

Maple Neighbourhood Structure Plan

Office Consolidation August 2010

Prepared by:

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

Bylaw 15396 was adopted by Council in April 2010. In August 2010, this document was consolidated by virtue of the incorporation of the following bylaws:

Bylaw 15396 Approved April 12, 2010 (to adopt the Maple Neighbourhood Structure Plan)

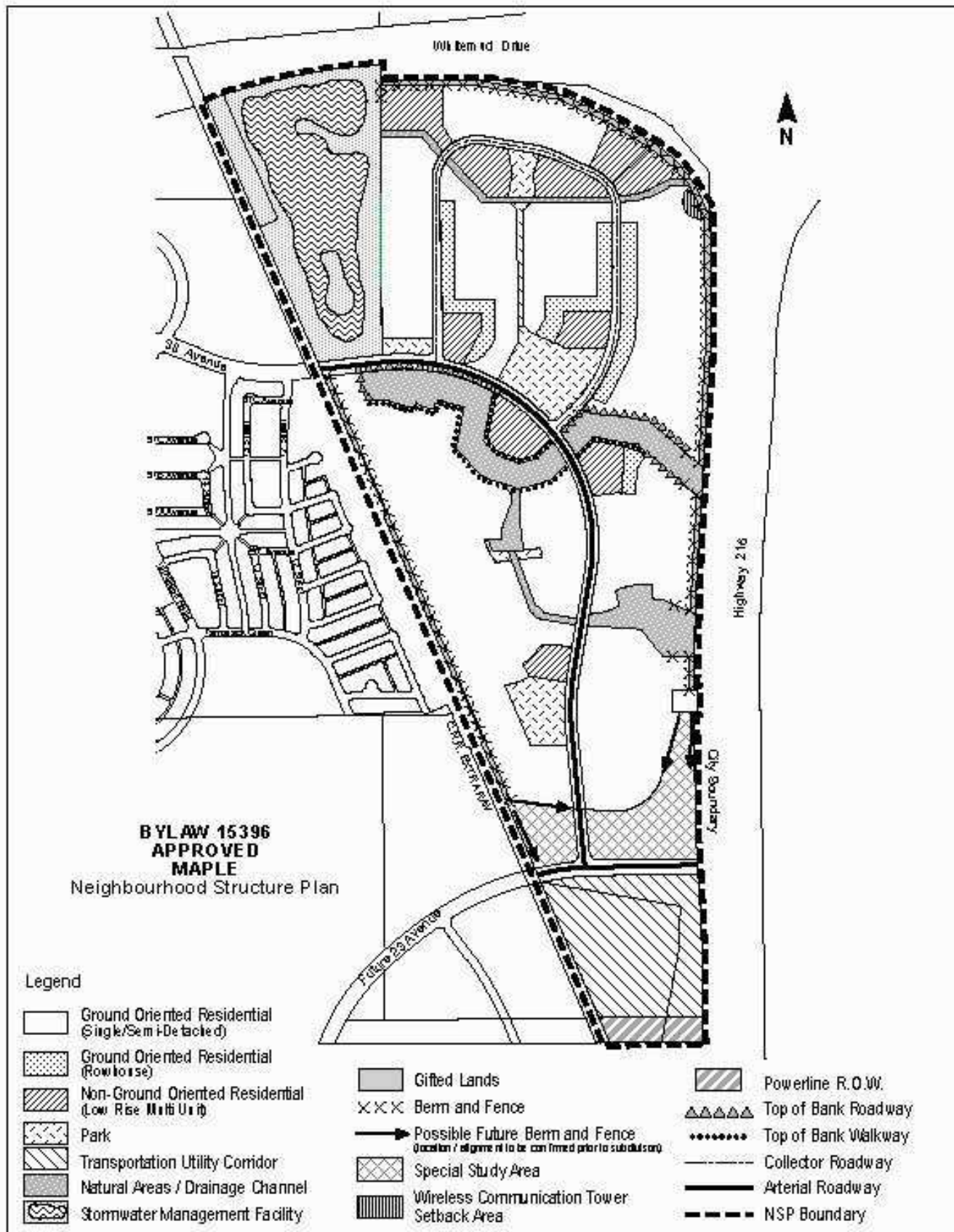
Editor's Note:

This is an office consolidation edition of the Maple Neighbourhood Structure Plan, Bylaw 15396, as approved by City Council on April 12, 2010.

This edition contains all amendments and additions to Bylaw 15396. For the sake of clarity, new maps and a standardized format were utilized in this Plan. All names of City departments have been standardized to reflect their present titles. Private owners' names have been removed in accordance with the Freedom of Information and Protection of Privacy Act. Furthermore, all reasonable attempts were made to accurately reflect the original Bylaws. All text changes are noted in the right margin and are italicized where applicable.

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

City of Edmonton
Planning and Development Department



**MAPLE NEIGHBOURHOOD STRUCTURE PLAN
PROPOSED LAND USE AND POPULATION STATISTICS
BYLAW 15396**

	Area (ha)	% of GA	% of GDA
GROSS AREA	166.3		
Transportation & Utility Corridor (TUC)	21.3	12.8%	
Special Study Area (north of 23 Avenue) 7.3 ha		4.4%	
Powerline Corridor 0.9 ha		0.5%	
TUC Area (south of 23 Avenue) 13.1 ha		7.9%	
Arterial Road Right of Way	4.8	2.9%	
Fulton Creek	7.1	4.3%	
GROSS DEVELOPABLE AREA	133.1	20%	
Fulton Marsh (Existing SWMF within plan area)	20.6		15.5%
TOTAL DEVELOPABLE AREA WITHIN PLAN	112.5		% of TDA
Parkland, Recreation, Schools (Municipal Reserve)	9.4		8.4%
Urban Village Parks 5.1 ha			
Pocket Parks 1.4 ha			
Greenway 0.5 ha			
Treed Area 2.4 ha			
Transportation			
Circulation	20.2		18%
Infrastructure/Service	5.0		4.4%
Public Utility Lots (Vegetated Channels) 1.6 ha			
Wireless Communication Tower 0.3 ha			
Lands to be Gifted (road right-of-way) 3.1 ha			
TOTAL NON-RESIDENTIAL AREA	<u>34.6</u>		<u>30.8%</u>
NET RESIDENTIAL AREA (NRA)	77.9		69.2%

RESIDENTIAL LAND USE AREA, UNIT & POPULATION COUNT

	Area (ha)	Units/ha	Units	People/ Unit	Population	% of NRA
Ground Oriented						
Single/Semi Detached	61.1	25	1,527	3.2	4,886	78.4%
Rowhouse	4.9	40	196	2.2	431	6.3%
Non-Ground Oriented						
Low-rise Multi-units	11.9	90	1,071	1.5	1,607	15.3%
Total Residential	77.9		2,794		6,924	100%

SUSTAINABILITY MEASURES

Population Density (ppnra)	92.6
Unit Density (upnra)	38.0
Ground Oriented/Non Ground Oriented	62%/38%
Unit Ratio	
Population (%) within 500 m of Parkland	100%
Population (%) within 400 m of Transit Service	99%
Population (%) within 600 m of Commercial Service	2%
Presence/Loss of Natural Area Features	
Protected as Environmental Reserve (ha)	
Conserved as Naturalized Municipal Reserve (ha)	

STUDENT GENERATION

Public School Board	450
Elementary	225
Junior/Senior High	225
Separate School Board	180
Elementary	90
Junior High	45
Senior High	45
Total Student Population	630

	<u>Land</u>	<u>Water</u>
Protected as Environmental Reserve (ha)	7.1	
Conserved as Naturalized Municipal Reserve (ha)	2.4	

Maple

Neighbourhood Structure Plan
January, 2010



Dundee Development Corporation
Qualico Developments West Ltd.

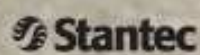


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1.0 ADMINISTRATION

1.1 Purpose

The purpose of this Neighbourhood Structure Plan (NSP) is to describe the land use framework and development objectives for the Maple Neighbourhood (formerly Neighbourhood Seven) within The Meadows. The neighbourhood occupies an area of approximately 166 hectares (ha) or 411 acres, and represents one of the seven neighbourhoods identified under The Meadows Area Structure Plan (ASP) (Bylaw 13531, as amended) (see **Figure 1.0 - Location Plan**).

The NSP will implement the general land use pattern set out in The Meadows Area Structure Plan (ASP), and other applicable statutory policies which guide neighbourhood development, by identifying the following:

- Type, size and location of residential, stormwater management facilities, park spaces and open space land uses;
- The transportation network as it relates to the study area and overall transportation objectives;
- Conceptual servicing schemes and provision of utility services and infrastructure;
- Unique environmental areas and natural features; and
- Implementation and phasing of development.

1.2 Authority

The Maple NSP was adopted by Edmonton City Council in *April 2010* as Bylaw 15396 in accordance with Section 633 of the Municipal Government Act.

Amended by Editor

1.3 Timeframe

Development in the Maple neighbourhood is expected to commence in 2011 and is anticipated to be substantially completed within ten years, based upon historical land servicing and land supply trends in south-east Edmonton and the aspirations of the majority landowner in the plan area.

1.4 Interpretation

All symbols, locations, and boundaries shown in the NSP figures shall be interpreted as conceptual unless otherwise specified in the document, or where they coincide with clearly recognizable physical or fixed features within the plan area. For each subsection under Land Use Concept, a description of applicable land use strategies (e.g. Urban Design) and types (e.g. Residential) is provided for the plan followed by applicable objectives, policies, implementation, rationale, and technical summary.

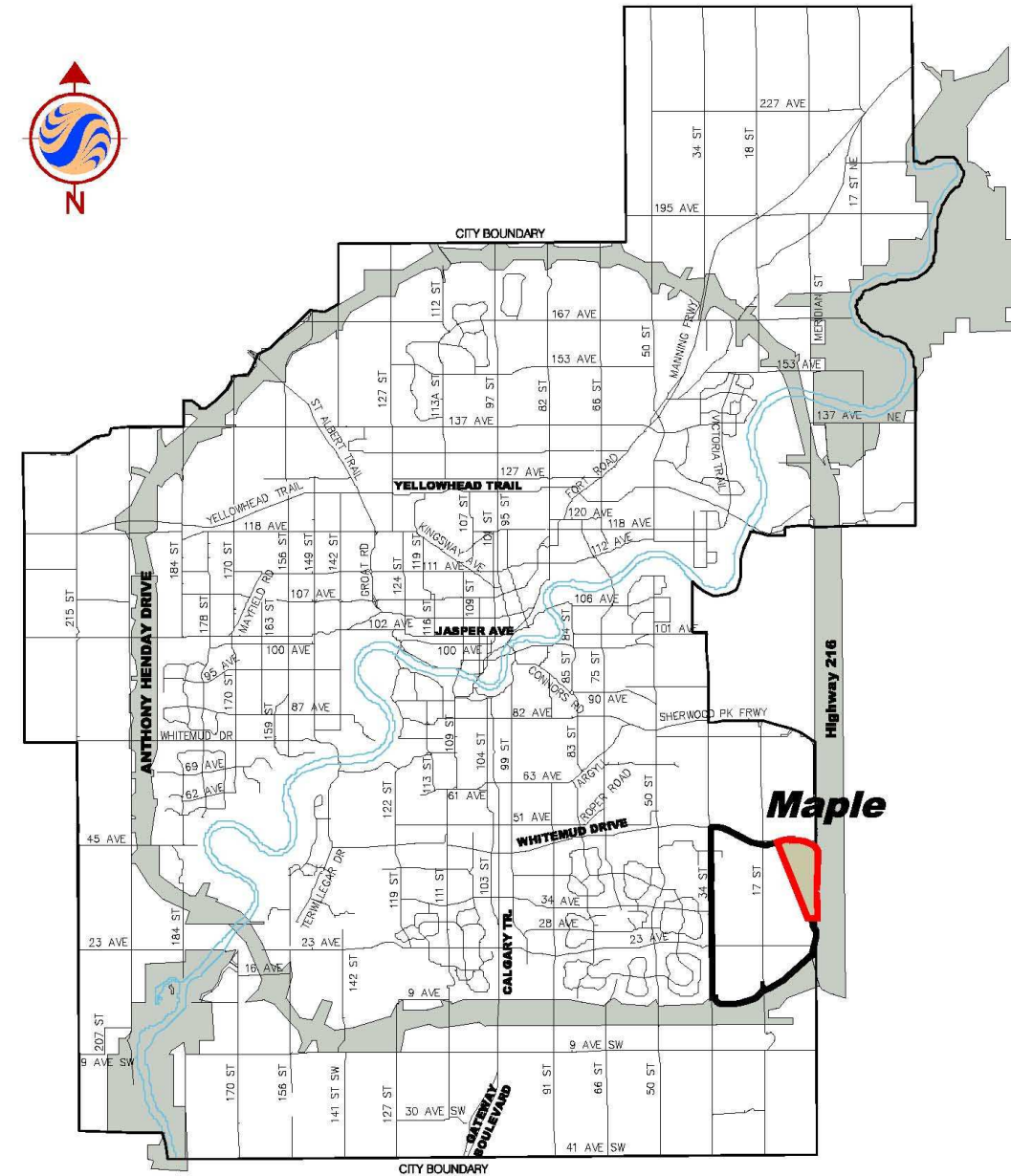
A policy statement(s) containing “shall” is mandatory and must be implemented. Where a policy proves impractical or impossible, an applicant may apply to amend the plan. A policy statement(s) containing “should” is an advisory statement and indicates the preferred objective, policy and/or implementation strategy.

1.5 Amendments

Policies, text, and mapping information contained within this document may be amended from time to time, by Council resolution, in order to respond to, and remain current with, planning and development issues and trends affecting suburban development

Amendments to The Maple NSP document involving policies, text or mapping shall be completed in accordance with the Municipal Government Act, The Meadows ASP (Bylaw 13531), and all other applicable bylaws, policies and procedures.

Figure 1 – Location



Legend



Maple Neighbourhood



The Meadows Area Structure Plan Boundary

Client/Project

DUNDEE DEVELOPMENTS

MAPLE

NEIGHBOURHOOD STRUCTURE PLAN

Figure No.

1.0

Title

Location

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January 2010
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2.0 THE MAPLE NEIGHBOURHOOD CONTEXT

2.1 Location

The Maple Neighbourhood Structure Plan (NSP) is one of seven neighbourhoods in the Meadows ASP Bylaw 13531, as amended, and is located in the most north-easterly portion of the ASP area.

The Maple NSP is comprised of eleven (11) legal parcels located within portions of NW, SW, NE, SE¼ 8-52-23-W4 and NE¼ 5-52-23-W4, and has boundaries that are defined by the following limits (see *Figure 1.0 - Location* and *Figure 2.0 - Context*):

- **Northern Boundary** - Whitemud Drive; beyond which is the Maple Ridge Industrial area;
- **Eastern Boundary** - Highway 216; beyond which is Strathcona County;
- **Western Boundary** - Canadian National Rail Right-of-Way, beyond which is the developing neighbourhood of Tamarack;
- **Southern Boundary** - Transportation and Utility Corridor (TUC) through which 23 Avenue will be aligned.

This neighbourhood is surrounded with transportation infrastructure on all sides creating well-defined boundaries and limited connectivity points.

Situated immediately west of the Maple neighbourhood is a railway line beyond which is the Tamarack neighbourhood which consists primarily of residential land uses, some commercial uses and proposed business industrial uses north of 38 Avenue. Further west, across 17 Street, are the developed residential neighbourhoods of Larkspur and Wild Rose.

The lands to the north of Whitemud Drive are within the proposed Maple Ridge Industrial ASP. Land immediately north of the Maple NSP is utilized by the City of Edmonton as a snow dump and a private land owner operates a funeral home and cemetery.

To the east and south of the plan area are Transportation and Utility Corridor (TUC) lands, owned by the Province. These lands are set aside for the purposes of providing land for regional transportation and utility infrastructure (e.g. Highway 216, major transmission facilities, and pipelines). Beyond the TUC lands to the south is currently undeveloped farmland. Beyond the TUC lands east of Highway 216 are lands within Strathcona County which are primarily used for agricultural uses, but are designated for rural/urban transitional land uses in the Strathcona County MDP.

2.2 Background

Within the Meadows ASP area, five of the seven neighbourhoods have been developed or are currently developing (Larkspur, Wild Rose, Silver Berry, Laurel and Tamarack), and the Maple NSP will be the sixth neighbourhood to develop. The final neighbourhood, Neighbourhood 5, is located in the south-east part of the ASP area and has not yet been planned.

The Meadows ASP was initially adopted under Bylaw 8730 in 1987; and was amended under Bylaw 13531 in January 2004. Under Bylaw 8730 the majority of the land in the Maple area was designated for Industrial land uses. In the 2004 amendment a significant change to the Maple area was approved creating a residential neighbourhood within the formerly designated industrial area as these lands were no longer deemed feasible for industrial development.

In conjunction with the Maple NSP, an amendment to the Meadows ASP has been submitted to reflect the land uses and boundaries of the proposed NSP.

2.3 Land Ownership

There are eight different land owners within the plan area. Approximately 110.75 ha (67%) of land within the Maple NSP is owned, managed or under an agreement for sale by Private

Corporate Owners. Approximately 20.37 ha (12%) is owned by Her Majesty the Queen in Right of Alberta while 21.35 ha (13%) is owned by the City of Edmonton. The remaining lands (13.82 ha, 8%) are held by private non-corporate owners.

