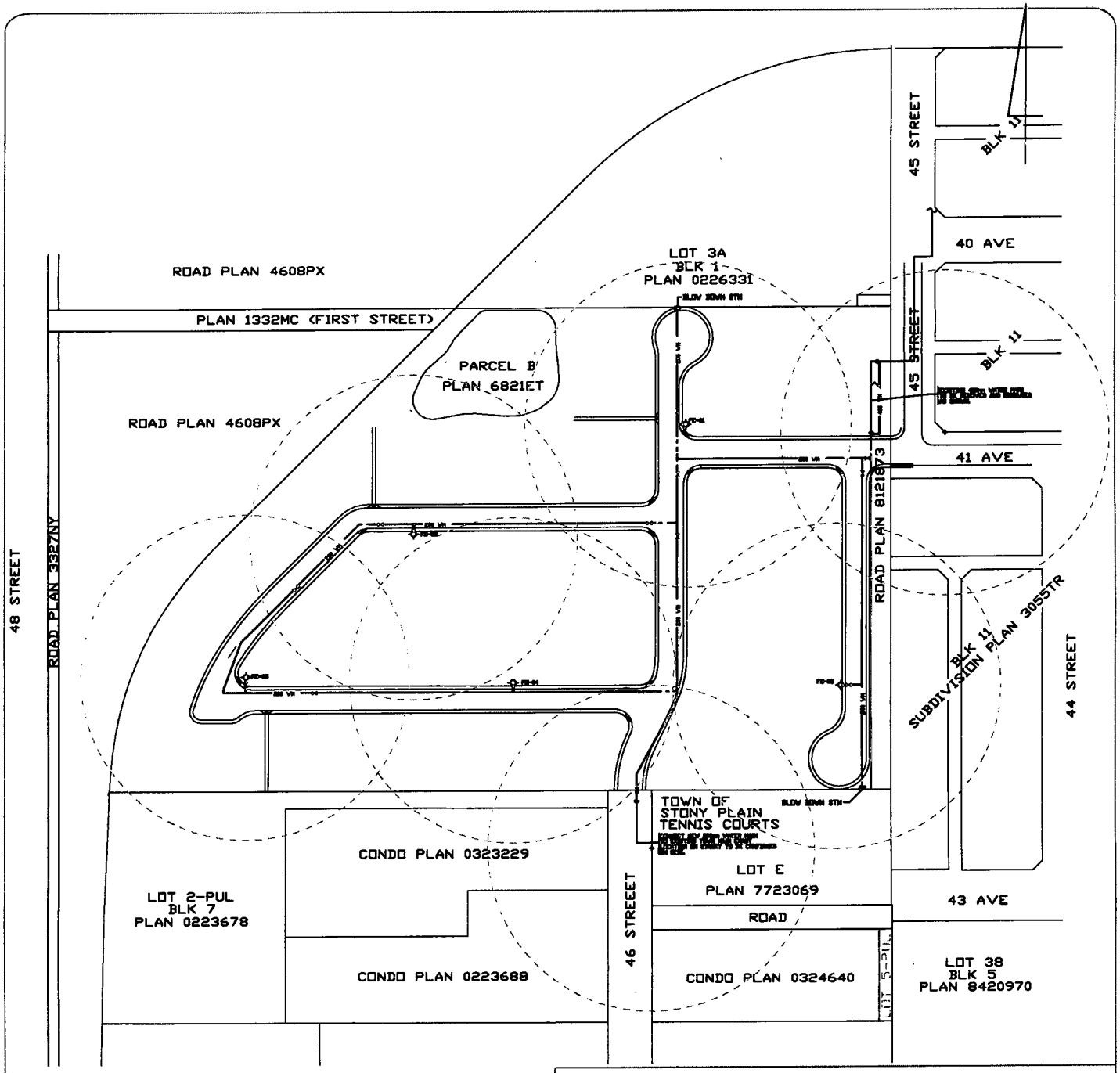
AREA STRUCTURE PLAN
LAND USE BYLAW AMENDMENT

ISSUED BY	DRAWING NUMBER	DATE
FRED YAKIMCHUK	FIGURE NO.3	JULY 12, 2006

PROJECT

MERIDIAN COVE DEVELOPMENTS
STONY PLAIN, ALBERTA

APPENDIX A



LEGAL DISCRIPTION

MERIDIAN COVE DEVELOPMENT
PARCEL "B" NW 1/4 SEC. 36-52-28-W4
TOWN OF STONY PLAIN, ALBERTA

PRIME CONSULTANT

FRONTLINE
INNOVATIVE CONSULTANTS INC.
SUITE 101, 12225-105 Ave.
EDMONTON, ALBERTA, T5N 0Y3
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1240400 ALBERTA LTD
389 ESTATE DRIVE
SHERWOOD PARK, ALBERTA
T7X 5A1
CONTACT NO. 1-780-497-8255