Current land ownership is shown in **Figure 3.0 - Land Ownership**. A listing of the legal parcels is provided in the Table below:

Table 1 - Land Ownership

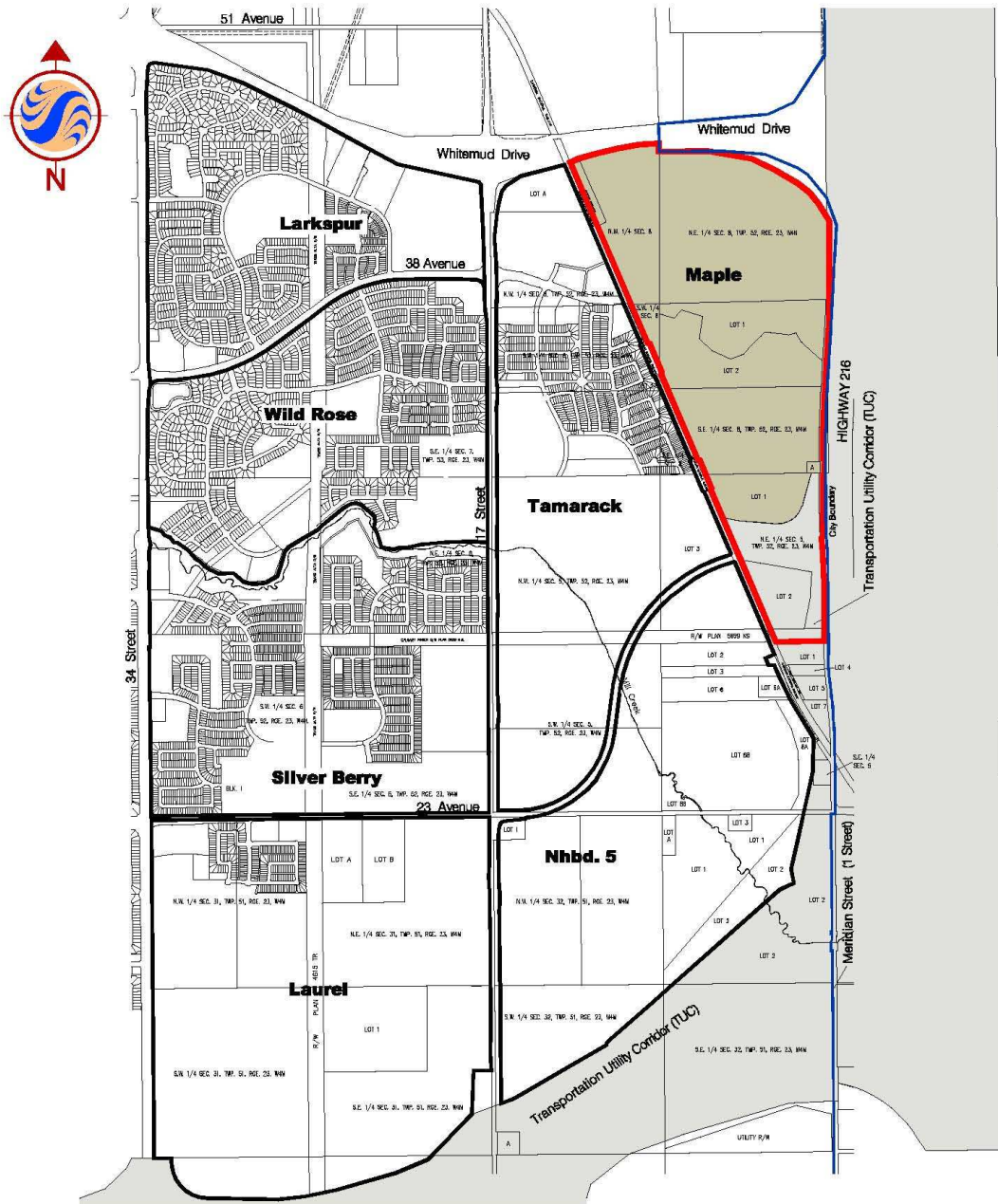
Parcel	Titled Owner	Legal Description	Area (ha)
1	Private Corporate Owners	R/W Plan 5659 KS	*0.88 ha ^{NP}
2	Her Majesty the Queen in right of Alberta	Area 1, Plan 042 0751	0.58 ha ^{NP}
3	Her Majesty the Queen in right of Alberta	Lot 2, Plan 012 1042	7.5 ^{NP}
4	Her Majesty the Queen in right of Alberta	Plan 892 0406	12.29 ^{NP}
5	Private Corporate Owners	Lot 1, Plan 012 1042	9.78
6	Private Non-Corporate Owners	Lot A, Plan 3007 K.S.	0.32 ^{NP}
7	Private Corporate Owners	SE ¼ 8-52-23-W4	25.1
8	Private Corporate Owners	Lot 2, Plan 812 1577	18.4
9	Private Non-Corporate Owners	Lot 1, Plan 812 1577	13.5 ^{NP}
10	Private Corporate Owners	SW ¼ 8-52-23-W4	*2.05
11	City of Edmonton	NW ¼ 8-52-23-W4	19.84 ^{NP}
12	City of Edmonton	Lot 52 RLY Plan 309EO	1.51 ^{NP}
13	Private Corporate Owners	NE ¼ 8-52-23-W4	54.54
4 Private Corporate Owners (6 parcels); 2 Government (5 parcels); 2 Private Non-Corporate Owners (2 parcels) <i>* Represents approximate area within the NSP, not area indicated on the certificate of title</i> ^{NP} Indicates non-participating landowner			Total 166.27

2.4 Public Involvement

In the early fall of 2004, Dundee Developments initiated the Maple NSP on behalf of three private corporate owners of land within the plan area. Following preliminary discussions with city administration an official NSP application was made to the Planning department in July 2006. An advance notice that an NSP application had been made was sent to 509 landowners on November 29, 2006.

A public meeting was held by the City of Edmonton's Planning and Development department on February 10, 2009 at the Bisset Elementary School in Silver Berry. Mailed notification letters advising of this meeting were sent to 746 landowners in proximity to the NSP area and to the Southwood Community League and to the Millwoods Council of Community Leagues. The 20 attendees at the meeting had the opportunity to review and comment on the NSP. Throughout the application process landowners were able to contact either the applicant (Stantec Consulting Ltd.) or the Planning and Development Department to communicate concerns. Landowners were notified of the Public Hearing and instructed on the provision of either written or verbal comments to Council for the hearing.

Figure 2 – Context



Legend

- Maple NSP Boundary
- City of Edmonton Boundary
- Boundaries of Neighbourhoods Within The Meadows ASP

Client/Project

DUNDEE DEVELOPMENTS
MAPLE
NEIGHBOURHOOD STRUCTURE PLAN

Figure No.

2.0

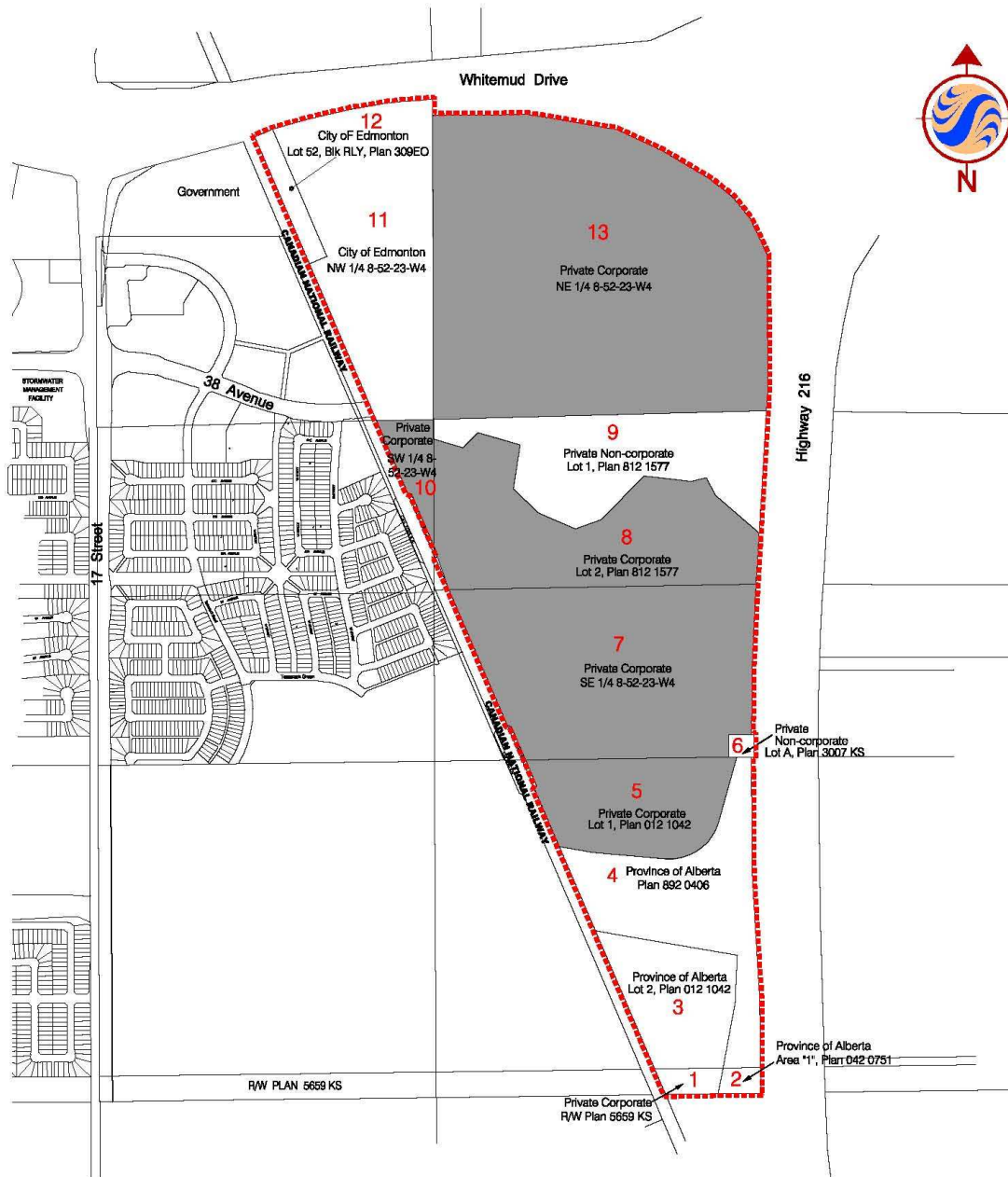
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Context Plan

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Figure 3 – Land Ownership



Legend
 - - - - - NSP Boundary
 ■ Participating Landowners

Client/Project
 DUNDEE DEVELOPMENTS
 MAPLE
 NEIGHBOURHOOD STRUCTURE PLAN

Figure No.
3.0

Title
Land Ownership

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3.0 SITE CONTEXT AND DEVELOPMENT CONSIDERATIONS

3.1 Ecological Characteristics

See *Figure 5.0 - Site Context and Development Considerations* for the natural features discussed.

Natural Areas and Water Bodies

The Maple NSP area contains a number of natural features including: Fulton Creek, two drainage channels, and fourteen natural areas. It also contains the Fulton Marsh, a constructed wetland which is within the boundaries of the North Saskatchewan River Valley Area Redevelopment Plan. The area where **Fulton Marsh** is presently located, in the northwest corner of the plan area, was predominately used for agricultural purposes until the construction of Whitemud Drive and the 17th Street Interchange, when the area was used as a borrow pit. As a result, the excavation was converted to a constructed wetland. The SWMF was constructed in 1997 and has not been modified since it was constructed. Fulton Marsh was designed to accommodate the catchment areas for Tamarack, portion of Whitemud Drive, and Maple. (Drainage, Feb. 2009)

Fulton Creek crosses through the central portion of the NSP in an east-west direction from Highway 216 in the east to Fulton Marsh. The creek was identified in a report prepared for the City of Edmonton, an *Inventory of Environmentally Sensitive and Significant Areas* GEOWEST (1993) as an Environmentally Sensitive Area within the North Saskatchewan River Valley and Ravine System. The creek is an important natural feature providing unique habitat and hydrologic function. The creek also provides ecological connectivity across the NSP area and between several identified wetland/upland complexes and natural areas (See *Figure 6.0 - Ecological Connectivity*). Fulton Creek has historically flowed directly into the North Saskatchewan River; however due to urban development, significant portions of the creek have been altered both within and outside the plan area. According to historic aerial photographs, the area of Fulton Creek within the plan has been comparatively undisturbed by human activities over the past 50 years, with the exception of the creation of Fulton Marsh and the construction of Whitemud Drive and Highway 216. Fulton Creek is considered a Class D water body in the *St. Paul Management Area Map* (Alberta Environment 2007) and is therefore considered fishless.

There are **two drainage channels** associated with Fulton Creek. Neither were identified as Natural Areas in the GEOWEST (1993) inventory. These channels have been disturbed through drainage realignment, land clearing, agricultural activities and highway construction. Despite these historic disturbances, the drainage channels have persisted within the Maple NSP area and collectively they provide ecological connectivity across the plan area.

Eight **natural sites** were identified within the NSP area in the GEOWEST (1993) inventory. An additional six **wetland/upland complexes** were identified by the consultant following a site reconnaissance.

These natural areas identified in *Figure 5.0 - Site Context and Development Considerations* have historically been dynamic features within the area. Their historic form and function appears to be largely dependent upon the local and regional surface hydrology that fluctuates on a seasonal and annual basis. The sites may also be connected to groundwater through recharge and/or discharge processes, since the majority of the sites are contained within isolated drainage areas (Stage 1 NSA, Stantec 2009).

Vegetation

The majority of lands within the Maple NSP have been cleared of natural vegetation and are currently used for agricultural purposes.

The vegetative buffer surrounding Fulton Creek is well-developed, and consists mainly of aspen and balsam poplar, with an understory of red-osier dogwood, beaked hazelnut, rose and currant.

The riparian zone along the creek is relatively narrow and is characterized by willow species, horsetail and sedges. The buffer width adjacent to the creek ranges from approximately 30 m to 116m.

Figure 4.0 Site Contours



Figure 5.0 Site Context

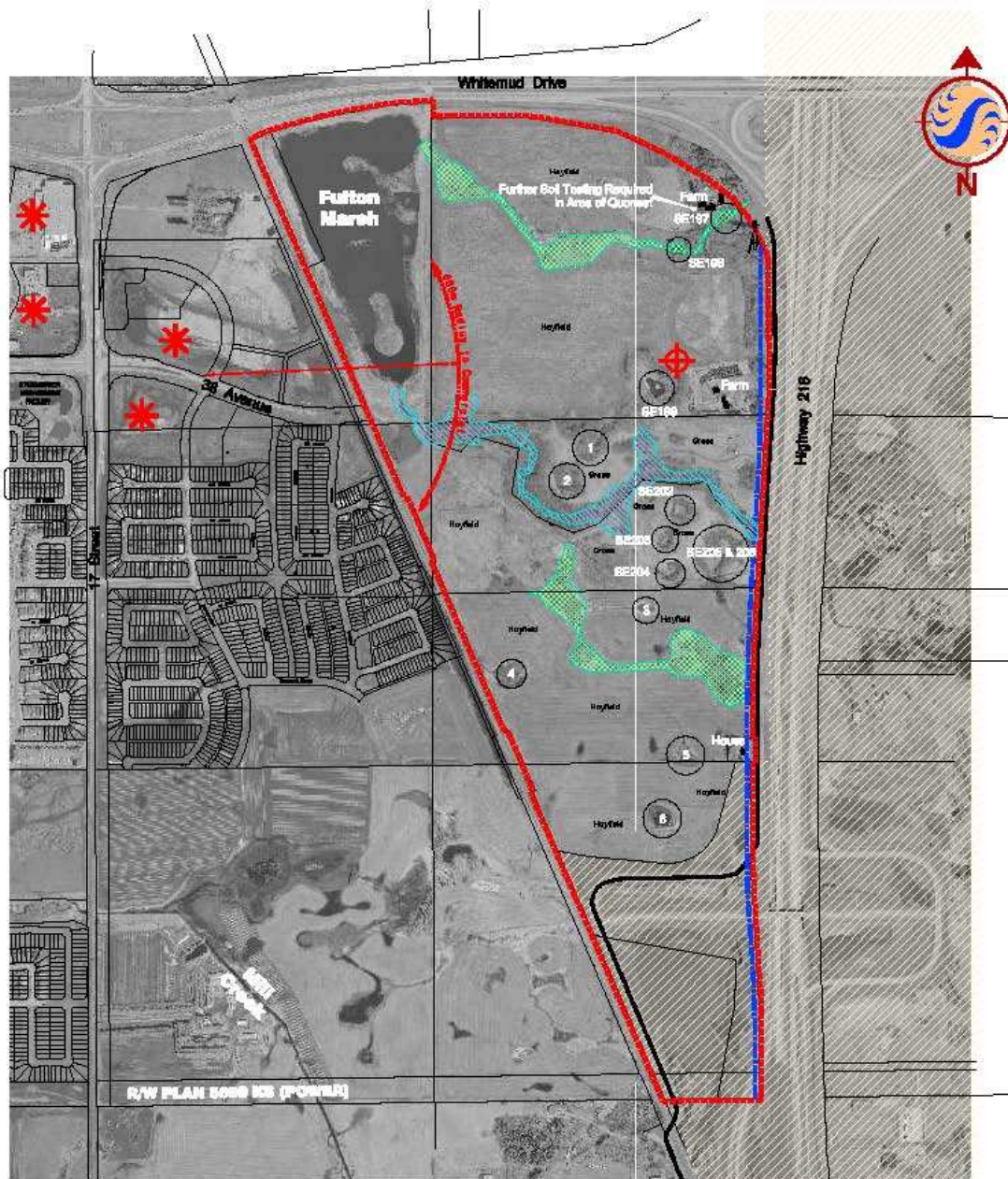
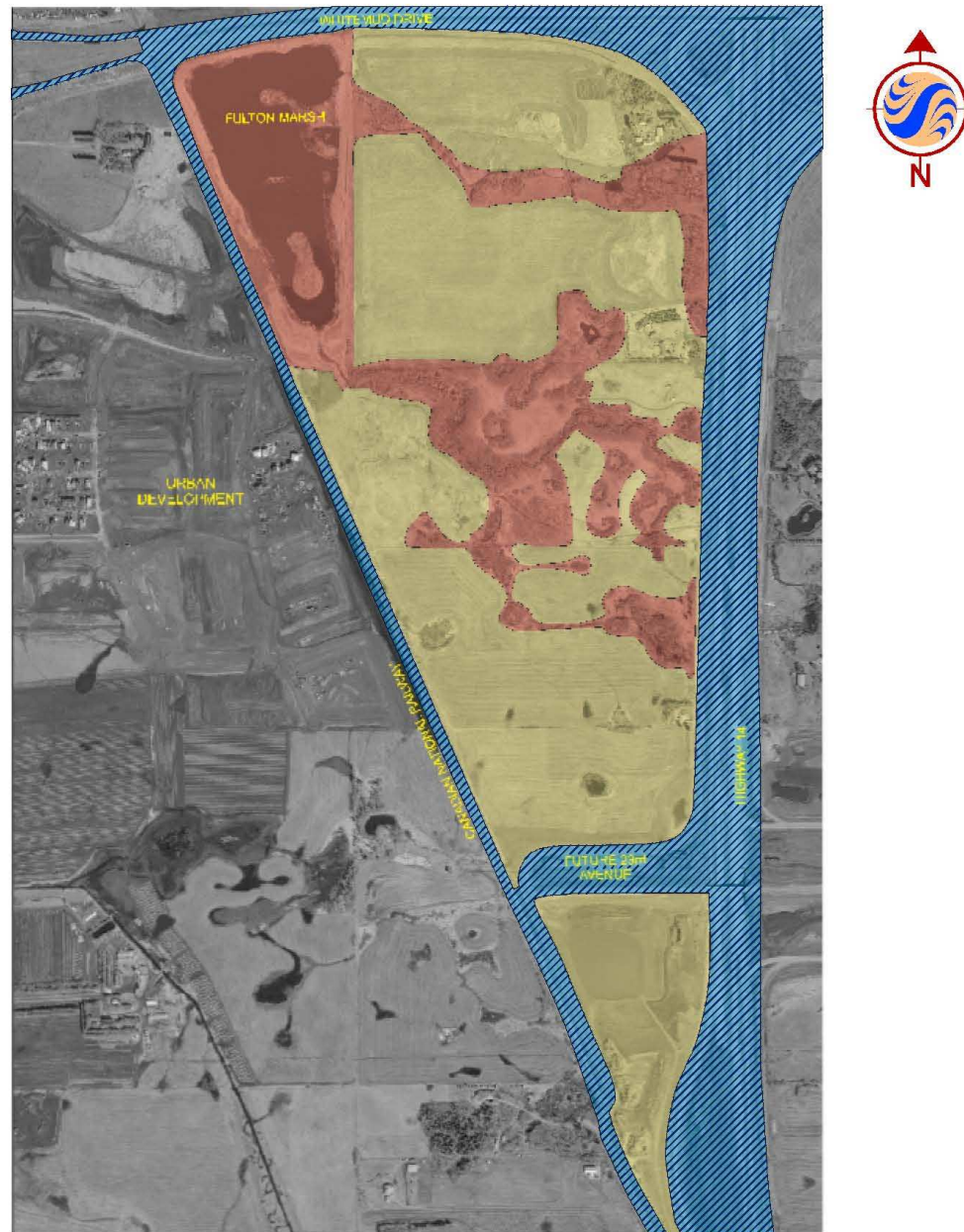





Figure 6.0 Ecological Connectivity



Stantec

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Legend
 Barrier / Low Connectivity
 Moderate Connectivity
 High Connectivity

Client/Project
 DUNDEE DEVELOPMENTS
 MAPLE
 NEIGHBOURHOOD STRUCTURE PLAN

Figure No.
6.0

Title
Ecological Connectivity

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The northern drainage channel is buffered by scraggly balsam poplar lacking a distinct understory. The southern drainage channel, although historically disturbed through land clearing activities, appears to be a complex of wetlands along the drainage channel supporting a variety of plant communities including: sedge, willow, cow parsnip, balsam poplar, colt's foot, veiny meadow rue, bluebells, lily-of-the-valley and red osier dogwood. Contiguous and forming an integral part of the southern drainage channel of the NSP is a large treed area, which supports a variety of plant communities.

Information gathered by Stantec Consulting Ltd. through aerial photograph interpretation and numerous site visits (2005 through 2008) concluded that the natural areas in the Maple NSP consist of small wetlands with upland terrestrial habitat (wetland/upland complex). The report concluded that maintaining the natural areas within the development would be difficult due to their limited size and isolation.

3.2 Geotechnical and Hydrological Characteristics

Topography

As shown in **Figure 4.0 - Site Contours**, the topography of the lands within The Maple NSP consist of gently rolling hills with gradual sloping from the south-east (elevation 725m) towards the north and west into Fulton Marsh (elevation 704m).

Surface Hydrology

As is typical of wetlands within the Aspen Parkland Region, the wetland sites in Maple are of an intermittent nature. Intermittent wetlands are typically dry during part of the season and the following season they many contain an abundance of standing water (Stage 1 NSA, Stantec 2009). Excluding the sites associated with Fulton Creek and the drainage channels, the wetlands appear to service isolated drainage areas. During two site visits (April 2007 & May 2008) Fulton Creek had flowing water.

Drainage within and adjacent to the plan area has been significantly altered due to agricultural and construction activities. Such activities include agricultural practices of vegetation clearing for crop growing, and grazing of livestock and offsite construction activity for the building of Whitemud Drive, Highway 216 and the CN railway and the installation of culverts, impervious surfaces and ditches. During the April 2007 site visit, the southern drainage channel had flowing water, while the northern drainage channel was wet, but not flowing. Groundwater flows in a northwesterly direction.

Soils

Soils have been characterized as organic within the well-developed wetland areas; the upland soils have been characterized as Angus Ridge Loam, an eluviated black chernozemic soil that typically develops on glacial till. (Stage 1 NSA, Stantec 2009)

The regional geology of the Maple NSP area was reviewed based upon *Bulletin 32 Urban Geology of Edmonton (Kathol and McPherson, 1975)* and indicates that the plan area is underlain by glaciolacustrine sediments with pebbles and till-like layers, overlying glacial till consisting of clay, silt, and sand with pebbles, coal and gravel. This is then underlain by bedrock (consisting of bentonitic shales and sandstones, with numerous coal seams) of the Edmonton formation.

According to the Canada Lands Inventory Soils Classification (CLI), the soils are a combination of Class 1 & 2, indicative of high to moderately high productive soils for a fairly wide range of crops. The City of Edmonton's MDP recognizes these lands are reserved for future urban development; however these agricultural lands typically remain in production until they are required for development. The consistent, uniform nature of these soils does not pose any constraints to urban development.

3.3 Current Land Use and Infrastructure Conditions

Current land uses within the NSP area consist of three farmsteads (two renter-occupied, one owner-occupied), farmland (crop, pasture), natural areas (Creek, drainage courses, tree stands, and wetlands), Transportation Utility Corridor (TUC), cell tower and the rail line. The Meridian Street right of way has been excluded from NSP boundary. The NSP is surrounded by transportation infrastructure as outlined below.

Regional Transportation Network

The Maple NSP has accessibility to the Greater Edmonton Region by virtue of its proximity to the following existing major regional roadways:

1. Whitemud Drive, a four-lane divided arterial expressway, borders the development to the north, and is accessible by traveling west through Tamarack on 38 Avenue then north on 17 Street. An interchange at the intersection of Whitemud Drive and 17 Street is planned to be constructed/operational in 2011-2012.
2. Highway 216 which borders the plan area to the east is only accessible from Whitemud Drive.
3. Southeast Anthony Henday Drive situated south of the plan area, is accessible by traveling south along 17 Street. The southeast portion of the Anthony Henday Drive was completed in 2007 and includes an interchange at 17 Street.

17 Street (north of 23 Avenue) is designated as a Truck Route and Whitemud Drive and Highway 216 are designated as Dangerous Goods Routes.

Currently 23 Avenue travels east from 17th Street as a 2 lane rural cross-section roadway turning northward parallel to the rail line, then crossing the rail line eastward and connecting to the flyover at Highway 216. Ultimately 23 Avenue is planned to be developed as a four-lane urban divided arterial standard east of 17th Street as generally located in the ASP.

The provincial **Transportation and Utility Corridor (TUC)** borders the Maple NSP on its east and south boundaries. A portion of the plans north boundary (west of the Whitemud Drive/Hwy 216 interchange up to the north-east corner of Fulton Marsh) is classified as part of Highway 216 and is therefore under provincial jurisdiction.

The Province has indicated that some of the TUC land in the south portion of the plan area is likely to be recommended as surplus in the future; however, at this time the specific area is undetermined and the legislative process necessary for that to occur has not been enacted at the time of plan making. Until that decision is made a portion of the TUC lands within the plan boundary will be identified as a Special Study Area.

Alberta Infrastructure has jurisdiction over Highway 216 (located in TUC lands to the east), adjacent and parallel to Meridian Street. They have advised that the ultimate configuration of the Whitemud/Highway 216 interchange has not been fully detailed and that encroachment of future roadway embankments into the Meridian Street right-of-way may be possible. As such they have requested that the entire Meridian Street right-of-way adjacent to Highway 216 be excluded from the development plans to accommodate potential future highway widening. Until the Province has determined their property requirements, the City will retain the Meridian Street right-of-way. Once the property requirements are determined the Meridian Street right-of-way, or a portion thereof, may be developed as part of the neighbourhood.

Meridian Street borders the eastern boundary of the Maple NSP and is accessible only from the south end of the plan at 23rd Avenue (a proposed future east/west arterial). Meridian Street provides legal and physical access to a few properties within the plan area. TUC lands are under provincial jurisdiction and access to Meridian Street is through TUC land in the south.

Maintaining access to undeveloped properties while developing adjacent lands represents a challenge to the timing of development within the plan area. Further, the retention or the

closure and incorporation of Meridian Street and/or TUC land in the south will require specific Development Concept policies.

A **cell tower** 42.7 m high is located in the north-east corner of the plan area. This self-supporting, operating wireless communication tower is accessible only from Meridian Street and is within a 372 m² (4,000 ft²) lease area. The landowner has the ability to terminate the lease agreement with the tower operator by providing a minimum of 1 year advance notice. The cell tower represents an existing condition for potential integration with new development and will require specific Development Concept policies.

A **rail line** runs diagonally in the north-south direction along the western boundary of the plan area, separating the Maple neighbourhood from the adjacent Tamarack neighbourhood. The rail line is an existing condition which requires separation and buffering for integration with new development and will require specific Development Concept policies.

3.4 Environmental Conditions

3.4.1 Phase I Environmental Site Assessment (ESA)

Phase I ESAs have been completed for all lands within the NSP area. These lands have been found to be environmentally suitable for suburban residential development except for one area within the NE ¼ Sec. 8-52-23-W4M, illustrated on **Figure 5.0 - Site Context and Development Considerations**, which has been identified for further soil testing around the Quonset building prior to rezoning and subdivision approval.

3.4.2 Oil & Gas Well Sites

The Alberta Energy and Utilities Board (AEUB), now known as the Energy Resources Conservation Board (ERCB), was searched for pipeline and oil well information as part of the preparation of the NSP. A singular well site was located within the boundaries of the plan area and is identified on **Figure 5.0 - Site Context and Development Considerations**. The exploratory well site was licensed on November 10, 1952 and then abandoned on December 5, 1952. The Environmental Law Centre has advised that a reclamation certificate was issued for the subject well on August 31, 1967. Based on previous environmental assessments for the well site (Phase II ESA - Mill Creek Meadows NE ¼ Sec.8-52-23-W4M, CT & Associates Engineering Inc, October 2003, CTA File No. 02-147) all test results meet the established Residential Land Use criteria.

3.4.3 Pipeline and Utility Rights-of-Way and Facilities

There are no major transmission pipeline corridors located within the Maple NSP. East of the NSP area on the far eastern side of the TUC (approximately 800 m from the NSP area), located in the TUC in Strathcona County are six (6) high vapour pressure (HVP) pipelines as follows: 3 NOVACHEM pipelines (containing ethane, butane, ethylene, etc.) and 3 ATCO natural gas pipelines. These are all major transmission pipelines transporting energy supplies from across Alberta to Edmonton and area. Their location in the TUC is considered a safe and carefully controlled environment. The Restricted Development Area/Transportation Utility Corridor is carefully managed and regulated by Alberta Infrastructure (INFRA) with the legislated mandate of the Restricted Development Area (RDA) Regulations.

The City of Edmonton's *Policy Guidelines for the Integration of Transmission Pipelines and Urban Development (1985)* are to be adhered to. This policy stipulates that emergency response facilities and institutional uses housing non-ambulatory, confined or incarcerated patients/wards should be located not less than 150 metres from the edge of any pipeline right-of-way containing a high vapour pressure pipeline. Highway 216 serves as a partial buffer between this neighbourhood and the pipelines. While there are currently no pipelines within 150 m of the proposed residential along the eastern boundary of the NSP area, future potential requests for group homes, a listed residential use under the Zoning Bylaw, should recognize that there is the possibility that additional pipelines could be placed within the TUC .

An existing low pressure natural gas service line right of way is located parallel to the eastern boundary of the plan area, running in a north-south direction through private property. The gas line provides service to the existing residences along Meridian Street and will be abandoned as the neighbourhood develops to this area.

3.5 Historical Resources

In preparation of The Maple NSP, Historical Resource Management Ltd. conducted a Historical Resources Impact Assessment (HRIA) for Dundee Developments in 2005. Copies of this report were submitted and approved by Alberta Community Development Archaeology in 2005.

Based on the long cultivation and agricultural history for this area, no significant historic, archaeological, paleontological resources or concerns were identified within the proponents' subject lands following a pedestrian and detailed review of relevant background materials. As a result, HRIA investigation findings and recommendations conclude suburban development will not impact any significant historical resources and that the author recommends that "the project be given clearance under the *Historical Resources Act*." In accordance with Section 31 of the Historical Resources Act, development proponents and/or their representatives are required to report the discovery of any archaeological, historic period or paleontological resources, which may be encountered during construction.

4.0 DEVELOPMENT GOALS, OBJECTIVES & POLICIES

4.1 Vision

The unique identity of the Maple Neighbourhood is created through emphasis on the preservation of its natural features and the development of recreational focal points that are dispersed throughout the neighbourhood. A wide range of housing opportunity is provided creating diversity and affordability within the neighbourhood. Residents are well connected to the environmental and recreational opportunities through a walkable, attractive and safe multi-modal circulation system. The neighbourhood is buffered from surrounding transportation barriers and provides safe linkages to commercial, employment, transit and recreational opportunities outside its boundaries.

4.2 Goals

The Maple NSP was prepared in accordance with the policies and principles identified in Plan Edmonton, the Meadows ASP and other relevant municipal policy and statutory documents. The overall goals of the Maple Plan are to establish a neighbourhood that:

1. Provides a unique neighbourhood identity with focal points centered on Fulton Creek, Fulton Marsh and park spaces;
2. Establishes a variety of housing types to meet consumer needs and encourage diversity;
3. Provides an environment where recreation and natural area amenities are easily accessed;
4. Provides a walkable, attractive, safe and comfortable environment for residents;
5. Preserves natural features and integrates them into the neighbourhood;
6. Provides buffering that minimizes impacts from an existing cell phone tower and major transportation infrastructure (Highway 216, Whitemud Drive, and rail line) that are its boundaries.
7. Supports the utilization of neighbouring educational, recreational, municipal and commercial facilities.
8. Provides a balanced transportation system that connects major inter- and intra-neighbourhood focal points and maximizes transit access.
9. Provides efficient, contiguous and staged urban and infrastructure development.

4.3 Land Use Concept and Development Objectives

The following plan objectives were developed to assist in achieving the above noted goals:

Ecology

1. Fulton Creek will be preserved and integrated into the neighbourhood.
2. Expand Fulton Marsh, a constructed wetland, based on the recommendations of the Natural Site Assessment, as a means of mitigating, in whole or in part, the cumulative removal of the natural areas within the plan area.
3. The northern drainage channel into Fulton Marsh and the southern drainage channel into Fulton Creek will be preserved and/or enhanced and integrated into the neighbourhood.
4. To preserve and integrate into the neighbourhood an existing tree stand surrounding a portion of the southern drainage channel, located in the south-east area of the plan.

Environment

5. To ensure that lands proposed for development are environmentally suitable for their intended use.

6. To ensure urban development around the abandoned well site located in the NE corner of the plan area (NE ¼ -8-52-23-W4) adheres to the requirements of the ERCB and City of Edmonton Policy C515 - Oil and Gas Facilities, Abandoned Well Sites.

Urban Design

7. Design residential streets that are pedestrian friendly, safe, and form an integral and attractive component of the public realm within the neighbourhood.
8. Design housing that creates an interesting streetscape and comfortable transitions of mass and scale.
9. Optimize view/vista potential of Fulton Creek, Fulton Marsh and other natural areas and park spaces.
10. The preserved natural areas (i.e. Creek, tree stand, etc.), Fulton Marsh and park spaces will be designed as key focal points within the neighbourhood.

Residential Land Use

11. To plan for a variety of housing densities in different physical forms.
12. To establish an overall residential density that exceeds the suburban housing ratio.
13. To provide nodes of activity, which include recreation and population intensification, in multiple locations throughout the neighbourhood.

Urban Services

14. To integrate the existing wireless communication tower (on Meridian Street) with future residential land uses.
15. Anticipate and integrate into the neighbourhood, any Transportation and Utility Corridor (TUC) lands which are surplus to the Province's land requirements.

Parks and Open Space

16. Accommodate the requirements of the City for park sites within the neighbourhood using Municipal Reserve (MR) dedication.
17. Provide parks and open spaces that are located along arterial, collector or local roadways and which are accessible via pedestrian linkages, automobiles and transit.
18. Design a connected and integrated open space system that encourages all modes of movement (e.g. pedestrians, bicycles, wheelchairs, etc).

Transportation

19. The arterial and collector roadways are planned to move vehicular traffic efficiently through the neighbourhood and minimize internal roadway congestion.
20. To maximize resident access to public transit.
21. To design a circulation system which promotes alternative transportation modes including bicycle, rollerblade and wheelchair accessible travel and which is linked to key focal points;
22. To provide buffering and interface mitigation (i.e. noise attenuation) where residential development backs on to major transportation infrastructure (rail line, Whitemud Drive, Meridian Street/Highway 216, and TUC lands).
23. To maintain existing property access to Meridian Street until land areas redevelop or until improvements to Highway 216 occur.
24. To provide and maintain secondary emergency access for the proposed development.
25. To limit roadway crossings of the CN rail line.

Green Development

26. To consider sustainable, alternative development standards in the design of the neighbourhood.
27. To encourage naturalized landscaping on public lands to maximize environmental benefits and minimize costs associated with maintenance.

Infrastructure, Servicing and Staging

28. To ensure that the Maple neighbourhood is serviced to a full urban standard, in an efficient, contiguous and staged manner.
29. To ensure that infrastructure requirements supports the preservation of the identified natural areas.

The land use concept for the Maple Neighbourhood is shown in **Figure 7.0: Land Use Concept** and the detailed information relating to land use and population can be referenced in **Table 2: Land Use and Population Statistics**.

Figure 7 - Land Use Concept



Stantec

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Legend

- Ground Oriented Residential (Single/Semi-Detached)
- Ground Oriented Residential (Rowhouse)
- Non-Ground Oriented Residential (Low Rise Multi Unit)
- Park
- Transportation Utility Corridor
- Natural Areas / Drainage Channel
- Stormwater Management Facility
- Gifted Lands
- Berm and Fence

- Possible Future Berm and Fence (location/alignment to be confirmed prior to subdivision)
- Powerline ROW
- Special Study Area
- Wireless Communication Tower Setback Area
- TOB Roadway
- TOB Walkway
- Collector Roadway
- Arterial Roadway
- NSP Boundary

Client/Project

DUNDEE DEVELOPMENTS
MAPLE
NEIGHBOURHOOD STRUCTURE PLAN

Figure No.