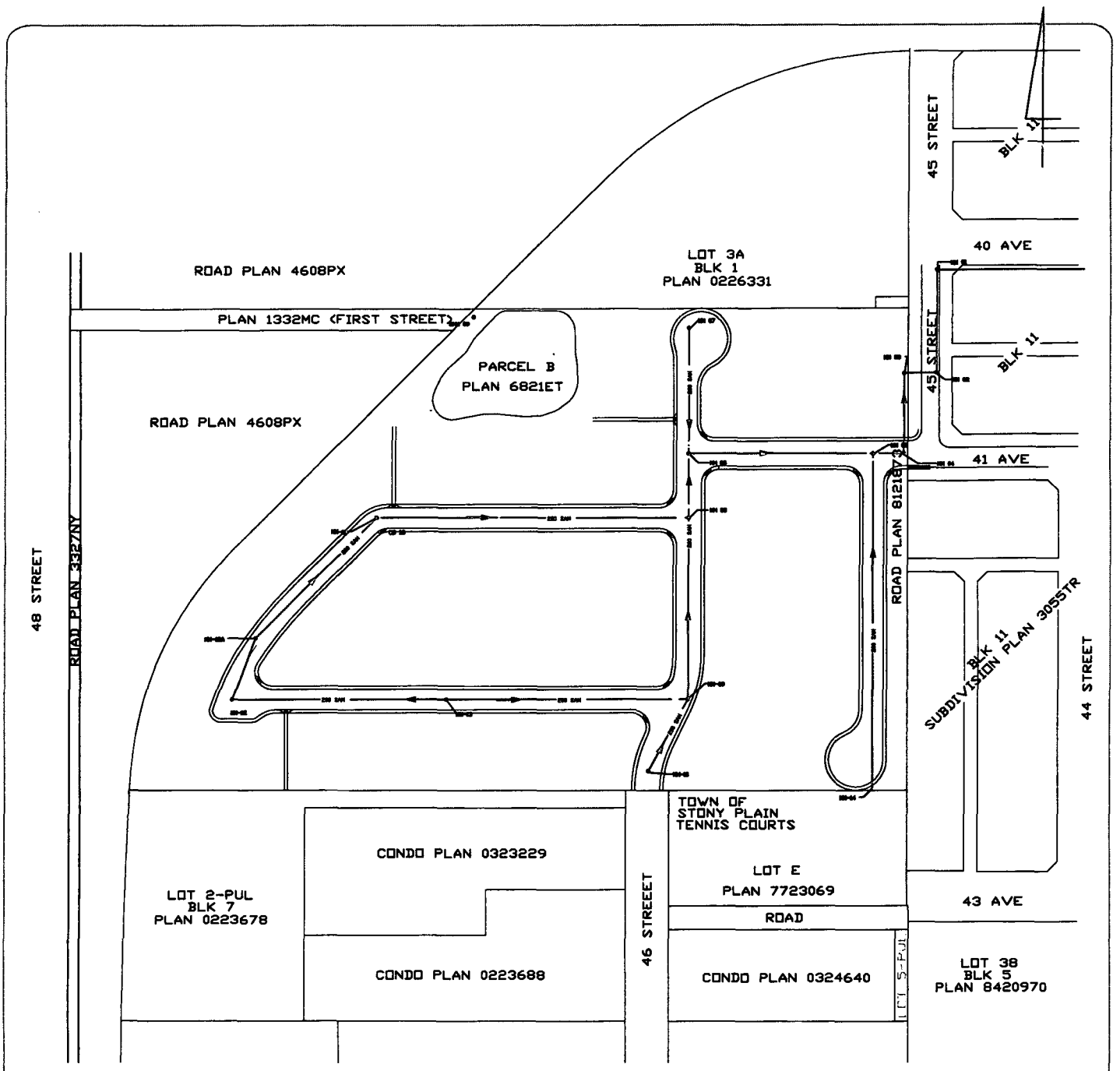
DRAWING TITLE

WATER DISTRIBUTION

ISSUED BY	DRAWING NUMBER	DATE
FRED YAKIMCHUK	FIGURE NO.4	JULY 12, 2006

PROJECT

MERIDIAN COVE DEVELOPMENTS
STONY PLAIN, ALBERTA



LEGAL DISCRIPTION

MERIDIAN COVE DEVELOPMENT
PARCEL "B" NW 1/4 SEC. 36-52-28-W4
TOWN OF STONY PLAIN, ALBERTA

PRIME CONSULTANT

FRONTLINE
INNOVATIVE CONSULTANTS INC.
SUITE 101, 12225-105 Ave.
EDMONTON, ALBERTA, T5N 0Y3
PH 780.482-4444 FAX 780.482-5324

DEVELOPER

1240400 ALBERTA LTD
389 ESTATE DRIVE
SHERWOOD PARK, ALBERTA
T7X 5A1
CONTACT NO. 1-780-497-8255

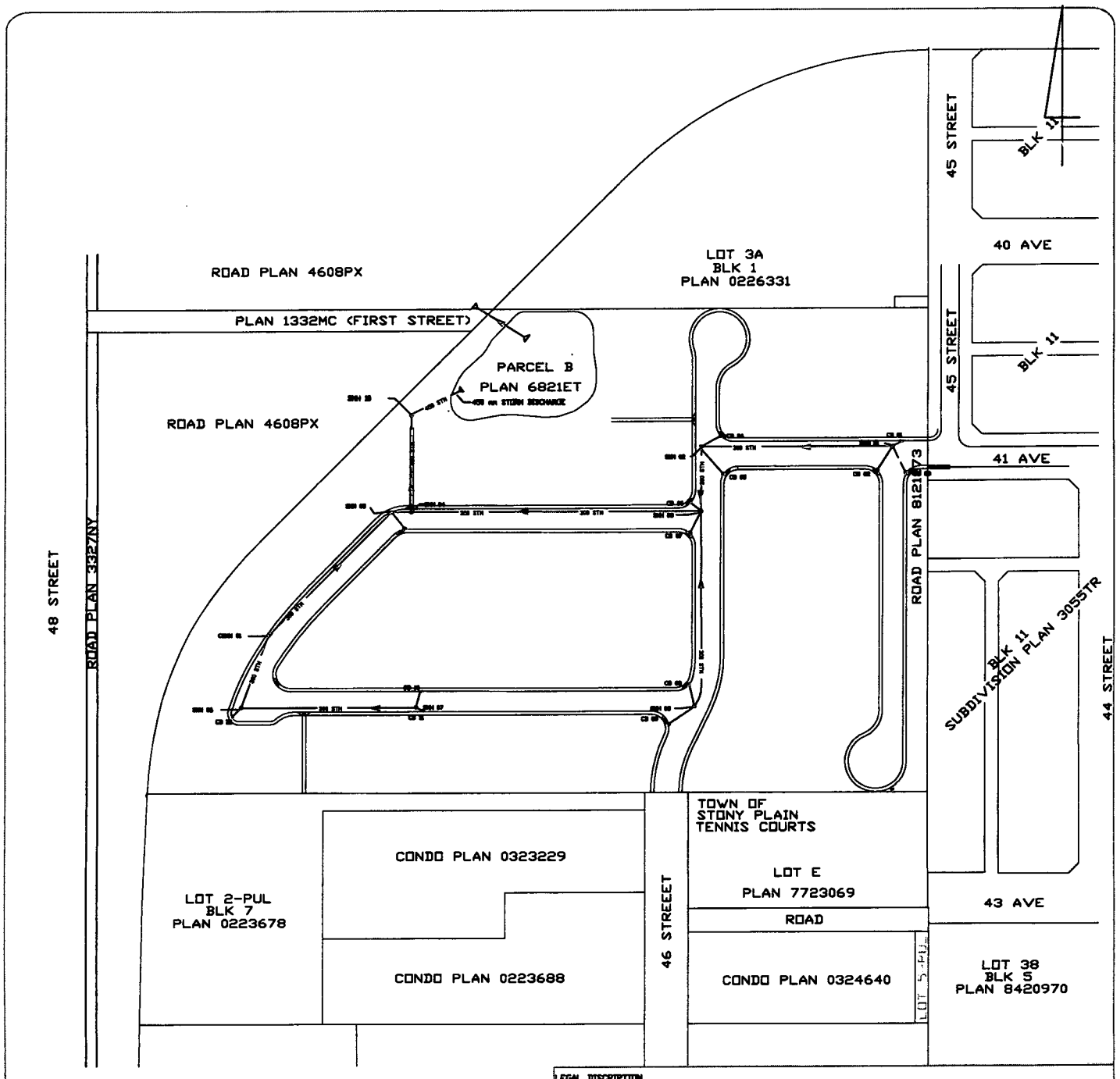
DRAWING TITLE

SANITARY SEWER SYSTEM

ISSUED BY	DRAWING NUMBER	DATE
FRED YAKIMCHUK	FIGURE NO.5	JULY 12, 2006

PROJECT

MERIDIAN COVE DEVELOPMENTS
STONY PLAIN, ALBERTA



LEGAL DISCRIPTION

MERIDIAN COVE DEVELOPMENT
PARCEL "B" NW 1/4 SEC. 36-52-28-W4
TOWN OF STONY PLAIN, ALBERTA

PRIME CONSULTANT

FROMLINE
INNOVATIVE CONSULTANTS INC.
SUITE 101, 12225-105 Ave.
EDMONTON, ALBERTA, T5N 0Y3
PH 780.482-4444 FAX 780.482-5324

DEVELOPER

1240400 ALBERTA LTD
389 ESTATE DRIVE
SHERWOOD PARK, ALBERTA
T7X 5A1
CONTACT NO. 1-780-497-8255

DRAWING TITLE

STORM SEWER SYSTEM

ISSUED BY	DRAWING NUMBER	DATE
FRED YAKIMCHUK	FIGURE NO.6	JULY 12, 2006

PROJECT

MERIDIAN COVE DEVELOPMENTS
STONY PLAIN, ALBERTA

ALBERTA REGISTRIES

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0016 010 259	6821ET;B	062 191 818

LEGAL DESCRIPTION

FILED PLAN 6821ET
PARCEL (B)
CONTAINING 8.09 HECTARES (20 ACRES) MORE OR LESS
EXCEPTING THEREOUT: A) THE MOST WESTERLY 16.70 FEET IN UNIFORM
WIDTH THROUGHOUT CONTAINING 0.109 HECTARES (0.27 ACRES) MORE OR LESS
B) 1.53 HECTARES (3.80 ACRES) MORE OR LESS AS SHOWN ON ROAD PLAN 4608PX
C) 0.227 HECTARES (0.56 ACRES) MORE OR LESS AS SHOWN ON ROAD PLAN 8121873
EXCEPTING THEREOUT ALL MINES AND MINERALS

ATS REFERENCE: 4;28;52;36;NW
ESTATE: FEE SIMPLE

MUNICIPALITY: TOWN OF STONY PLAIN

REFERENCE NUMBER: 932 165 848

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
062 191 818	09/05/2006	TRANSFER OF LAND	$300,000	$300,000

OWNERS

SMITHSON REAL ESTATE SERVICES LTD..
OF BOX 3158
SPRUCE GROVE
ALBERTA T7X 3A5

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS

(CONTINUED)

ENCUMBRANCES, LIENS & INTERESTS

PAGE 2
062 191 818

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
052 370 875	31/08/2005	CAVEAT RE : AGREEMENT OF PURCHASE & SALE CAVEATOR - 858617 ALBERTA LTD.. C/O BIRDSELL GRANT GARDNER MORCK 102, 5300-50 ST STONY PLAIN ALBERTA T7Z1T8 AGENT - CHARLES D GARDNER

TOTAL INSTRUMENTS: 001

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 17 DAY OF MAY, 2006 AT 10:28 A.M.

ORDER NUMBER:5313704

CUSTOMER FILE NUMBER: ls 31-06

REGISTRAR OF LAND TITLES

END OF CERTIFICATE

APPENDIX B

ALLIANT
ENGINEERING

June 2, 2006

Protech Construction Ltd.
53002, Range Road 262, Zone 4
Acheson, AB
T7X 5A1

Attention: Mr. Alex Domnich

Subject: **Traffic Impact Assessment**

At the request of Protect Construction Ltd. (Protect) Alliant Engineering (Alliant) has reviewed the Traffic Impact Assessment dated May 2001 for the development located in Part of Parcel A, Plan 8192 ET & Part of N.W. 36-52-28-W4M. The review was undertaken to determine if the increased residential development now proposed for this area will require different intersection treatments than those recommended in the original Traffic Impact Assessment.

Based on the review completed by Alliant, the number of additional trips generated by the increased residential properties will not significantly alter the traffic projects contained in the original Traffic Impact Assessment. Therefore, no modifications to the Traffic Impact Assessment will be required.