7.0

Title

Land Use Concept

January 2010
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Table 2 - Land Use and Population Statistics

Maple Neighbourhood Structure Plan ♦ Land Use Concept and Population Statistics						
	Area (ha)	% of GA	% of GDA			
GROSS AREA	166.3	100.0%				
Transportation and Utility Corridor (TUC)	21.30	12.8%				
Special Study Area (north of 23 Avenue) - 7.3 ha		4.4%				
Powerline Corridor - 0.9 ha		0.5%				
TUC Area (south of 23 Avenue) 13.1 ha		7.9%				
Arterial Road R/W	4.8	2.9%				
Fulton Creek ¹	7.1	4.3%				
Total Non-Developable Area	33.2	32.8%				
GROSS DEVELOPABLE AREA	133.1		100.0%			
Fulton Marsh (existing SWMF within plan area)	20.6		15.5%			
TOTAL DEVELOPABLE AREA WITHIN PLAN	112.5		84.5%			
			% of TDA			
Parkland, Recreation, School (Municipal Reserve) ²	9.4		8.4%			
Urban Village Parks 5.1 ha						
Pocket Parks - 1.4 ha						
Greenway - 0.5 ha						
Treed Area - 2.4 ha						
Transportation						
Circulation	20.2		18.0%			
Infrastructure / Servicing	5.0		4.4%			
Public Utility Lots (Vegetated Channels) - 1.6 ha						
Wireless Communication Tower - 0.3 ha						
Lands to be Gifted ³ - 3.1 ha						
TOTAL Non-Residential Area	34.6		30.8%			
Net Residential Area (NRA)	77.9		69.2%			
RESIDENTIAL LAND USE, DWELLING UNIT COUNT AND POPULATION						
	Area (ha)	Units/ha	Units	People/Unit	Population	% of NRA
Ground Oriented						
Single/Semi-Detached	61.1	25	1,527	3.2	4,886	78.4%
Rowhouse	4.9	40	196	2.2	431	6.3%
Non-Ground Oriented						
Low Rise Multi Units	11.9	90	1,071	1.5	1,607	15.3%
Total Residential	77.9		2,794		6,924	100.0%
SUSTAINABILITY MEASURES						
Population Density (ppnha)			92.3			
Unit Density (upnra)			35.9			
Ground Oriented / Non-Ground Oriented Unit Ratio			62% / 38%			
Population (%) within 500 m of Parkland			100%			
Population (%) within 400 m of Transit Service			99%			
Population (%) within 600 m of Commercial Service			2%			
Presence/Loss of Natural Area Features			Land	Water		
Protected as Environmental Reserve (ha)			7.1	-		
Conserved as Naturalized Municipal Reserve (ha)			2.4	-		
STUDENT GENERATION						
Public School Board		450				
Elementary	225					
Junior / Senior High	225					
Separate School Board		180				
Elementary	90					
Junior High	45					
Senior High	45					
Total Student Population		630				

¹ Area to be provided as Environmental Reserve in and adjacent to Fulton Creek to be confirmed by legal survey.

² Areas to be provided as Municipal Reserve to be confirmed by legal survey.

³ Includes the lands adjacent to CNR, Whitemud Drive and Highway 216 required for buffering and noise attenuation.

4.4 Policies and Implementation

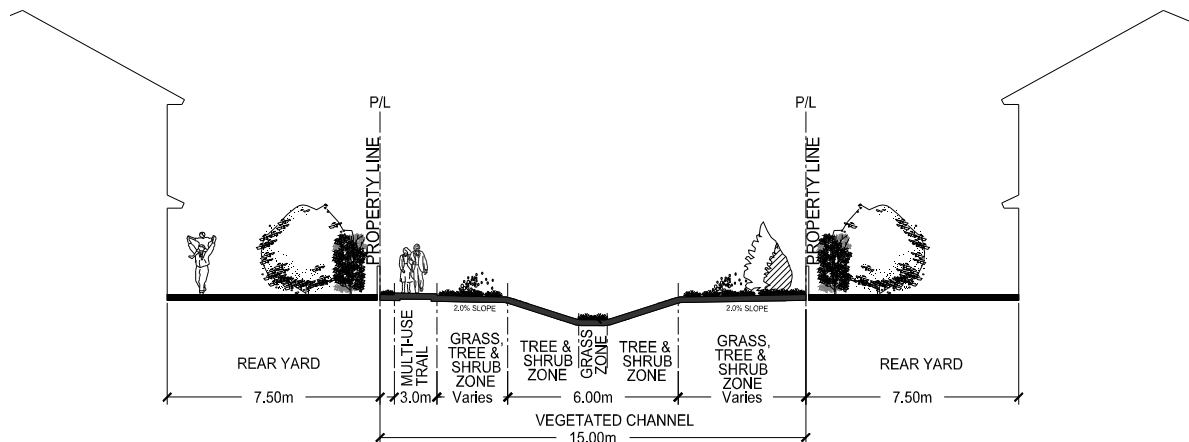
4.4.1 Ecology

The natural features within the plan area provide an opportunity to incorporate an existing ecological system into the design of a new suburban neighbourhood. The following objectives support the plan goals of preserving the natural features of the area and integrating them into the neighbourhood which in turn helps create the unique identity of the neighbourhood with focal points centered on Fulton Creek and Fulton Marsh. The natural features selected for preservation and integration was done on the basis of the technical findings of the Natural Site Assessment (NSA) conducted by Stantec Consulting Ltd. **Figure 8.0 Land Use Concept** and **Figure 5.0 Site Context & Development Considerations** identify the below noted natural features to be retained.

NSP Policy	Implementation
Objective (1) Fulton Creek will be preserved and integrated into the neighbourhood.	
<p>Development of land surrounding Fulton Creek shall be done in such a manner as to maintain the Creek's ecological integrity and ensure its long term sustainability.</p> <p>The hydrology of Fulton Creek within the plan area shall be maintained.</p>	<p>The recommendations and regulations of the City and Provincial environmental agencies shall be followed.</p> <p>Environmental Reserve (ER) will be dedicated to the City of Edmonton at the time of subdivision.</p> <p>A Natural Area Management Plan (NAMP) will be required prior to rezoning of lands within the Maple NSP.</p>
<p>Rationale: Ecological connectivity across the plan area is critical since the plan area is bordered by several connectivity barriers including urban development and the CN Railway to the west, Whitemud Drive to the north and Highway 216 (Anthony Henday Drive) to the east. (See Figure 6.0 Ecological Connectivity) Ecological connectivity will facilitate the movement of certain species, provide habitat and helps maintain the existing hydrology of the area.</p> <p>The preparation of a NAMP will assist in the incorporation of natural areas into the final design of the neighbourhood and will also assist with the conservation and management of these areas after construction.</p> <p>This objective helps to fulfill the following higher order plans and city policies:</p> <p>1.)Municipal Development Plan (MDP) priority for <i>preservation and enhancement of the natural environment and open space</i> and MDP Strategy 1.6.1 <i>Develop a comprehensive, integrated plan for the river valley, natural areas and open space lands that integrates and connects natural areas within the urban fabric to provide access.</i></p> <p>2.) The Meadows ASP principle 4.2.10 <i>Protect and enhance the Mill and Fulton Creek ravines.</i></p>	
Objective (2) Expand Fulton Marsh, a constructed wetland, based on the recommendations of the Natural Site Assessment, as a means of mitigating, in whole or in part, the cumulative removal of the natural areas within the plan area.	
<p>The appropriate Municipal Environmental Impact Assessment (MEIA) shall be conducted for the stormwater outfall to Fulton Marsh prior to development commencing.</p> <p>Future access to Fulton Marsh for maintenance</p>	<p>The recommendations and regulations of the City and Provincial environmental agencies shall be followed; A NAMP will be required prior to rezoning of lands</p>

NSP Policy	Implementation
purposes will be provided internally through the neighbourhood.	within the Maple NSP. The access will be relocated at time of future development of the Maple Neighbourhood.
<p>Rationale: The expansion of Fulton Marsh is intended to accommodate the anticipated stormwater drainage from the plan area. The NSA indicates that this expansion, in conjunction with the retention of existing drainage channels, will likely mitigate, in whole or in part, the cumulative removal of the existing wetlands within the plan. Details of the expansion will be provided at the Engineering stage. The existing maintenance access for Fulton Marsh is currently located off Whitemud Drive. It is the intent of the AMPW - Drainage department to re-locate this access in the future to a location internal to the neighbourhood.</p> <p>This objective helps to fulfill the following higher order plans and city policies:</p> <p>1.) MDP priority for the <i>preservation and enhancement of the natural environment and open space</i> and MDP Strategy 1.6.2 <i>Implement policies for the conservation of natural sites in Edmonton's table lands and the North Saskatchewan River Valley and Ravine System through the planning process.</i></p>	
<p>Objective (3) The northern drainage channel into Fulton Marsh and the southern drainage channel into Fulton Creek will be preserved and/or enhanced and integrated into the neighbourhood.</p>	
These drainage channels shall be retained as vegetated channels where feasible to reflect natural ecosystem processes. (See Detail 1 - Conceptual Vegetated Channel)	A Natural Area Management Plan (NAMP) will be required prior to rezoning of lands within the Maple NSP.
<p>Rationale: Maintenance of the drainage channels provides ecological connectivity and assists in maintaining the integrity of Fulton Creek by maintaining flows from upstream as well as providing the opportunity to direct surface flows from surrounding developed areas.</p> <p>The use of vegetated channels for drainage purposes is an example of a Low Impact Development (LID) approach to development, which uses simple ecological principles to reflect natural ecosystem processes with respect to managing stormwater in a developed area. The vegetated channels collect and convey stormwater, and act as initial sites for stormwater treatment. These vegetated channels improve water quality by decreasing water velocity and thus allowing suspended solids to fall out of the flow. Some metals and nutrients (like nitrogen or phosphorous) will also be absorbed by the plant life in the channels.</p> <p>Use of vegetated channels has the following ecological and neighbourhood benefits:</p> <ol style="list-style-type: none"> 1. Can improve water quality that can diminish as a result of development; 2. Provides connectivity for wildlife; 3. Provides an aesthetic value to the neighbourhood; 4. Provides connectivity for residents and an opportunity for alternative pedestrian circulation. <p>This objective helps to fulfill the MDP priority for <i>preservation and enhancement of the natural environment and open space</i> and MDP Strategy 1.6.1 <i>Develop a comprehensive, integrated plan for the river valley, natural areas and open space lands that integrates and connects natural areas within the urban fabric to provide access.</i></p>	

Detail 1 - Conceptual Vegetated Channel



NSP Policy	Implementation
Objective (4) To preserve and integrate into the neighbourhood an existing tree stand surrounding a portion of the southern drainage channel, located in the south-east area of the plan.	
Development of surrounding lands shall be such that the tree stand's ecological integrity is maintained to ensure its long term sustainability.	A NAMP will be required prior to rezoning of lands within the Maple NSP.
<p>Rationale: A tree stand exists along the southern drainage channel. Its retention adds to the overall ecological connectivity of the plan and assists in providing a more diverse habitat for wildlife. The NAMP will provide recommendations for incorporation of the treed area into the final design of the neighbourhood, its conservation and management after construction and will assist in sustaining the ecological integrity of the area.</p> <p>This objective helps to fulfill the following higher order plans and city policies:</p> <ol style="list-style-type: none"> 1.) MDP priority for the <i>preservation and enhancement of the natural environment and open space</i> and MDP Strategy 1.6.4 <i>Acquire and restore natural areas of ecological value (identified in the Natural Connections Strategic Plan) as well as critical linkages and buffers to ensure they remain sustainable in an urban context.</i> 2.) ASP development principle 4.2.10 <i>Conserve and integrate environmentally sensitive and other natural areas where sustainable and economically viable.</i> <p>All of the above objectives help to fulfill MDP priority for <i>creating livable communities</i> and MDP Strategy 1.1.3.a <i>Incorporate the protection of natural areas systems in planning for communities for the ecological, recreational, educational, economic and health benefits they provide.</i> All of the above objectives help to fulfill the MDP priority for the <i>preservation and enhancement of the natural environment and open space</i> and MDP Strategy 1.6.1 <i>Develop a comprehensive, integrated plan for the river valley, natural areas and open space lands that integrates and connects natural areas that are sustainable and feasible.</i></p>	

4.4.2 Environment

The following objectives are established to contribute to the plan goal of providing a safe environment for residents and to achieve the goals of higher order city policies.

NSP Policy	Implementation
Objective (5) To ensure that lands proposed for development are environmentally suitable for their intended use.	
<p>The type and location of any environmental concerns which may be present on the lands must be determined prior to rezoning.</p> <p>Where necessary, contaminated material shall be removed and disposed off in an environmentally sensitive manner, in accordance with Federal, Provincial, and Municipal regulations.</p>	<p>ESAs will be submitted and any follow-up will receive sign-off by the City prior to rezoning land.</p> <p>Site remediation, where necessary, shall be conducted prior to rezoning and a report verifying the remediation shall be submitted for approval by the City.</p>
<p>Rationale: While the majority of lands have had a Phase I Environmental Site Assessment completed, additional Phase I ESA's and/or updates may be required with future zoning applications depending on the timing of those applications. The City of Edmonton Planning & Development Department recommends individual landowners provide ESAs or disclosure statements at the rezoning stage.</p> <p>This objective helps to fulfill the following higher order plans and cities policies:</p> <p>1.) MDP priority for the <i>protection of the natural environment</i> and MDP Strategy 4.4.5 <i>Require, through the development approval process, the remediation and management of contaminated sites so that sites are suitable for their intended uses.</i></p> <p>2.) Urban Parks Management Plan (UPMP) Principle 5a <i>Ensure parkland is safe for public use.</i></p>	
Objective (6) To ensure that urban development around the abandoned well site located in the NE corner of the plan area (NE ¼ -8-52-23-W4) adheres to the requirements of the ERCB and City of Edmonton Policy C515 - Oil and Gas Facilities, Abandoned Well Sites.	
<p>The abandoned well site shall not be located within a single detached or semi detached lot.</p> <p>The abandoned well area should only assume land uses that will allow for immediate maintenance should the well ever require servicing.</p>	<p>Urban development around the abandoned well site will accommodate:</p> <ul style="list-style-type: none"> • A 10 m x 15 m work area around the well, and an 8 m access corridor will be provided for service vehicles. A minimum 5 m setback is required from the abandoned well head to the edge of the work area. • Parks or roadways (i.e. more open areas) are preferred designations that allow for the maximum movement of repair equipment on the abandoned well site.
<p>Rationale: Development surrounding the identified abandoned well site is subject to the policies and requirements by the Energy Resource Conservation Board (ERCB) and must be in accordance with City of Edmonton Policy C515 - Oil and Gas Facilities, Abandoned Well Sites.</p>	

Technical Summary

Phase I ESAs have concluded that those lands reviewed are environmentally suitable for suburban residential development. Additional soil testing will be required around an existing Quonset building on the NE ¼ Sec 8-52-23-W4 prior to rezoning approval.

In support of an amendment to Meadows ASP (approved January 2004), a Catastrophic Risk Assessment (CRA) and a Ground -Bourn Vibration Study were completed to review the feasibility of locating residential land uses adjacent to the rail line. Matters of safety were considered in these reports. Please refer to the Transportation Section for further details.

4.4.3 Urban Design

The following objectives and policies are established to assist in fulfilling the plan goals of creating a unique neighbourhood that is focused on natural areas and creating a walkable, attractive, safe and comfortable environment.

NSP Policy	Implementation
Objective (7) Design residential streets that are pedestrian friendly, safe, and form an integral and attractive component of the public realm within the neighbourhood.	
<p>Streetscape design should consider symmetry, variety, massing and opportunities for innovative building and site design.</p> <p>Medium density residential housing will be designed to have a strong street presence, with parking areas located underground or away from the street.</p> <p>Streets that are part of the pedestrian linkage system should have treed boulevards and sidewalks that are not interrupted by front drive access, where practical.</p>	<p>Details regarding the specific type and location of residential uses will be determined at the rezoning and subdivision application stage where consideration for these elements will be given.</p> <p>Symmetry can be achieved by creating a compatible housing form and zoning designation on either side of a street.</p> <p>The Development Officer should have regard for site design, parking areas and building articulation.</p>
Rationale: Harmonious residential streetscapes promote attractive neighbourhoods, enhancing community interest and pride, with compatible housing forms and zoning designation providing a consistent mass and scale. While parcels of MDR are likely to be developed on a self-contained basis, opportunity exists to develop street-oriented multiple family designs alongside LDR housing through sensitive urban streetscape design, attention to transitioning and landscaping.	
Objective (8) Design housing that creates an interesting streetscape and comfortable transitions of mass and scale.	
<p>Where buildings front onto a street or public areas such as a park, the building frontage will include features (doors, windows, landscaped yards) that create surveillance and sense of occupancy.</p>	<p>The Development Officer should have regard for site design, parking areas and building articulation.</p>
<p>Rationale: Orientation of buildings plays an important part of creating interesting and varied streetscapes. By fronting buildings to the public realm (i.e. streets, parks, and parking areas) an increased sense of resident awareness of neighbourhood activities and safety ("eyes on the street") is created.</p> <p>These objectives help to fulfill the MDP priority for <i>creating livable communities</i> and the MDP</p>	

NSP Policy	Implementation
Strategy 1.1.3 <i>Use and promote urban design principles and guidelines that enhance the quality of the urban environment.</i>	

NSP Policy	Implementation
Objective (9) Optimize view/vista potential of Fulton Creek, Fulton Marsh and other natural areas and park spaces.	
Site planning and design should take into consideration opportunities for maximizing views and vistas of Fulton Creek, Fulton Marsh and park spaces.	The Development Officer should have regard for the placement of buildings relative to maintaining views and vistas where opportunities exist through the development permitting process.
Rationale: Consideration of site design at the development permit stage can enhance view corridors and opportunities into the neighbourhood's amenity areas, increasing visibility and surveillance.	
Objective (10) The preserved natural areas (i.e. Creek, tree stand, etc.) and park spaces will be designed as key focal points within the neighbourhood	
Walkway connections from the neighbourhood into and through the preserved natural areas shall be provided. A pedestrian connection will be considered along the east side of Fulton Marsh.	Details regarding the placement of pedestrian connections will be determined at the subdivision approval stage. The provision of a walkway adjacent to Fulton Marsh will be determined through the engineering design stage.
<p>Rationale: The natural areas such as Fulton Creek, treed area, vegetated channels and park spaces provide key amenity spaces for local residents and add to the neighbourhood's attractiveness, character, and image as a pedestrian-oriented community. Areas are linked within the neighbourhood pedestrian network and provide areas for passive or active recreation. To preserve the function of Fulton Marsh as a critical regional storm water management facility, pedestrian linkages within the facility will be limited to the east side, adjacent to residential uses. Confirmation that a walkway can be adequately accommodated and constructed within Fulton Marsh will be determined at the engineering design stage.</p> <p>All of the above objectives help to fulfill the following higher order plans and city policies:</p> <p>1.) MDP priority for the <i>preservation and enhancement of the natural environment and open space</i> and MDP Strategy 1.6.1 <i>Develop a comprehensive, integrated plan for the river valley, natural areas and open space lands that develops access and recreational use opportunities while protecting the natural environment.</i></p> <p>2.) Smart Choices Recommendation Five: <i>Promote Better Urban Design.</i></p>	

4.4.4 Residential Land Use

The following objectives and policies are established to assist in fulfilling the plan goals of creating a neighbourhood that provides variety in housing type and in creating a walkable, attractive, safe and comfortable environment within the neighborhood and one that contributes to the utilization of neighbouring commercial developments and public facilities as well as to the natural areas which are preserved within the neighbourhood.