If you require further details or have any questions, please feel free to contact myself at (780) 488-8292 at your convenience.

Yours sincerely,
Alliant Engineering

Ryan Batty, E.I.T.
Project Engineer, Alliant Engineering

Attachments

cc. Mr. Darcy Paulichuk, P. Eng., Project Director, President, Alliant Engineering

#200, 18311 – 105 Ave., Edmonton, AB, T5S 2K9
Phone: (780) 488-8292, Fax: (780) 444-9054

ALLIANT
ENGINEERING & CONSULTING LTD.

TRAFFIC IMPACT ASSESSMENT

Cove Properties Ltd.
Town of Stony Plain
Part of Parcel A, Plan 8192 ET
& Part of N.W. 36-52-28-W4M

May 2001

ALLIANT
ENGINEERING & CONSULTING LTD.

TABLE OF CONTENTS

ALLIANT
ENGINEERING & CONSULTING LTD.

TRAFFIC IMPACT ASSESSMENT

REPORT

Cove Properties Ltd. Development

In

The Town of Stony Plain

Part of Parcel A, Plan 8192 ET
& Part of N.W. 36-52-28-W4M

May 2001

ALLIANT
ENGINEERING & CONSULTING LTD.

1. INTRODUCTION

This report is a traffic impact assessment report for Cove Properties Ltd. for the proposed development located in Part of Parcel A, Plan 8192 ET in the Town of Stony Plain, Alberta.

This report has been prepared to determine the impact of the Cove Properties Ltd. development on the immediate surrounding roadways. The scope of work, in this case, is to assess the impact to existing intersections and to determine if improvements are necessary due to any potential increase in volumes of traffic and turning movements, attributed from the development.

The report is based on site observations and intersectional analysis procedures and standards documented in Alberta Transportation's Highway Geometric Design Guide and the Transportation Association of Canada Guidelines.

This report has been prepared for Cove Properties Ltd., for the planning and development of the land as described above.

2. BACKGROUND

The proposed development is to included the following:

Legal Description	Dwelling Type & Number	Anticipated Year of Development
Parcel A, Plan 8192 E.T. From R1A to R3	63 Unit Rental Building (Phase I) 63 Unit Condo Building (Phase II)	2001

See Appendix A for the Legal Plans.

The development is to include an East-West private access road (approximately 43rd Avenue) for immediate access. Parking stalls are also proposed along this access road on both sides. A bulb is proposed at the West limit of this roadway for motorists to turn around.

The proposed access for this development is via 46th Street to the South and 41st Avenue and 43rd Street to the East and South. This traffic would then be collected/distributed by 44th Avenue. See Appendix A for the Area Structure Plan.

3. PROJECT OBSERVATIONS

3.1 General Information

The proposed development is contained in the parcel of land as described previously. Presently, the only existing developments are to the South and East.

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ENGINEERING & CONSULTING LTD.

A RCMP police station, Provincial Court, and Provincial department building exist directly South of the proposed development. The police station accesses 46th Street and the provincial building access 44th Avenue, with a back entrance along 46th Street.

On the East side of 46th Street, an apartment building and town homes exist. Access to these buildings varies between 44th Avenue and 46th Street.

North East of the proposed development exists an underground water reservoir (Meridian Heights). This area is complimented with tennis courts on the ground surface.

An East - West 5m graveled road exists South of the tennis courts. It is assumed that this road coincides with the proposed private access road as shown on the Plans.

See Appendix A for a site plan and Appendix C for photos.

3.2 Roadway Network

The traffic generated around 46th Street will generally utilize 44th Avenue to leave and enter the area. The 44th Avenue roadway serves as a two lane undivided collector for this North portion of Stony Plain. It predominately transports motorists in the East/West direction. It connects motorists to arterial roads 48th Street and Golf Course Road.

The main focus of impact to the existing roadway network will be a the intersection of 46th Street and 44th Avenue. The intersections of 44th Avenue & 48th Street as well as 44th Avenue & Golf Course Road are both controlled by traffic lights and therefore no further impact is anticipated at these locations.

Due to lack of records, no collision history was available for the intersection at 46th Street and 44th Avenue.

3.3 Site Observations

A site visit was performed by Mr. Darcy Paulichuk, P. Eng., on April 16, 2001. His visual observations were as follows:

- Posted Maximum Speed = 50 kph
- Existing Subdivision Development mature along 44th Avenue. This comprises of government buildings, medium density residential units and single residential units.
- Traffic volumes appear low at the time (2:00 p.m.).
- Traffic control devices include stop and yield signs.
- Sight distance to the West is poor due to a vertical crest curve on 44th Avenue. This may effect left turning vehicle coming out from 46th Street.

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4. TRAFFIC VOLUMES

Traffic volume predictions are based on the number of units, the average number of vehicles per unit and an average anticipated number of trips per vehicle.

In evaluating the impact on surrounding roads and intersections, all existing, proposed and future developments should be taken into account.

4.1 Proposed Development

The number of vehicles generated from the proposed development can be derived from using an average of 3.5 end trips per day per vehicle per household. This assumes a trip in the morning and evening for occupational purposes (2 end trips/vehicle) and an additional 1.5 end trips per vehicle per day are assumed for other reasons.

The condominium and apartment buildings are to contain two bedroom units with an anticipated average of 1.7 vehicles per unit.

Using this generation rate and applying it to each set of buildings, results in the following volumes at full capacity:

Dwelling Type & Number of Units	Daily Volume Calculation	Daily Volume (end trips per day)
63 Unit Rental Building (Phase I)	63 units x 1.7 vehicles/unit x 3.5 end trips/ day	375
63 Unit Condo Building (Phase II)	63 units x 1.7 vehicles/unit x 3.5 end trips/ day	375
*Visitors	32 visitors x 2.0 end trips/ day	25
	TOTAL:	775

* - Visitor Parking is assumed at 1 visitor per every 5 units per day (126 units / 5 = 25 visitors per day).

4.2 Future Development

The area to the North of the development is presently unoccupied (Parcel B, Plan 6821 E.T.). It is anticipated that this area will be developed at some time in the future into single residential units with approximately 60 lots.

The residential generation rate is derived from using an average of two vehicles per household with a trip in the morning and evening for occupational purposes (4 end trips/unit). An additional two (2) end trips per unit are assumed for other reasons.

The traffic volumes expected to be generated by the future development is as follows:

60 units x 6 end trips/day = 360 end trips per day

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4.3 Other Traffic Generators

In focusing on the 46th Street and 44th Avenue intersection, the other traffic generators from 46th Street are as follows.

4.3.1 Police Station

A Royal Canadian Mounted Police station exists on the North West corner of 46th Street and 44th Avenue. The only access to the station is via 46th Street (see Appendix A for the Area Structure Plan). The police station presently maintains 50 RCMP members and 10 support personnel for a total of 60 staff.

There are approximately 25 members at work each day, with 6 support staff. Since this is a police station, the number of end trips can be expected to be high due to shift changes and station usage (members and public). The following calculation approximates the traffic volume.

Members:	25 x 10 end trips/day =	250 end trips / day
Staff:	6 x 4 end trips/day =	25 end trips / day
Public:	25 x 2 end trips/day =	50 end trips / day
	Total:	325 end trips / day

4.3.2 Provincial Buildings

The provincial court house and government department buildings generally use two primary accesses off of 44th Avenue. A third access is available via 46th Street, through a rear entrance, through the North East side of the parking lot.

For this reason and for the purposes of this report, it can be assumed that 100 end trips per day can be attributed to the provincial buildings.

4.3.3 7-Plex Rowhousing

A 7-Plex Rowhousing development, previously approved, is to be developed in Parcel A, Plan 8192 E.T., R-2M, directly East of the proposed development, across of 46th Street. The rowhousing units are to likely contain two to three bedrooms per unit with an anticipated average of 2 vehicles per unit.

The anticipated volume generated from this development is expected to be as follows:

7 units x 2.0 vehicles/unit x 3.5 end trips / day = 50 end trips per day

4.3.4 Apartment Building

A three-story apartment building exists along 44th Avenue. There are approximately 50 units in the building. Since the building is directly adjacent to 44th Avenue and a parking lot for the

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building is available to the East of the building, the traffic generated from this source is expected to be minimal. For the purposes of this report, it can be assumed that 20 end trips per day (7% x 50units x 1.7 vehicles/unit x 3.5 end trips/day/vehicle) can be attributed to the apartment building on 46th Street.

4.3.5 Town Homes (Paxton Place)

Town homes exist along 46th Street, North of the apartment building. Twenty five (25) of these town homes access 46th Street directly.

The anticipated traffic volumes are as follows:

25 units x 2 vehicles/unit x 3.5 end trips/day/vehicle = 175 end trips per day

4.3.6 Residential Lots, North East

The existing single residential units to the North East of the proposed development are presently using the 41st Avenue / 43rd Street route for connection to 44th Avenue. For the purposes of this report, it is assumed that some of this traffic will utilize the 46th Street route since is will be a shorter distance to 44th Avenue.

The anticipated traffic volumes are as follows:

35 units x 6 end trips/day/vehicle = 210 end trips per day

4.4 Total Volumes

The total anticipated volumes on 46th Street is as follows, when all areas are fully developed.

Traffic Generator	Volume (end trips per day)
Proposed Development	775
Future Development	360
Police Station	325
Provincial Buildings	100
7-Plex Rowhousing	50
Apartment Building	20
Town Homes	175
Residential Lots, North East	210
Total:	2015

5. INTERSECTIONAL ANALYSIS

A minor intersectional analysis was completed at intersection of 46th Street and 44th Avenue to determine if intersectional treatment improvement is required. The analysis is assuming full

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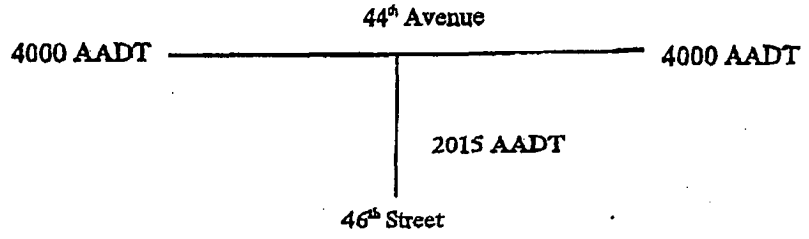
development of the area. No current traffic volume was available for 44th Avenue and is assumed to be 3500 – 4500 vehicles per day.



The Alberta Infrastructure's Highway Geometric Design Guide, Figure D-7.4, "Traffic Volume Warrant Chart For At-Grade Intersection on Two-Lane Rural Highways (Design Speeds 100, 110, 120 km/h)", indicates that a Type III or IV intersectional treatment will be warranted in the future. The chart also indicates that a more detailed analysis should be made in regards to past accidents, delay times, and peak hourly volumes. See Appendix B for details.

At a new intersection, this treatment would include the addition of deceleration and acceleration lanes for right turning traffic in both directions and a bypass lane for left turning traffic from 44th Avenue to 46th Street. Since most arterial/collector intersections in the Town of Stony Plain do not go farther than this, channelization of turning movements should not be required.

Although Figure D-7.4 pertains directly to rural highways with design speeds ranging from 100 to 120 km/h, the application of the data to this chart can still be made applicable for urban roadways with lower design speeds by altering the length of acceleration, deceleration and storage lanes. For example, the need for a deceleration lane does not usually change with design speed, however the length of a deceleration lane will.

Since this is an urban intersection, these turning lanes presently exist, as the roadway is wide enough to accommodate a bypass maneuver for right and left turning traffic. **Road widening or lane additions are not necessary.**

In the detailed analysis however, some concerns are raised. The sight distance to the West on 44th Avenue is poor. This may impede efficient left turn flow out of 46th Street.