NSP Policy	Implementation
Objective (11) To plan for a variety of housing densities in different physical forms.	
<p>A mixture of dwellings should be provided; including Ground Oriented residential (single/semi-detached and rowhouse) and Non-Ground Oriented residential (rowhouse, stacked rowhouse, low-rise multi unit).</p> <p>Ground Oriented residential - rowhouse shall be located with regards to one or more of the following criteria:</p> <ul style="list-style-type: none"> • in proximity to a collector/arterial roadway; • as a transition to higher density Non-Ground Oriented residential uses; • to take advantage of natural areas, parks and open spaces. <p>City of Edmonton policies and programs pertaining to affordable housing will be applied on land development applications.</p> <p>Opportunities such as secondary suites, garage suites or garden suites should be encouraged among builders.</p> <p>Consider opportunities for innovative building and site design.</p>	<p>Figure 7.0 - Land Use Concept illustrates the general location of Ground Oriented and Non-Ground Oriented residential land use. The City of Edmonton Zoning Bylaw provides for a range of densities and housing forms that will be applied at the rezoning stage (e.g. RSL, RPL, RF4, RF5, RF6 or RA7).</p> <p>Innovation is likely to be regulated by a Direct Control Provision; however other mechanisms identified through approved City Policies may be employed and will be subject to a formal application and further review by the Planning and Development Department.</p>
<p>Rationale: Providing a mixture of housing densities in a variety of dwelling types, with opportunities for secondary suites and/or affordable housing allows for a neighbourhood which is marketable to a range of future residents with varying incomes, lifestyle requirements and housing needs.</p> <p>This objective helps to fulfill the following higher order plans and city policies:</p> <p>1.) MDP priority for <i>managing suburban growth</i> and MDP Strategy 1.7.2 <i>Provide for a range of housing types and densities in each residential neighbourhood.</i></p> <p>2.) ASP principle 4.2.3 <i>Allow for a variety of housing forms consistent with municipal statutes, policies and guidelines.</i></p>	
Objective (12) To establish an overall residential density that exceeds the suburban housing ratio.	
<p>Residential densities can exceed the Suburban Housing Mix ratio for new neighbourhoods.</p>	<p>Table 2 - Land Use and Population Statistics identifies the Maple neighbourhood densities which exceeds the Suburban Housing Mix Guidelines with a ratio of 62% Ground Oriented and /38% Non-</p>

NSP Policy	Implementation
	Ground Oriented.
<p>Rationale: In order to support utilization of neighbouring commercial, educational (e.g. Tamarack), and recreational (e.g. Silver Berry District Park) facilities and other municipal services, such as public transit, in a timely fashion, an overall density that exceeds the suburban housing mix ratio is proposed.</p> <p>This objective helps to fulfill the following higher order plans and city policies:</p> <p>1.) MDP priority for <i>managing recourses wisely</i> and MDP Strategy 1.1.2 <i>Place a high priority on the effective and efficient use of land</i>. It also helps to fulfill MDP priority for <i>utilization of existing infrastructure</i> and MDP Strategy 1.3.4 <i>Promote intensification of development around transit corridors and employment areas</i>.</p> <p>2.) ASP principle 4.2.3 <i>Establish sufficient overall residential densities to support the efficient provision of public transit, educational facilities, recreational facilities and municipal services in a timely fashion</i>.</p>	
<p>Objective (13) To provide nodes of activity, which include recreation and population intensification, in multiple locations throughout the neighbourhood.</p>	
<p>Locate increased residential density in proximity to natural areas, parks and open spaces and inter-connect them using the pedestrian network.</p>	<p>Figure 7.0 - Land Use Concept identifies the location of the plan's highest densities (Non-Ground Oriented) and Figure 9.0- Pedestrian Network will guide the development of pedestrian connections within Maple.</p>
<p>Rationale: Greater residential densities can provide a larger population base in proximity to activity nodes (parks, natural areas and external commercial areas), thereby increasing demand and use.</p> <p>This objective helps to fulfill the following higher order plans and city policies:</p> <p>1.) MDP priority for <i>managing suburban growth</i> and MDP Strategy 1.7.4 <i>Ensure availability and access to recreational opportunities and open spaces</i>.</p> <p>2.) ASP principle 4.2.3 <i>Locate residential development so as to take advantage of features such as stormwater management (SWMF) facilities, walkways and park space</i>.</p> <p>3.) Suburban Neighbourhood Design (SND) Principle 12 <i>Locate multi-family uses toward the edge of new neighbourhoods and close to the community and neighbourhood focal points</i>.</p>	

Technical Summary

In support of an amendment to Meadows ASP (approved January 2004), a Catastrophic Risk Assessment (CRA) and a Ground -Bourn Vibration Study were completed to review the feasibility of locating residential land uses adjacent to the CN rail line. Please refer to the Transportation Section for further details.

4.4.5 Commercial Land Use

There is no commercial land use planned for the Maple NSP. The majority of the plan area is within 1.6 km (1 mile) of approximately 28 ha (70 acres) of lands already constructed, developing or zoned for community commercial purposes at the northwest and southeast corners of the 17 Street and 38 Avenue intersection. As the primary entrance into Maple is from this intersection, the majority of residents in Maple will travel by these existing commercial areas which will

provide for their retail needs. Commercial opportunities within Maple were deemed economically unviable by the developer given that the plan area is relatively isolated from external market influences (bounded on the north by Whitemud Drive, on the east by Highway 216 and on the west by the CNR rail line) and given the neighbourhood's proximity to an abundance of commercial use opportunities already available at 17 Street and 38 Avenue.

4.4.6 Urban Services

The plan area is characterized by an existing wireless communication tower in the north east area of the plan and by current Transportation and Utility Corridor lands in the south. The NSP pays particular attention to these elements.

NSP Policy	Implementation
Objective (14) To integrate the existing wireless communication tower (on Meridian Street) with future residential land uses.	
<p>Future residential development surrounding the existing tower shall be designed with adequate setback distances from the tower and the provision of appropriate screening:</p> <ol style="list-style-type: none"> 1.) The distance between adjacent residential property lines and the base of the tower shall be equal to the height of the tower. 2.) Screening of the tower from adjacent residential uses may include use of existing vegetation, landscaping, fencing, or other means in order to provide a buffer with adjacent residential uses. <p>The Development Officer shall have regard for City of Edmonton Policy C471B - Policy for Siting Telecommunications Facilities and the policy of this plan should an application to change existing facility conditions be made.</p>	<p>Setback and screening requirements will be confirmed prior to rezoning and provided at the time of subdivision.</p> <p>Access to the tower will be maintained along Meridian Street, or if Meridian Street is to be removed, access shall be provided via the internal roadways and will be the responsibility of those required the road closure.</p>
Rationale: The developer wishes to maintain the flexibility to keep the existing facility in its current location.	
Objective (15) Anticipate and integrate into the neighbourhood, any Transportation and Utility Corridor (TUC) lands which may be surplus to the Province's land requirements.	
<p>The TUC lands north of the future extension of 23 Avenue (as identified in Figure 7.0 - Land Use Concept) shall be a Special Study Area until no longer needed by the Province for transportation purposes.</p> <p>Should the Special Study Area become developable an additional park site will be required in the area.</p>	<p>If the Province determines the TUC lands within the Special Study Area are surplus and may be used for development, the developer will require an amendment to the NSP to integrate these lands into the community.</p> <p>Should development of the lands directly north of the Special Study Area advance prior to the Province's decision to surplus the TUC lands, the City and developer may continue the planning process pursuant to this</p>

NSP Policy	Implementation
	plan and, by default, the TUC lands will remain titled to the province and remain un-developed. In this way, land use decisions can be coordinated in a timely manner so as to not impede the development process.
<p>Rationale: The lands at the south end of the plan area are owned by the Province, are within the City boundary, and are designated for TUC purposes. The Province has indicated that portions of this land may not be required for infrastructure purposes and may look at declaring it surplus to their needs. In order to facilitate the planning and development of the NSP, a “Special Study Area” (SSA) designation is being applied to a portion of TUC lands as illustrated on Figure 7.0 - Land Use Concept. The SSA designation identifies the potential for possible future land uses (other than TUC) and provides for the landowners to the north the ability to continue the planning and development process in a logical, coordinated and timely manner.</p> <p>All of the above objectives help to fulfill MDP priority for <i>creating livable communities</i> and MDP Strategy 1.1.2 <i>Address compatibility of land use in the development and review of land use plans and development proposals</i></p>	

4.4.7 Parks and Open Space

The proposed park and open space plan in this neighbourhood capitalizes on the natural features within the area and integrates these features to park spaces distributed throughout the plan area, linking the internal neighbourhood system to the major pedestrian system that connects to other amenities to the west.

NSP Policy	Implementation
<p>Objective (16) Accommodate the requirements of the City for park sites within the neighbourhood using Municipal Reserve (MR) dedication.</p>	
<p>The NSP shall follow the guidelines for the hierarchy and distribution of park spaces as prescribed within the UPMP.</p> <p>Park spaces should have frontage along public roadways to ensure sightlines, natural surveillance, and adequate lighting. Landscaping and design of park spaces shall take into consideration basic CPTED principles and design principles included in the Design Guide for a Safer City and UPMP.</p>	<p>The parks and open spaces identified in Figure 7.0 - Land Use Concept will be dedicated to the City of Edmonton through a combination of Municipal Reserve (MR), Environmental Reserve (ER) and Public Utility Lots (PU) at the time of subdivision.</p> <p>The Subdivision Authority will have regard for the subdivision design to ensure adequate public roadway frontage on all parks.</p> <p>The Greenway will be designated as MR at the time of subdivision registration.</p>
<p>Rationale: The Maple NSP provides a range of parks and opens spaces for residents in order to meet their passive and active recreational needs. A total of three pocket parks and two Urban Village Parks are planned throughout the Maple NSP area. These parks have been configured to provide resident’s opportunities for active and passive recreation and have been located such</p>	

NSP Policy	Implementation
<p>that all residential areas within the plan are within 500 m of a park space.</p> <p>This objective helps to fulfill the following higher order plans and city policies:</p> <p>1.) MDP priority for <i>preservation and enhancement of the natural environment and open spaces</i> and MDP Strategy 1.6.1 <i>Develop a comprehensive, integrated plan for the river valley, natural areas and open space lands that re-defines the principle and practices of Municipal Reserve allocation to support the objectives of the open space plan.</i></p> <p>2.) ASP Development Principle 4.2.7 <i>Provide sites for educational and community league facilities within residential neighbourhoods through the dedication of municipal reserves.</i></p> <p>3.) SND Principle 9 <i>Explore opportunities to provide a smaller, dispersed open space and parks in a neighbourhood to provide for localized needs while meeting the recreational needs of the residents of the catchment area.</i></p> <p>4.) UPMP Principles 2a Ensure parks serve all members of the community; and 4c Ensure the provision of active and passive recreation experiences</p>	

NSP Policy	Implementation
<p>Objective (17) Provide parks and open spaces that are located along arterial, collector or local roadways and which are accessible via pedestrian linkages, automobiles and transit.</p>	
<p>Park space should be designed to accommodate active and passive recreation activities for different age groups.</p> <p>With the exception of park areas adjacent to the top-of-bank where grade changes and topography may pose design difficulties, all park space within the neighbourhood should be universally accessible.</p>	<p>Design and development of future parks and open spaces will consider programming needs of the community and be implemented based on requirements of Asset Management and Public Works Parks Branch.</p>
<p>Rationale: All parks are located adjacent to roadways, and are connected through a network of multi-use trails, walkways and sidewalks to ensure that they are accessible and dispersed with the residential uses in the plan area.</p> <p>This objective helps to fulfill the following higher order plans and city policies:</p> <p>1.) MDP priority for <i>managing suburban growth</i> and MDP Strategy 1.7.4 <i>Ensure availability and access to recreational opportunities and open spaces.</i></p> <p>2.) UPMP Principles 2b Ensure parkland accessibility; and 4c Ensure the provision of active and passive recreation experiences.</p>	
<p>Objective (18) Design a connected and integrated open space system that encourages all modes of movement (e.g. pedestrians, bicycles, wheelchairs, rollerblades, etc).</p>	
<p>The Maple NSP shall incorporate an array of pedestrian linkages along sidewalks, walkways, greenways and multi-use trail corridors that connect all park spaces, Fulton Creek, Fulton Creek Natural Area and various other focal points.</p>	<p>Figure 7.0 - Land Use Concept and Figure 9.0 - Pedestrian Network conceptually guide the location of neighbourhood parks, open spaces, and pedestrian connections, which will connect residents to the transit centre and employment node in the adjacent Tamarack neighbourhood.</p>
<p>This objective helps to fulfill the following higher order plans and city policies:</p>	

NSP Policy	Implementation
1.) MDP priority for <i>movement of people and goods</i> and MDP Strategy 4.3.1 <i>Develop and maintain an integrated system of roadways, public transit, pedestrian and bicycle facilities and services to support and enhance Edmonton as a growing, vibrant, and culturally diverse city in which people choose to live, work, learn and play.</i>	
2.) SND Principle 11 <i>Create a linked open space system through open spaces created by stormwater management facilities, some utility rights-of-way, preservation of appropriate natural areas and drainage courses, and school and park open spaces.</i>	
3.) UPMP Principles 2a Ensure parks serve all members of the community; 2b Ensure parkland accessibility; and 4b Ensure parks integrate into the daily lives of Edmontonians	

4.4.8 Transportation

The transportation goal of the Maple Plan is to establish a neighbourhood that provides a transportation system that is well connected within and outside the plan area and maximizes access for a variety of travel modes to the greatest number of residents. This goal is conceptually illustrated in **Figure 8.0 - Transportation Network** and **Figure 9.0 - Pedestrian Network** which identify the roadway network and alternative system that accommodates the movement of automobiles, transit, bicycles and pedestrians within the neighbourhood and the connections to adjacent communities. The plan also seeks to buffer future development from the impacts of existing surrounding transportation infrastructure.

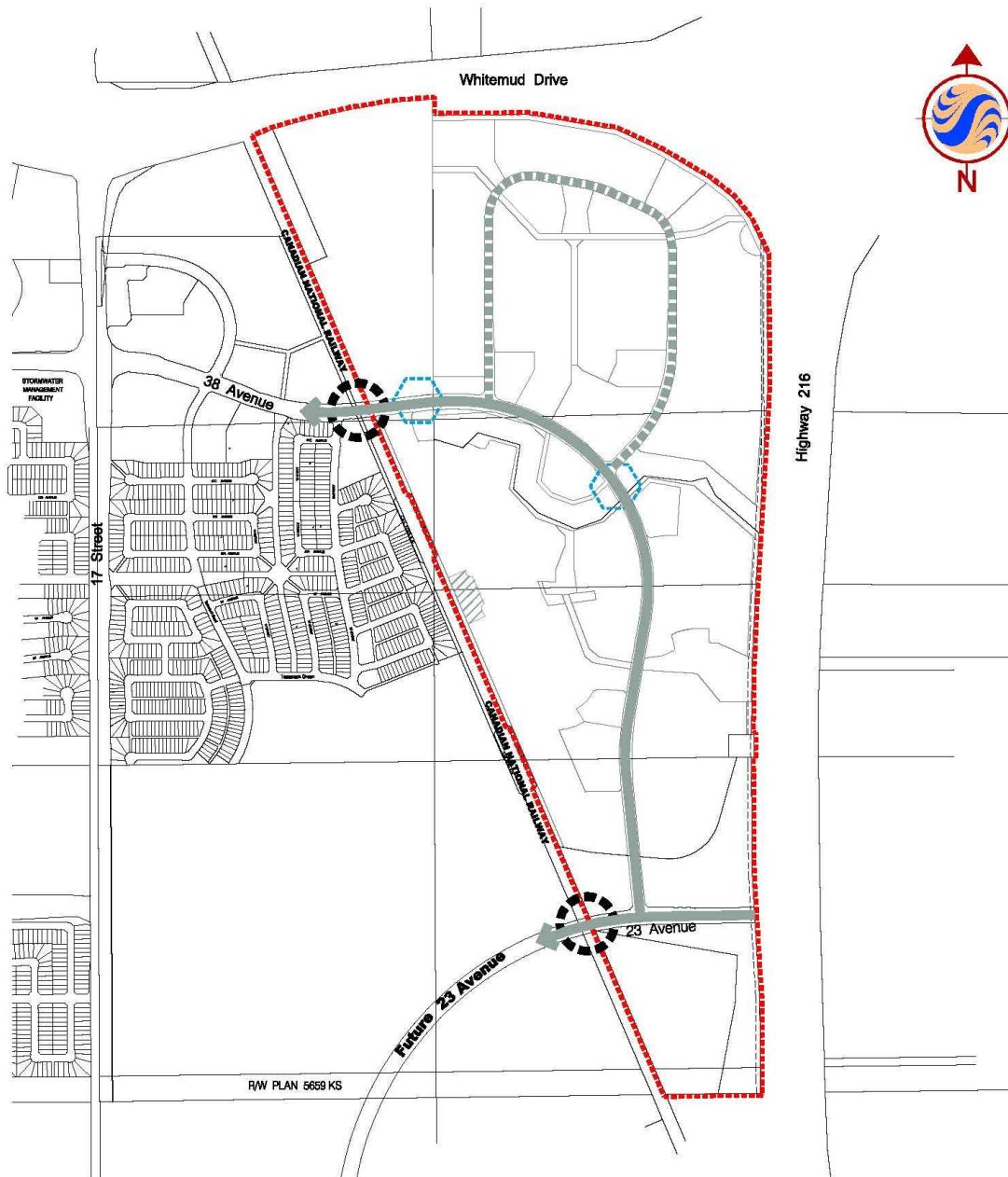
NSP Policy	Implementation
Objective (19) The arterial and collector roadways are planned to move vehicular traffic efficiently through the neighbourhood and minimize internal roadway congestion.	
No front drive access will be permitted to Ground-Oriented residential uses along 38 Avenue and access for Non-Ground Oriented residential uses will be reviewed on a site by site basis.	Zoning and subdivision approval will ensure Ground-Oriented residential uses do not access directly to 38 Avenue.
<p>Rationale: This neighbourhood is constrained in terms of direct access by virtue of the surrounding regional transportation network and rail line so the arterial and collector roadway network has been designed with this in mind. No direct access into the neighbourhood from Whitemud Drive and Highway 216 is allowed. As a result, access into the neighbourhood will be restricted to the west and south, requiring crossing the rail line (at 38 Avenue in the north, and at 23 Avenue in the south) either through the adjacent Tamarack neighbourhood (via 38 Avenue) or along the southern boundary of the Tamarack neighbourhood (via 23 Avenue). As the future 23 Avenue rail crossing opens it will be a requirement to close the existing rail crossing to the south. The main transportation corridor through the neighbourhood has been configured to respect these constraints.</p> <p>Arterial roadways facilitate the movement of intra-municipal traffic and generally maintain limited direct access to adjacent land uses. Within the plan area, 23 Avenue to the south and 38 Avenue are designed as arterial roadways, providing Maple with major east-west access to 17 Street. More specifically, the 38th Avenue right-of way continues into Maple from the Tamarack neighbourhood as a four lane divided arterial roadway.</p> <p>The collector roadway provides internal access and the intersections on 38 Avenue spaced to allow for right and left turn-bay development. The collector roadway is intended to accommodate traffic and parking. The collector loop provides efficient and convenient access to residential areas.</p>	

Lands within the NSP will be subject to Arterial Roadway Assessments (ARA) pursuant to the Arterial Roads for Development Bylaw 14380, or to the policies and bylaws regarding arterial roadways in place at the time of development to cost-share the construction of arterial roadway facilities needed to service the area. In general terms, the ARA outlines the developer's responsibility for arterial roadway construction within the catchment area and is based on the estimated and actual costs of constructing arterial roads required for access to a catchment area.