The wait times to get on 44th Avenue will increase with the increased level of development, especially during peak times. This may be more of a concern functionally since this is the police station's main access. However, a secondary access via the provincial building access road could be utilized to alleviate the station's congestion.

6. CONCLUSION

Upon review of all available information and data, the proposed development along with other developments in the area, will impact the roadway system in the immediate area. Specifically,

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the intersection of 46th Street and 44th Avenue will increase in traffic volumes and turning movements. Lane additions or roadway widening do not seem necessary due to the urban status and the existing roadways widths. Parking near the intersection may have to be prohibited to ensure that turning lanes are fully available.

In the future, this intersection may be a candidate for traffic control lights, mainly because of the sight distance and the police station location. It is recommended that this intersection be monitored over the course of urban development in the area to verify the warrant for traffic lights. Determination can be made using the Transportation Association of Canada's "Manual of Uniform Traffic Control Devices for Canada" as a guide.

7. CLOSURE

We trust the information provided meets your present requirements. Should any questions arise, please contact our office at your convenience.

Yours truly,

ALLIANT ENGINEERING CONSULTANTS LTD.

Darcy O. Paulichuk, P. Eng.

PROFESSIONAL ENGINEER ALBERTA
DARCY O. PAULICHUK
May 18, 2001

Engineering Stamp
Darcy O. Paulichuk, P. Eng.

PERMIT TO PRACTICE
ALLIANT ENGINEERING & CONSULTING LTD.
Signature
Date May 18, 2001
PERMIT NUMBER: P 6844
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Permit Stamp
Alliant Engineering & Consulting Ltd.

APPENDIX C

Meridian Cove Sanitary Calculations

$$Q(PDW) = \frac{G.P.Pf}{86.4}$$

Q(PDPf) = the peak dry weather design flow rate (L/s)
G = per capita average daily design flow (L/d)
P = Design contributing population in thousands
Pf = Harmons peaking factor
Harmons Peaking Factor = $1 + 14/(4+P^{1/2})$

Calculations

Units = 167
Bedrooms = 167 x 3 = 501
Population = 120 x 2.5 = 300 (semi detached units)
47 x 3.5 = 164.5 (detached units)
Total = 465

Harmons Peaking Factor = $1 + 14/(4+0.465^{1/2}) = 3.99$

Using 675 liters per bedroom

$$Q(PDW) = \frac{(675x501)x0.465x3.99}{86.4} = 7261 \text{ L/d}$$

Sanitary Mains and Branches 200mm

Meridian Cove Water Calculations

$$Q(PDW) = \frac{G.P.Pf}{86.4}$$

Q(PDPf) = the peak dry weather design flow rate (L/s)
G = per capita average daily design flow (L/d)
P = Design contributing population in thousands
Pf = Harmons peaking factor
Harmons Peaking Factor = $1 + 14/(4+P^{1/2})$

Calculations

Units = 167
Bedrooms = 167 x 3 = 501
Population = 167x3.2 = 534
Total = 534

Harmons Peaking Factor = $1 + 14/(4+0.534^{1/2}) = 3.959$

Using 675 liters per bedroom

$$Q(PDW) = \frac{(675x501)x0.5344x3.959}{86.4} = 8281 \text{ L/d}$$

Water Mains and Branches 150mm

Meridian Cove Storm Drainage Calculations

Flow = 0.035 m^3/sec/ha

Area on site
grass = 33,527 m^2
gravel = 0 m^2
pavement = 16,500 m^2
roof = 21,129 m^2

Total = 71,156 m^2 (7.1156 ha)

Combined Run-Off coefficient
Cc = 0.552753106 C1 = 0.50 S1 = 57m^3/ha
C2 = 0.55 S2= 64 m^3/ha

Storage Required
VT = 458.141 m^3

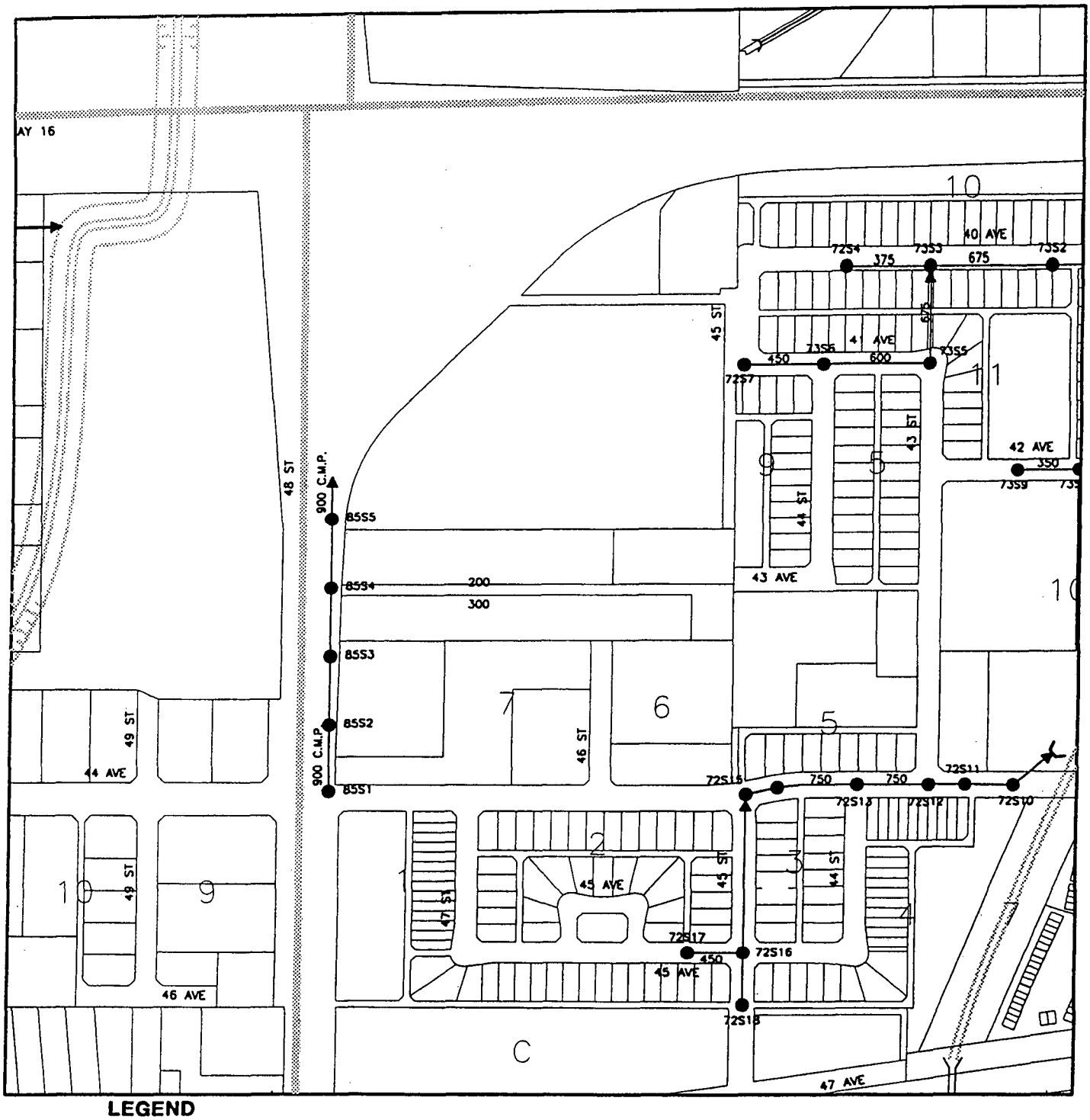
Allowable Outflow
Flow = 0.249046 m^3/sec

Storm Mains and Branches 450mm

450mm Dia x 800 m

Pipe Area	0.158963 m^2
Pipe Length	800m
	127.17 m^3
Vol Required	458.141 m^3
Less Pipe	127.17 m^3
	330.971 m^3

Pyramid Area
Vol/.3h 661.942 m^2
.0662 ha (.16 acre)



LEGEND

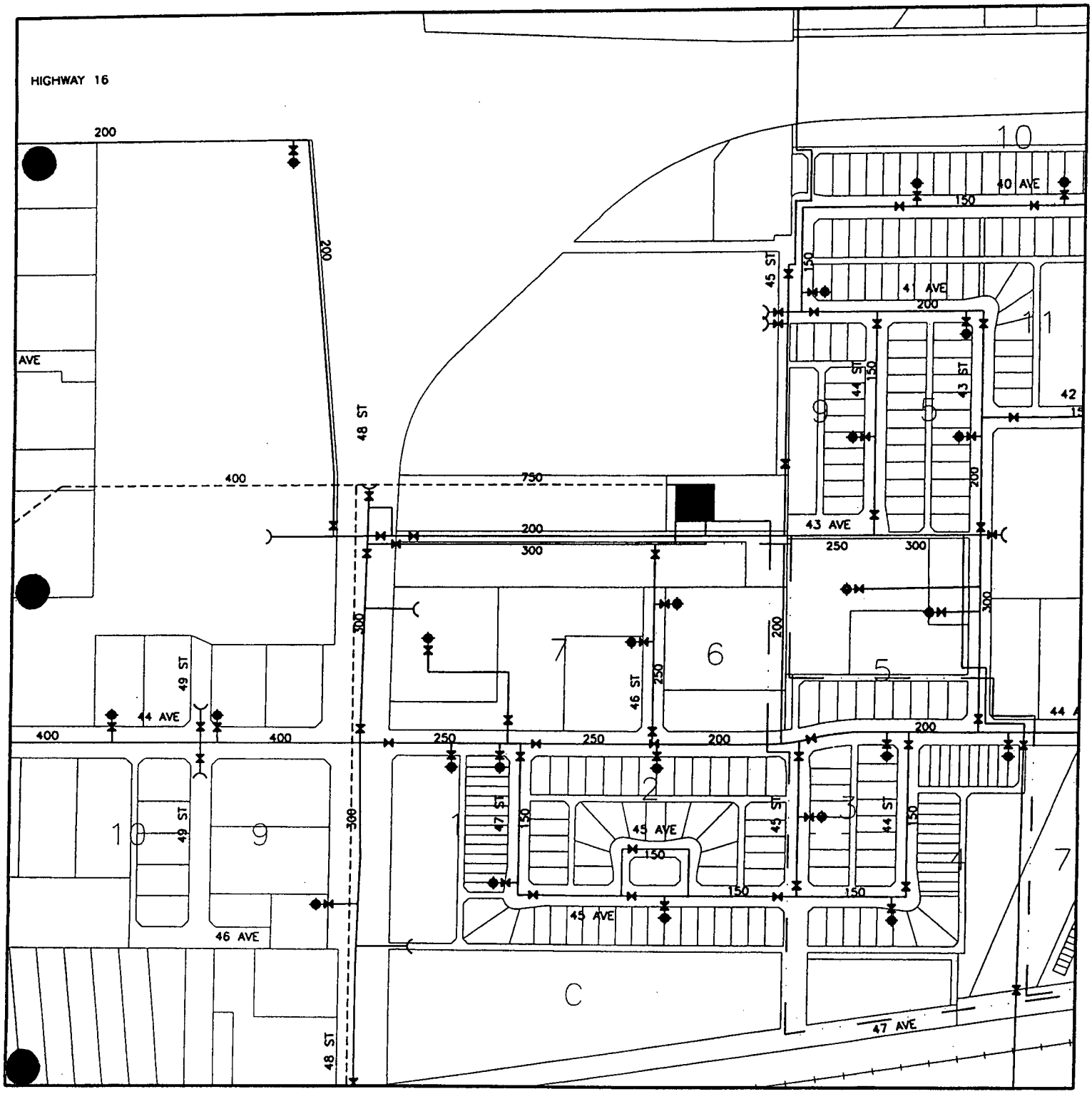
- 400 — STORM SEWER MAIN, PIPE DIA. INDICATED
- 51-50 — MANHOLE NUMBER
- DIRECTION OF FLOW
- OUTFALL
- CULVERT
- STREAM COURSE
- 1200 — PROPOSED SANITARY SEWER MAIN
- PROPOSED RETENTION POND
- CATCHMENT AREA
- DRAINAGE DITCH
- TOWN BOUNDARY