This objective helps to fulfill the following higher order plans and city policies:

- 1.) MDP priority for *movement of people and goods* and MDP Strategy 4.3.3 *Make effective and efficient use of the transportation system*.
2. ASP Development Principle 4.2.13 *Provide a logical, safe and efficient transportation system that accommodates the pedestrian, bicycle, public transit and vehicular transportation needs of residents moving within and through the Meadows area*.

Figure 8 Transportation Network



- Legend
- Arterial Roadway (future Transit Route)
 - Collector Roadway (future Transit Route)
 - Area of Plan located greater than 400m from future transit routing
 - Rail Crossing
 - Fulton Creek - Road Crossing
 - NSP Boundary

Client/Project
DUNDEE DEVELOPMENTS
MAPLE
NEIGHBOURHOOD STRUCTURE PLAN

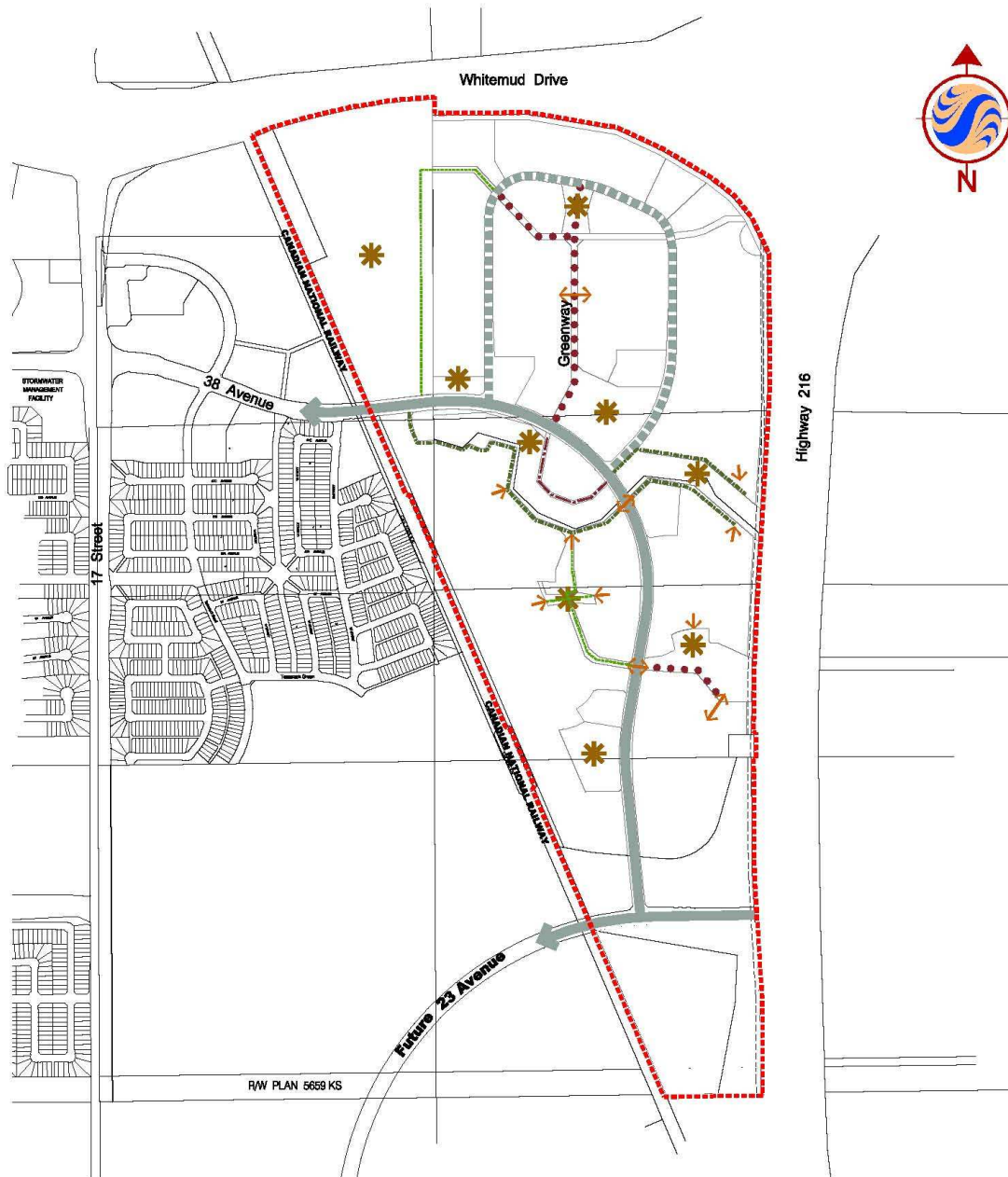
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Title
Transportation Network

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Figure 9 Pedestrian Network



- Legend
- Arterial Roadway (w/ Hard Surface MUT on south and west side)
 - Collector Roadway
 - Multi-use Trail (Hard Surface)
 - TOB Walkway - Multi-use Trail (Hard Surface)
 - TOB Walkway
 - Improved Trail
 - Minor Pedestrian Connection
 - ★ Destination Areas
 - NSP Boundary

Client/Project
DUNDEE DEVELOPMENTS
MAPLE
NEIGHBOURHOOD STRUCTURE PLAN

Figure No.
9.0

Title
Pedestrian Network

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NSP Policy	Implementation
Objective (20) To maximize resident access to public transit.	
<p>Arterial and collector roadways will be located to maximize resident access to transit.</p> <p>Subdivision design shall maximize access to transit for the greatest number of residents.</p> <p>Non-Ground Oriented uses should be located in proximity to transit service.</p>	<p>Figure 8.0 - Transportation Network outlines this road network. Edmonton Transit Systems will determine the routing for public transit along the arterial and collector roadways which have been identified as future transit routes.</p> <p>The Subdivision Authority will have regard for sidewalk, multi-use trail, and walkway placement to minimize walking distances to transit (within 400 m). Figure 8.0 - Transportation Network illustrates a portion of the plan area which is located greater than 400 m away from the nearest transit route. Although this area may be greater depending on subdivision design, local roadways and walkways will be designed to minimize the walking distance to transit as much as possible.</p> <p>Figure 7.0 -Land Use Concept identifies Non-Ground-Oriented residential along arterial or collector roadways.</p>
<p>Rationale: Public transit service will be provided along the arterial and collector roadways. The collector and arterial roadway network is designed to accommodate future public transit service and is located within the plan area to maximize resident access to the system.</p> <p>Public Transit services will be extended into the NSP area in accordance with City of Edmonton Transit System Guidelines and demands and should provide convenient service between neighbourhoods, transit centres and regional commercial and employment areas. Collector and arterial roadways will be developed to accommodate transit service. Located in the Tamarack neighbourhood to the west is a Bus Oriented Transit Centre which will serve The Maple NSP as well as the balance of the Meadows ASP.</p> <p>This objective helps to fulfill the following higher order plans and city policies:</p> <p>1.) ASP Development Principle 4.2.3 <i>Orient larger parcels of medium density residential development toward the edges of the neighbourhood, adjacent to arterial and collector roadways, transit routes, and near community focal points.</i></p> <p>2.) SND Principle 6 <i>Provide Transit Services to the edges of new neighbourhoods using the arterial and collector roadways in conjunction with appropriately designed, strategically located and conveniently accessed transit waiting zones.</i></p>	

NSP Policy	Implementation
Objective (21) To design a circulation system which promotes alternative transportation modes including bicycle, rollerblade and wheelchair accessible travel and which is linked to key focal points.	
<p>Alternative circulation throughout the plan shall be provided by a combination of sidewalks, walkway connections, greenway and multi-use trails which link and provide access to natural areas and park spaces.</p> <p>A top-of-bank roadway shall be provided along 50% of Fulton Creek and a top of bank multi-use trail or walkway shall be provided on the remaining 50%.</p> <p>A minimum 10 m wide central greenway through the northern area of the plan shall provide a hard surfaced multi-use trail and should be landscaped with grass, trees and shrub beds, and provide park furniture (e.g. benches, garbage receptacles), and directional and interpretive signage, as directed by the City.</p>	<p>Figure 9.0 - Pedestrian Network outlines the system, which includes hard surface multi-use trails, walkways, improved trails and minor pedestrian connections.</p> <p>Multi-use trails will be wide hard-surfaced walkways developed to City standards to be suitable for all alternative transportation modes, including pedestrians and cyclists. Multi-use trails are proposed along, but not limited to, arterial roadway, along the top-of bank and along all top-of-bank roadways, and extend through and beyond the greenway. Due to the proximity of 38 Avenue, which will include a multi-use trail, there is a top-of-bank walkway shown north of the portion of Fulton Creek at the centre of the plan area.</p> <p>Minor pedestrian connections will tie multi-use trails and walkways to internal local roadways. Details regarding the location of minor pedestrian connections will be determined at the subdivision approval stage. The width and surface of the minor pedestrian connections shall be consistent with the adjoining multi-use trail or improved trail. Where connecting to multi-use trails, the minor pedestrian connection should be a multi-use trail.</p> <p>The multi-use trail, landscaping, furniture and signage within the Greenway shall be required through a Servicing Agreement.</p>
<p>Rationale: Neighbourhoods designed with connectivity in mind supports the residents' ability to walk to destinations reducing the number of vehicle trips, promoting health, supporting neighbourhood interaction, and reducing green house gas emissions. In Maple, alternative forms of circulation (walking, bicycling, etc.) are promoted via an array of linkages among roadway sidewalks, walkways, and multi-use trails providing an internal alternative pedestrian circulation system that is highly connected, direct and convenient. These linkages facilitate easy access for pedestrians and cyclists as outlined in Figure 9.0 - Pedestrian Network.</p> <p>The natural areas and proposed greenway are utilized as a central spine that supports alternative transportation modes, tying the community together from end to end and connecting residents to the Fulton Marsh Natural Area. Multi-use trails should be clearly marked using appropriate signage and markings in order to minimize potential conflicts between vehicles, cyclists, and pedestrians in the neighbourhood. Multi-use trail connections extend beyond the boundaries of the NSP to link with existing and future neighborhoods within the Meadows ASP allowing</p>	

connectivity to outside destinations such as school and commercial opportunities in other neighbourhoods, the transit centre in Tamarack, and the district park site in Silver Berry.

The City and developer have agreed to the plan providing top-of-bank roadway along 50% of the frontage of Fulton Creek and a top-of-bank multi-use trail or walkway along the remainder. The combined approach fulfills the purpose of the TOB Roadway Policy to provide public access and helps protect the stability of the Creek.

Allocation of the proposed greenway as Municipal Reserve (MR) is consistent with the intent of the Urban Parks Management Plan (UPMP) guidelines which states that a maximum of 0.5% of the gross developable area (GDA) can be credited as MR for Greenways. The proposed greenway is approximately 0.4% of the GDA. The proposed greenway connects the central Urban Village Park to the northern pocket park and to the east-west vegetated channel (PUL), which in turn ties into the Fulton Marsh Natural Area.

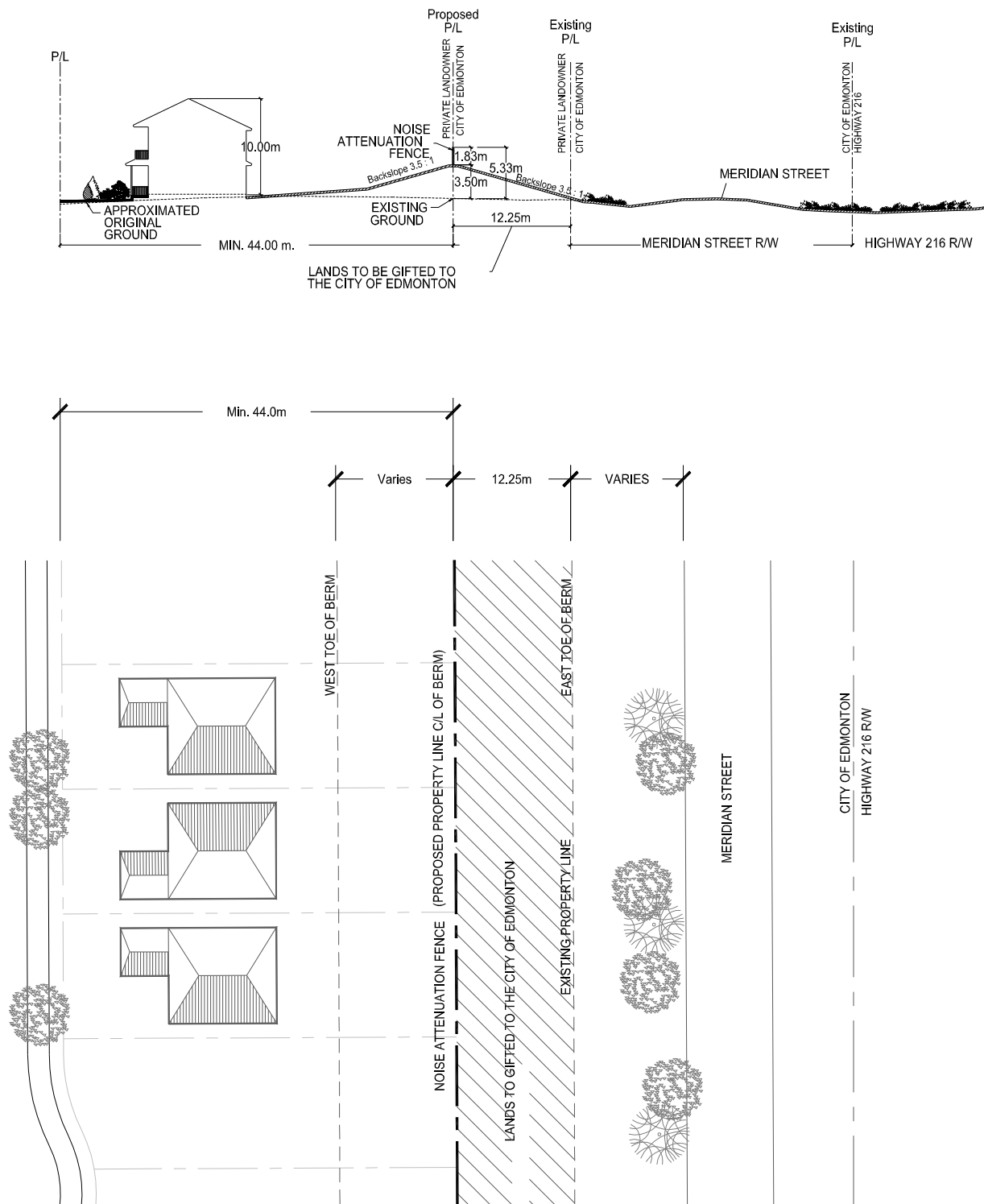
This objective helps to fulfill the following higher order plans and city policies:

- 1.) MDP priority for *movement of people and goods* and MDP Strategy 4.3.1 *Develop and maintain an integrated system of roadways, public transit, pedestrian and bicycle facilities and services to support and enhance Edmonton as a growing, vibrant, and culturally diverse city in which people choose to live, work, learn and play.*
- 2.) ASP Development Principle 4.2.13 *Provide a logical, safe and efficient transportation system that accommodates the pedestrian, bicycle, public transit and vehicular transportation needs of residents moving within and through the Meadows areas.*
- 3.) ASP Development Principle 4.2.13 *Create an efficient and convenient interconnected circulation and pedestrian network.*
- 4.) SND Principle 5 *Provide convenient pedestrian and bicycle access throughout the neighbourhood and especially between destination points within and outside the neighbourhood.*
- 5.) Smart Choices Recommendation Four - *Promote walkability.*