NOTE: ALL PIPE SIZES IN mm

JAN. 1996

Scale 1:5000

MAP SHEET 19



LEGEND

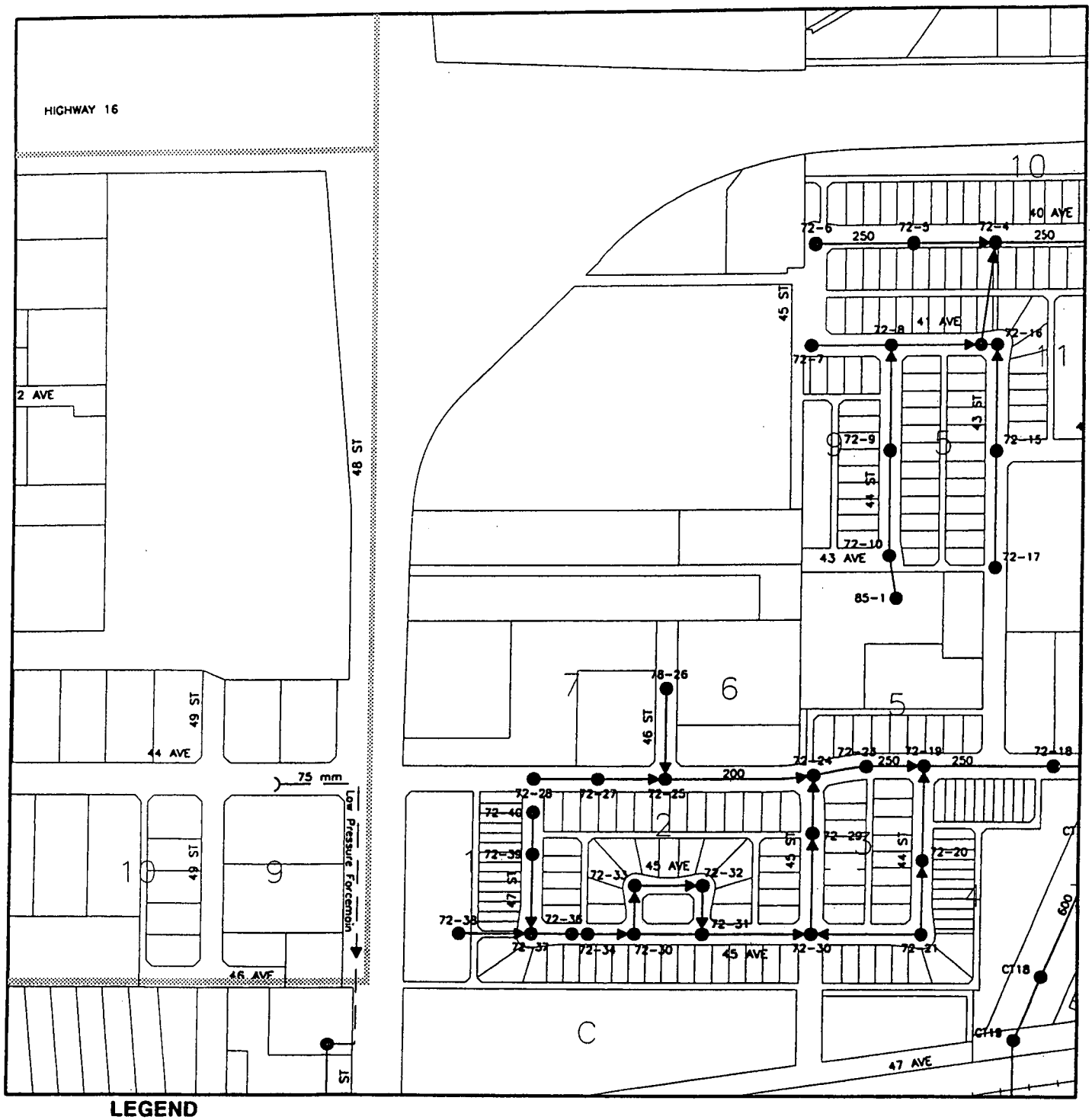
- WATERMAIN, PIPE DIAMETER INDICATED
- VALVE
- HYDRANT
- PLUG
- REDUCER
- REGIONAL WATER LINE
- PUMPHOUSE
- PROPOSED WATERMAIN, PIPE DIAMETER INDICATED

NOTE: ALL PIPE SIZES IN mm
ALL WATERMAINS ARE 150 mm IN DIAMETER
UNLESS OTHERWISE INDICATED.

Dec. 1995

Scale 1:5000

MAP SHEET 15



LEGEND

- SANITARY SEWER MAIN, PIPE DIAMETER INDICATED (400)
- MANHOLE NUMBER (51-50)
- CAP OR PLUG
- DIRECTION OF FLOW
- FORCEMAIN (200)
- LIFT STATION
- PARKLAND SEWAGE TRANSMISSION LINE
- PROPOSED SANITARY SEWER MAIN (200)
- CATCHMENT AREA
- TOWN BOUNDARY

NOTE: ALL PIPE SIZES IN mm
ALL SANITARY SEWER MAINS ARE 200 mm IN DIAMETER UNLESS OTHERWISE INDICATED.

Jan. 1996

Scale 1:5000

MAP SHEET 19