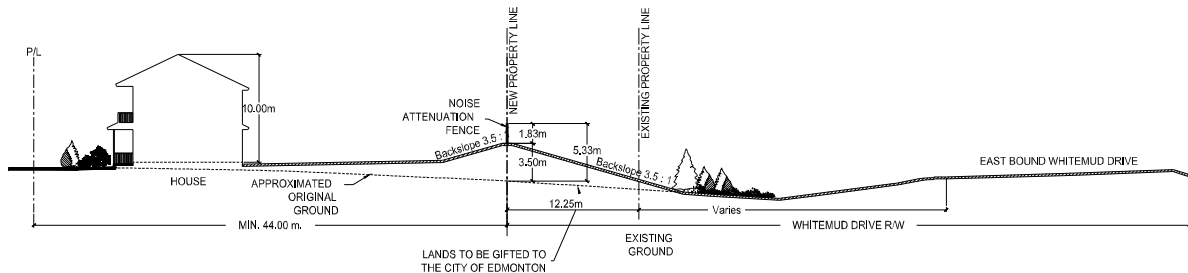
NSP Policy	Implementation
Objective (22) To provide buffering and interface mitigation (i.e. noise attenuation) where residential development backs on to major transportation infrastructure (rail line, Whitemud Drive, Meridian Street/Highway 216, and TUC lands).	
<p>All residential uses adjacent to Whitemud Drive, Meridian Street/Highway 216 and TUC lands shall provide lot depth additional to any requirements under approved zoning regulations to accommodate the backslope of the berm and fence required for noise attenuation within private property. For example if RSL zoning is approved, the minimum lot depth shall be 30 m plus the distance required for the fence and the backslope of the berm.</p> <p>All required minimum yard setback requirements for Non-Ground Oriented zones shall be accommodated in addition to the depth required for the fence and backslope of the berm required for noise attenuation.</p> <p>Where project style ground oriented row housing or Non-Ground Oriented residential sites are located adjacent to Whitemud Drive or</p>	<p>Subdivision approvals for lots adjacent to highway and freeway infrastructure will accommodate the required berm and fence and will require registration of a restrictive covenant/caveat on title.</p> <p>The berm and fence described and outlined in Detail 2 - Conceptual Highway 216/Maple NSP Berm Cross-Section and Plan View and in Detail 3 - Conceptual Whitemud Drive/Maple NSP Berm Cross-Section will be built in accordance with the approved Noise Study:</p> <ul style="list-style-type: none"> • A berm/barrier height of 3.5m/1.83 m (5.33 m total) is required along the northern boundary adjacent to

<p>Highway 216, in addition to the provision of a berm and fence, other noise mitigation measures at the development application stage should be considered: site design and building layout, landscaping, siting of parking areas and architectural treatment. For example, locate surface parking, not buildings, adjacent to the surrounding major transportation infrastructure (i.e. Hwy 216, Whitemud Drive), and locate amenity areas internal to the site, away from the surrounding major transportation infrastructure.</p> <p>At the discretion of the Transportation Department, an updated noise attenuation study will be required when development approaches the north east portion of the plan area to address the proposed ultimate interchange configuration of Whitemud Drive and Highway 216.</p> <p>A restrictive covenant/caveat shall be registered on all Certificates of Title of all properties requiring a berm and fence to protect the integrity of the berm and fence.</p>	<p>Whitemud Drive, along the eastern and north-eastern boundaries adjacent to Highway 216 and the Whitemud /Highway 216 interchange (unless otherwise determined by a new noise study) and along southern TUC lands.</p> <ul style="list-style-type: none"> • All berm/barrier ends must wrap around and extend inward for at least 2 lots (with appropriate sloping taper) where a break in the berm is necessary (Creek and drainage openings) to ensure adequate noise isolation for the next house in.
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Detail 2- Conceptual Highway 216 / Maple NSP Berm Cross-Section and Plan View



Detail 3- Conceptual Whitemud Drive / Maple NSP Berm Cross-Section



Multi-storey residences three (3) stories or taller, adjacent to Whitemud Drive or Highway 216 should be constructed such that the interior noise levels are at or under 45 dBA L_{eq24} .

Building Permit approvals for multi-storey residences adjacent to Whitemud Drive and Highway 216 should consider construction materials to mitigate interior noise levels.

All residential uses adjacent to the rail line shall provide for a development setback of 45 m from the centre line of track (30 m from the existing railway property line) to provide adequate land to accommodate within private property the required separation and noise attenuation measures.

Subdivision Approval for lots adjacent to the rail line will accommodate the required development setback, berm and fence and will require registration of the restrictive covenant/caveat on title.

A restrictive covenant/caveat shall be registered on all Certificates of Title for the dwelling units adjacent to the rail to inform owners of the potential for noise and vibration in the operation of the railway.

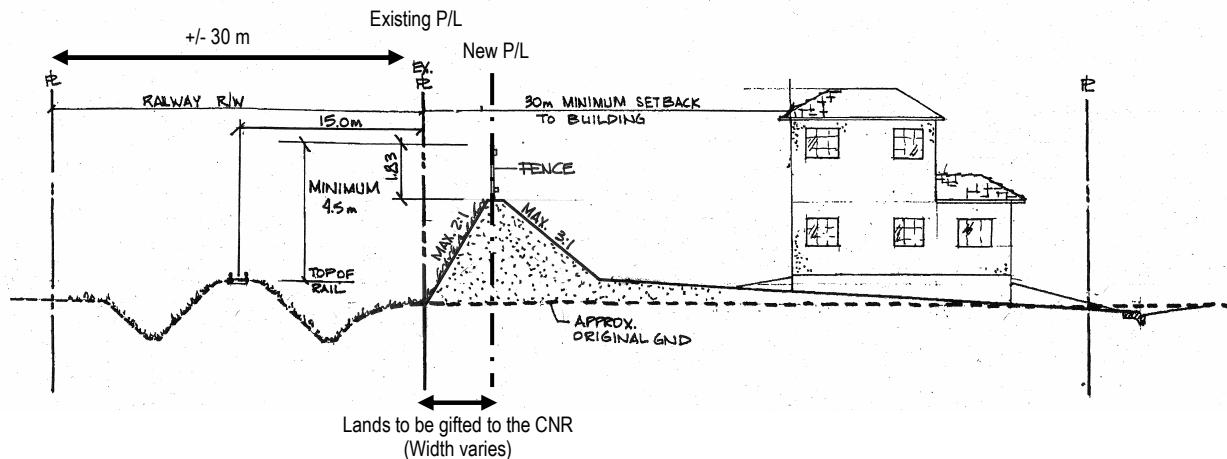
The berm and fenced described and outlined in **Detail 4 - Conceptual CNR Setback and Berm Height** is to be provided in accordance with the technical studies:

Building heights adjacent to the rail line should be restricted to 1.5 stories or upgrading of construction to ensure interior noise levels are at or under 45 dBA L_{eq24} .

- A berm/barrier combination with a total height of 4.5 m above the rail line is required along the western boundary, adjacent to the rail line.
- All berm/barrier ends shall wrap around and extend inward for at least 2 lots (with appropriate sloping taper) where a break in the berm is necessary (rail crossings) to ensure adequate noise isolation for the next house in.

Building Permit approvals for lots adjacent to the railway should consider construction materials to mitigate interior noise levels.

Detail 4- Conceptual CNR Setback and Berm Height



Rationale: Berms along the northern and eastern boundaries of the NSP, adjacent to Whitemud Drive and Meridian Street respectively, are proposed within the existing private property. Lands required for the backslope of the berm and fence adjacent to the developable area will remain as private property and shall become part of the adjacent lots. Lands adjacent to Whitemud Drive or Highway 216 required for the remainder of the berm will be gifted to the City and will subsequently become the responsibility of the municipality (see Detail 2 - Highway 216/Maple NSP Berm Cross-Section and Plan View). The lands to be gifted are approximately 3.1 ha in area, to be confirmed at the subdivision stage and are not included in the NSP area boundary or statistics.

The development setback adjacent to the rail line was established to address risk and vibration concerns and to allow additional space for the development of the berm and fence so that a required yard would not encompass the slope of the berm.

The Noise Study indicated that during individual train passages the noise levels will be well in excess of 70 dBA for properties backing onto the rail line which will likely be disturbing, especially during night-time hours. It also noted that the modeling did not take into account the effect of train-whistle related noise. If the whistle is sounded near the houses, there will be a significant additional level of disturbance. CN Rail reserves the right to modify its operations at any time and there is the possibility of more night-time passages. As such, a restrictive covenant/caveat informing landowners adjacent to the railway of potential noise or vibration in the operation of the railway will be registered on each Certificate of Title. It should be noted however that train whistles should not be utilized once urban rail crossings are constructed.

All of the above objectives help to fulfill MDP priority for *creating livable communities* and MDP Strategy 1.1.2 *Address compatibility of land use in the development and review of land use plans and development proposals*.

NSP Policy	Implementation
Objective (23) To maintain existing property access to Meridian Street until land areas redevelop or until improvements to Highway 216 occur.	
Access to the existing properties within the plan area must be continually maintained while there are residents. Access may be maintained along Meridian Street or via the internal roadways as Maple develops.	Maintaining access to the existing properties shall be considered at subdivision, and access to the properties shall be maintained continuously. If Meridian Street is to be removed, access shall be provided via the internal roadways, at the responsibility of those requiring the road closure. Meridian Street will be maintained until alternate access is available.
Rationale: Development of the neighbourhood should not be encumbered by the need for existing properties to have access off Meridian Street. Therefore, existing properties along Meridian Street will continue to have access via Meridian Street until it is to be removed.	
Objective (24) To provide and maintain secondary emergency access for the proposed development.	
Temporary emergency access to Meridian Street will be required until a secondary access to the neighbourhood is provided at 23 Avenue. The Maple Neighbourhood road network will not have direct access to Meridian Street.	The developer will provide for emergency access to Meridian Street with the first stage of development, and will undertake the maintenance of the emergency access as required until the secondary access at 23 Avenue is constructed. Specific details regarding the alignment, width, structure, access and maintenance requirements of the emergency access will be confirmed at detailed engineering and detailed in servicing agreement(s). Meridian Street will be maintained as long as the emergency access is required, or emergency access is provided otherwise.
Rationale: Due to the railway, Whitemud Drive and Highway 216, there are limited access points for the proposed development. Access to Maple at full build out will be to 17 Street via 23 Avenue and 38 Avenue only. When the first stage of development is constructed within the northern area of the plan, there must be a secondary access point for emergency only. Once the connection via 23 Avenue is constructed, the emergency access will no longer be required.	

NSP Policy	Implementation
Objective (25) To limit roadway crossings of the CN rail line.	
Rail Crossings will be limited to 38 Avenue and 23 Avenue.	Roadway crossings will be located as shown on Figure 8.0 - Transportation Network and shall be signalized, urban crossings.
<p>Rationale: Railway crossings will be required at the 38 Avenue and 23 Avenue crossings. Appropriate approvals and agreements from Canadian National Railways and the City of Edmonton will be required prior to the construction of the 38 Avenue railway crossing, required for the first stage of development to commence.</p> <p>The timing of construction of the second crossing at 23 Avenue will be determined as neighbourhood development progresses and traffic demands warrant a permanent secondary access. The appropriate crossing agreements and approvals from Canadian National Railways and the City of Edmonton will be required prior to any construction. As the future 23 Avenue rail crossing opens it will be a requirement to close the existing rail crossing to the south.</p>	

Technical Summary

A **Traffic Impact Assessment (TIA)** was prepared by Bunt and Associates (March 2009) to confirm the appropriateness of the planned transportation network for Maple. It provides details and recommendations regarding the traffic of the Maple NSP area which include the following:

- Approximately 200 m east of the rail line it is possible that the four lane divided arterial cross-section may be reduced due to the traffic volumes determined by the Traffic Impact Assessment. A possible alternative cross-section may be explored pending approval of a revised arterial roadway cross-section by the Transportation Department.
- A revised arterial roadway cross-section may reduce overall travel speeds along the corridor, provide shorter pedestrian crossing distances between the east and west sectors of the Maple neighbourhood and allow for the development of on-street parking along those sections of the corridor where parking may be desired.
- The majority of the northern collector roadway is proposed as a minor collector and will be a looping roadway off of 38 Avenue, maximizing access to transit service for the greatest number of residents within the neighbourhood. Based on the daily traffic volumes projected in the associated TIA, it is recommended that portions of the collector at the arterial road connections be reviewed for appropriate channelization at two locations. These two locations were identified in the TIA as potentially accommodating higher than average traffic volumes.

A **Noise Study** completed by Acoustical Consultants Inc. (March 28, 2006) was prepared for the purpose of conducting environmental noise monitoring at the perimeter of the proposed Maple neighbourhood and to make recommendations for noise mitigation where warranted. Mitigation measures were recommended throughout the whole perimeter and included berm/barrier combinations (greater heights required closer to Highway 216 and interchange), building height restrictions and/or construction material measures for buildings greater than 1.5 storeys and notification to lot owners adjacent to the rail line of potential noise in excess of 70 dBA.

In support of an amendment to Meadows ASP (approved January 2004), a **Catastrophic Risk Assessment (CRA)** and a **Ground -Bourn Vibration Study** (June 2003) were completed to review the feasibility of locating residential land uses adjacent to the CN rail line. A second vibration study prepared by CT & Associates Engineering Inc. was done in February 2006 in preparation of the Tamarack Neighbourhood Plan.

Ground -Bourn Vibration Studies prepared by CT & Associates Engineering Inc. reported the requirements of CN Rail for construction of residential dwellings adjacent to the rail line as follows:

- A safety setback from the railway rights-of-way is a minimum of 30 metres in conjunction with a safety berm. The safety berm shall be adjoining and parallel to the ROW, 2 metres above grade at the property line with side slopes no steeper than 2.5 to 1.
- The ground vibrations for dwellings within 75 metres of the railway right-of-way shall not be in excess of 0.14 mm/sec RMS, between 4Hz and 200 Hz.

The Catastrophic Risk Assessment prepared by Doug McCutcheon and Associates, Consulting (August 18, 2003) looked at the type of commodities (hazardous and non-hazardous) transported on the rail line and the operations of the rail line (number of crossings, speed, etc.). Identification of the hazards or concerns was followed by an examination of the impact on the proposed community and the probability that an incident would occur. In general, the CRA concluded resulting risks to the public were well within the acceptable criteria as outlined by industry risk standards as outline by the Major Industrial Accidents Council of Canada (MIACC) and that the risk is acceptable for the current operation of the rail line. The report also noted that emergency plans are created to further reduce risk. Clarification from the consultant on May 22, 2009 regarding the changes in rail line operation that have occurred since the initial study, confirmed that risk still remains well within acceptable criteria.

4.4.9 Green Development

One of the goals of this plan is the preservation of natural features and the utilization of green initiatives and innovations are means to achieving this end.

NSP Policy	Implementation
Objective (26) To consider more sustainable, alternative development standards in the design of the neighbourhood.	
Where appropriate, the incorporation of alternative development standards such as vegetated channels, energy efficient lighting, and alternative road construction standards may be considered.	<p>Allow for flexibility between developers and homebuilders and the City Administration in regulating the introduction and implementation of alternative designs and technologies that support the ecological sustainability, cost effectiveness and environmental stewardship in the development of the neighbourhood.</p> <p>Alternative road construction standards must be submitted to the Transportation Department for consideration, and will not be implemented without approval by the Transportation Department.</p>
Rationale: Many aspects of sustainability can be addressed within the design of the neighbourhood and at the site-specific building level. This plan encourages consultations with the City and affected agencies to explore the use of alternative development standards (i.e. consideration of servicing techniques or infrastructure provision that differs from current City of Edmonton standards as one way of achieving sustainability.	

NSP Policy	Implementation
Objective (27) To encourage naturalized landscaping on public lands to maximize environmental benefits and minimize costs associated with maintenance.	
Design the landscape of the open space network to include predominantly native plant material with the intent that over time, this vegetative network seamlessly connects with the existing ecology of the area. Landscaping within the plan area should incorporate the use of native plant species within all open spaces.	Develop open space areas using native plant species. Specific species for landscaping will be determined between the developer and City Administration at the time of review of landscaping plans as part of engineering drawing review.
Rationale: Using native plant materials promotes a healthier natural ecosystem that over time will integrate with the surrounding landscape.	

4.4.10 Infrastructure, Servicing and Staging

Infrastructure design plays a key role in achieving the plan goal of preserving natural areas.

NSP Policy	Implementation
Objective (28) To ensure that Maple is serviced to a full urban standard, in an efficient, contiguous and staged manner.	
Sanitary and stormwater servicing will be provided according to an approved Neighbourhood Design Report (NDR) for the Maple NSP. Water servicing to the NSP area will be provided in accordance with an approved Hydraulic Network Analysis (HNA). Shallow utilities (telephone, cable, etc.) will be extended into the plan area as required.	Approval of engineering drawings and servicing agreements will be required for installation of sanitary, water and stormwater servicing. Installation of shallow utilities will be executed through servicing agreements.
Rationale: This objective helps to fulfill the following higher order plans and policies: 1.) MDP priority for <i>utilization of existing infrastructure</i> and MDP Strategy 1.3.3 <i>Support contiguous development that is adjacent to existing development in order to accommodate growth in an orderly and economic fashion.</i> 2.) MDP priority for <i>managing suburban growth</i> and MDP Strategy 1.7.1 <i>Accomodate growth in an orderly, serviced and cost-effective manner.</i>	
Objective (29) To ensure that infrastructure requirements support the preservation of the identified natural areas.	
The ecological objectives of the plan will be adhered to in the preparation of more detailed technical reports such as the Neighbourhood Design Report (NDR).	A Natural Area Management Plan (NAMP) will be required prior to rezoning and will be reviewed in conjunction with the NDR.
Rationale: Preservation of identified natural areas (i.e. Fulton Creek, treed area) and Fulton Marsh can be significantly enhanced through careful attention to infrastructure design. For example, the use of vegetated channels can do more to support ecological connectivity than underground piping while preparation of a NAMP can ensure the neighbourhood design	

recognizes the hydrological requirements of the treed area.

This objective helps to fulfill the following higher order plans and policies:

1.) MDP priority for *preservation and enhancement of the natural environment and open space* and MDP Strategy 1.6.1 *Develop a comprehensive, integrated plan for the river valley, natural areas and open space lands that encourages the conservation and integration of natural areas that are sustainable and feasible.*

2.) *SND Principle 13 Use stormwater management techniques which provide an alternative(s) to the man made lakes and dry ponds typical to Edmonton.*

Sanitary Servicing

The Maple NSP can be serviced with the extension of the existing sanitary sewer trunk to the west (see **Figure 10.0 - Sanitary Servicing**). The existing sanitary trunk in 38 Avenue has sufficient capacity and will be extended into the Maple NSP. The onsite sanitary system will utilize the internal roadway system and public utility lots.

Stormwater Servicing

The Maple NSP is situated within the Fulton Creek watershed. A study undertaken by the City of Edmonton entitled *Mill Creek/Fulton Creek Area Master Plan Update P.A.C. Development* (2005) recommended the utilization of the existing Fulton Marsh SWMF for lands within Maple. The report states Fulton Marsh will require expansion to accommodate the ultimate flows. This expansion will take place within the existing Fulton Marsh limits. The storm drainage system for the plan area is illustrated on **Figure 11.0 - Stormwater Servicing**.

Water Servicing

The water distribution network for The Maple NSP is illustrated on **Figure 12.0 - Water Servicing**. Water services will enter the plan area from existing and future transmission lines located in 38 Avenue and 23 Avenue. Extensions will be constructed as required by the pace of development.

The primary source of water for the NSP area will be provided from the Burnewood Booster station located at 50 Street and 34 Avenue. A 450mm watermain travels east on 38 Avenue and currently terminates at 12 Street. At ultimate design, the main will be looped to feed Laurel. Neighbourhood Five, Tamarack and the Maple NSP's. Upgrades to the current system by EPCOR may be required to achieve adequate service pressures in the east and southeast portion of Maple. Cooperation between the developer and EPCOR will be required to ensure satisfactory staging of water servicing.

Water servicing will be designed and constructed using conventional methods for providing peak hour flows and fire flows for low and medium density residential, schools, urban services and commercial / industrial uses. Water looping will be provided in accordance with the requirements of EPCOR along with submission of a Water Network Analysis for review and approval.

Shallow Utilities

Gas, power and telephone utility services will be extended from the existing neighbourhood developments. The existing infrastructure for gas and power within the plan area will form part of the overall permanent servicing system for these respective utilities.

Development staging

The Maple NSP will be developed in stages over an approximate timeframe of ten (10) years, as the market demands. Development of The Maple NSP represents a logical and contiguous extension of the residential land use patterns currently established in the neighbouring Tamarack NSP (see **Figure 13.0 - Staging Plan**).

Transportation infrastructure to service the initial stages of the Maple NSP will be extended into the neighbourhood from 38 Avenue in the north-west and is anticipated to progress immediately south, adjacent to the CNR rail line. Stormwater servicing will have an outfall to Fulton Creek and the Fulton Marsh Natural Area. Water infrastructure and servicing will be extended from that existing in Tamarack. Existing sanitary infrastructure will be incorporated and expanded as part of The Meadows

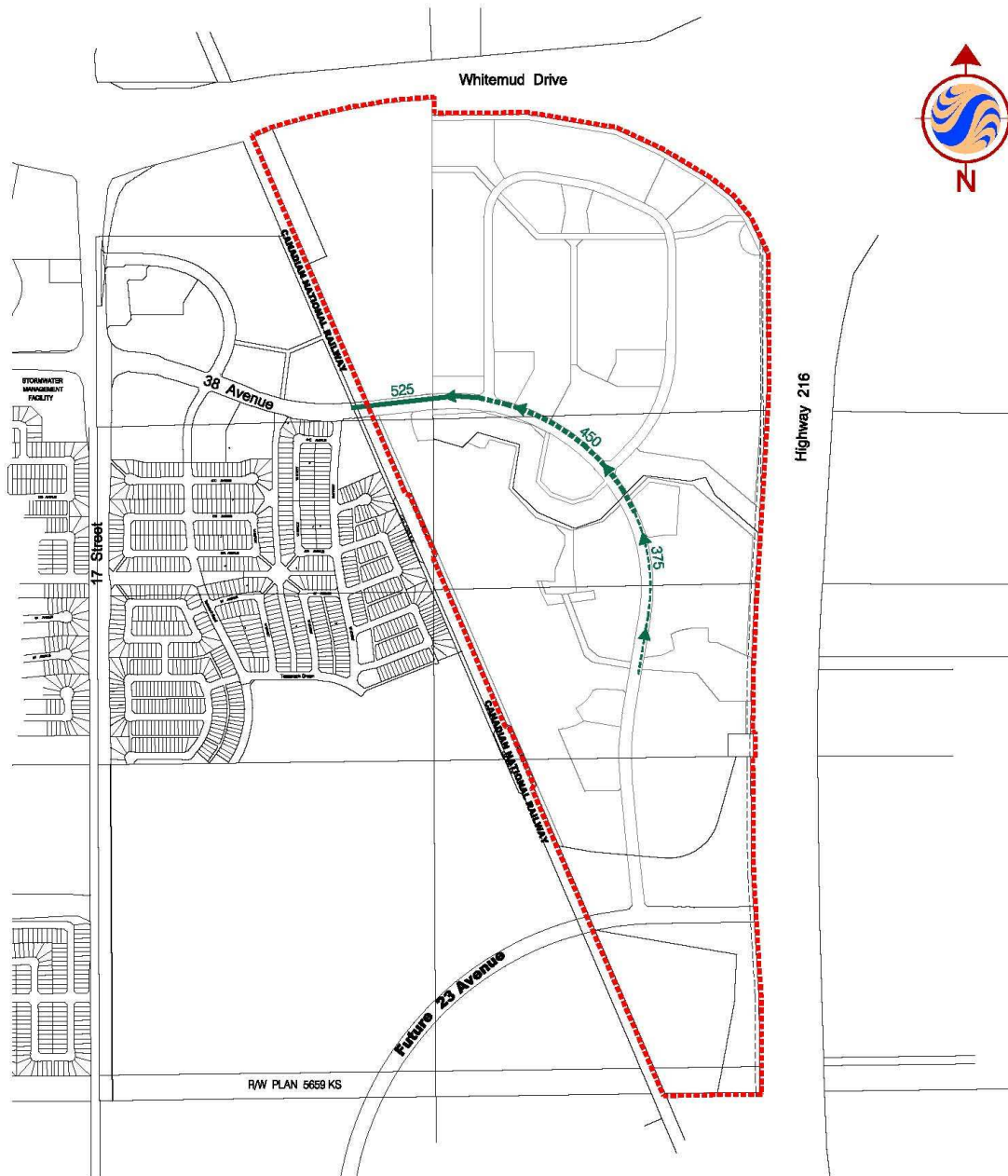
Area Master Plan. As shown in **Figure 13.0 - Staging Plan**, the initial stages of development are intended to begin where 38 Avenue enters into the neighbourhood.

Depending on contemporary market demands and aspirations of the respective landowners, development of individual phases may vary from other phased areas (including their application(s) to rezone and / or subdivide lands). As well, portions of separate phases may be developed concurrently if there is sufficient demand and / or if the resulting engineering design is more efficient.

Technical Summary

Further details regarding stormwater and sanitary drainage will be addressed in the NDR and NAMP. A Water Network Analysis (WNA) has been submitted for review by EPCOR.

Figure 10 Sanitary Servicing



Legend
 Conceptual Direction of Flow
 NSP Boundary

Client/Project
 DUNDEE DEVELOPMENTS
 MAPLE
 NEIGHBOURHOOD STRUCTURE PLAN

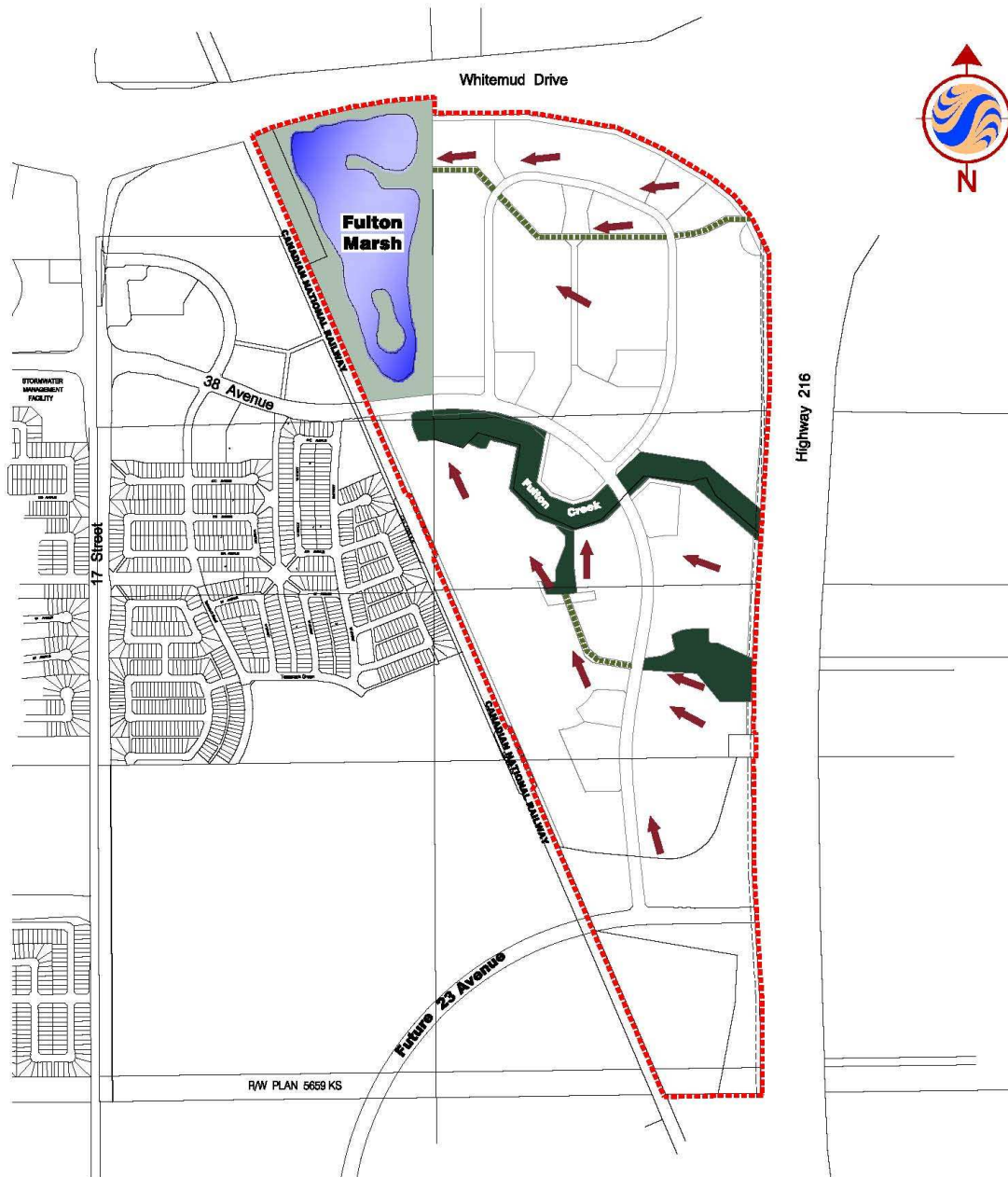
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Sanitary Servicing

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Figure 11 –Stormwater Servicing



- Legend
- Stormwater Management Facility
 - Conceptual Direction of Flow
 - Vegetated Drainage Channel
 - Natural Areas
 - NSP Boundary

Client/Project
DUNDEE DEVELOPMENTS
MAPLE
NEIGHBOURHOOD STRUCTURE PLAN

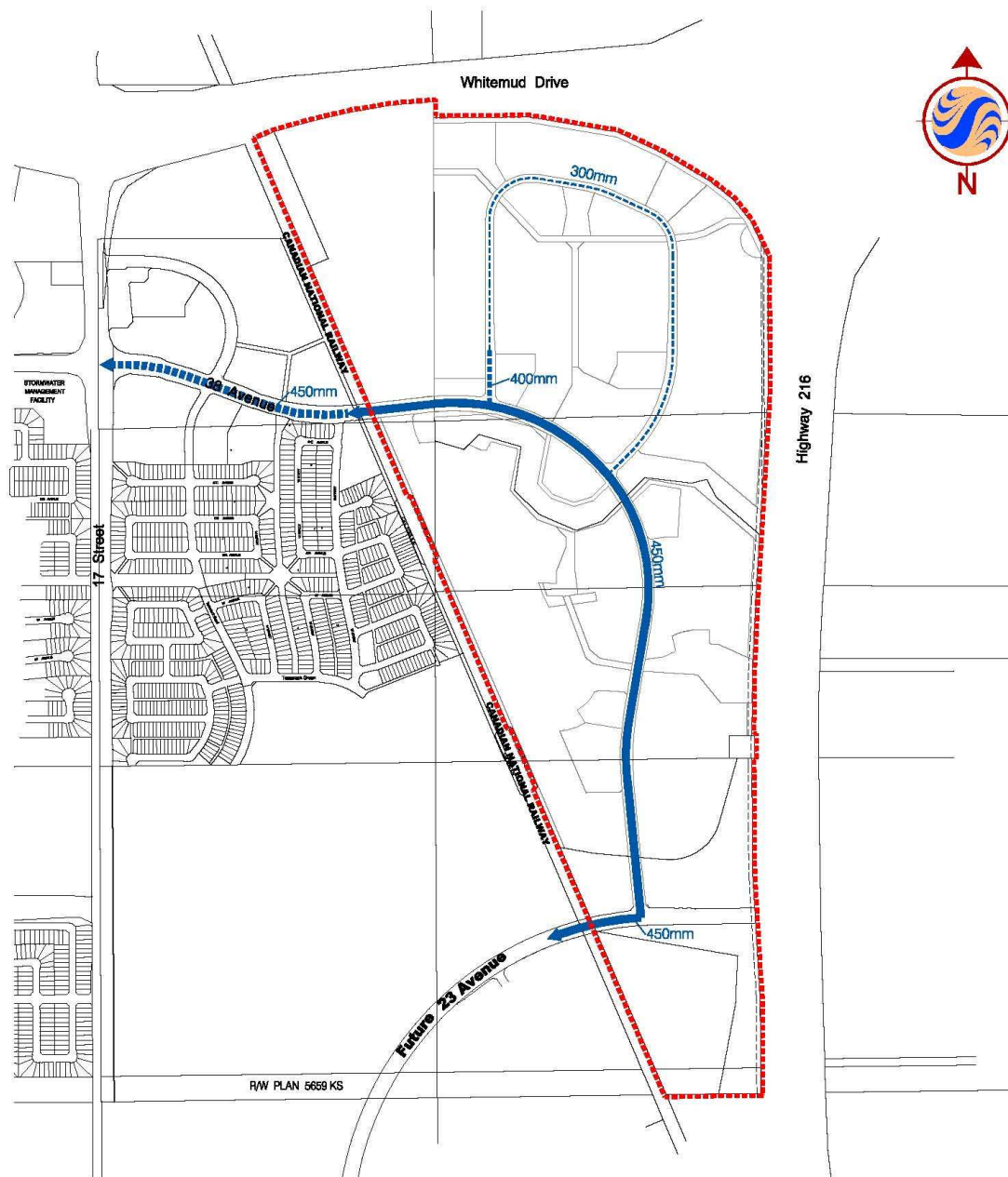
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Stormwater Servicing

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Figure 12 Water Servicing

**Stantec**

Legend

- - - - - Future Watermain - 300mm
 ■ ■ ■ ■ ■ Future Watermain - 400mm
 ■ ■ ■ ■ ■ Future Watermain - 450mm
 ■ ■ ■ ■ ■ Existing Watermain - 450mm
 - - - - - NSP Boundary

Client/Project

DUNDEE DEVELOPMENTS

MAPLE

NEIGHBOURHOOD STRUCTURE PLAN

Figure No.

12.0

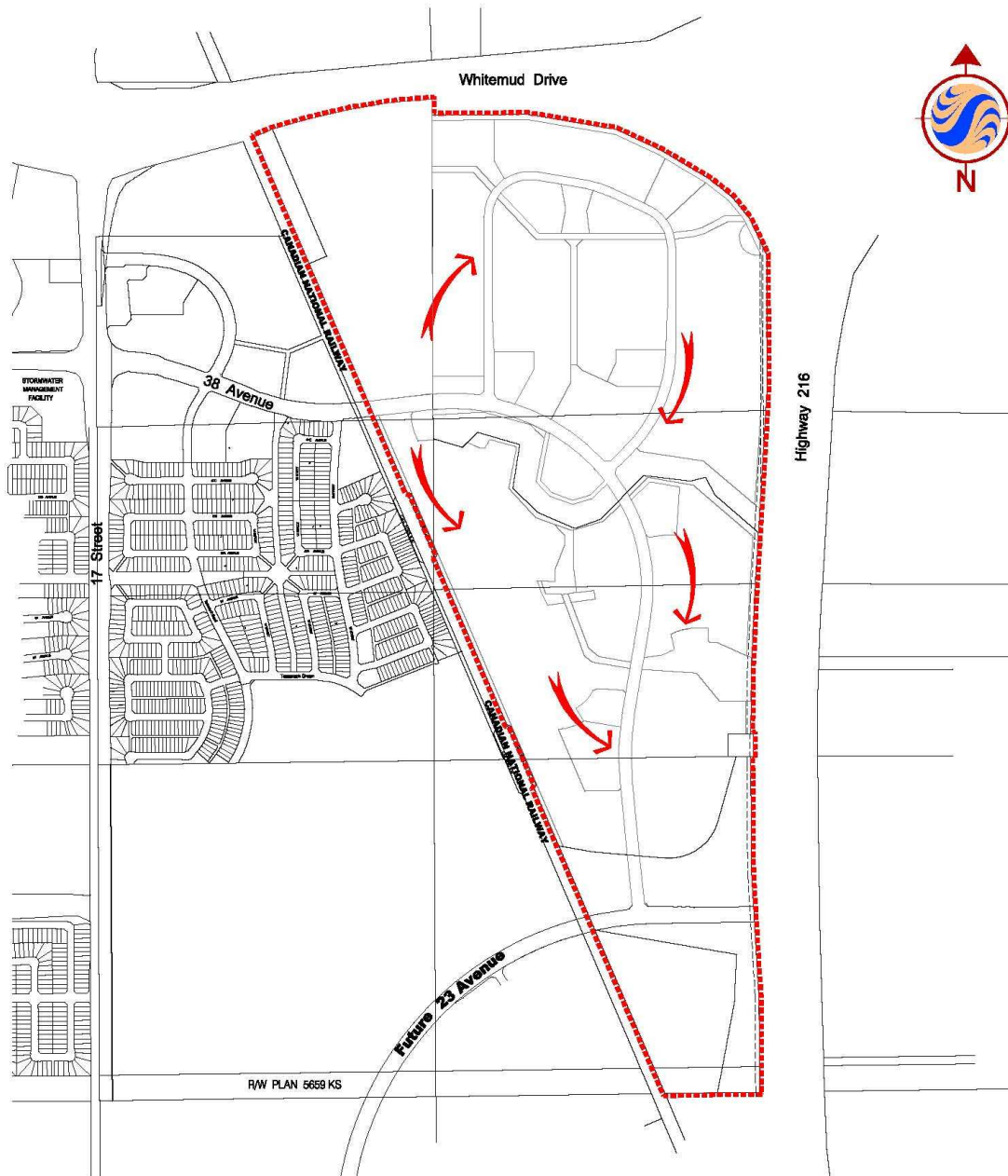
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Water Servicing

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Figure 13 Staging Concept



Legend
 General Direction of Development
 NSP Boundary

Client/Project
 DUNDEE DEVELOPMENTS
 MAPLE
 NEIGHBOURHOOD STRUCTURE PLAN

Figure No.
13.0

Title
Staging Concept

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