

NORTHSHORE AREA STRUCTURE PLAN

City of Cold Lake
Bylaw 421-LU-11

**CITY OF COLD LAKE
BYLAW #421-LU-11**

A BYLAW OF THE CITY OF COLD LAKE, IN THE PROVINCE OF ALBERTA, TO
AMEND BYLAW NO. 283-LU-07, NORTHSHORE AREA STRUCTURE PLAN

WHEREAS, the lands described as NE 22-63-2-4, NW 23-63-2-4, SE 22-63-2-4, and Pt. of SW 23-63-2-4 are included within the Northshore Area Structure Plan, Bylaw No. 283-LU-07; and

WHEREAS the City of Cold Lake has deemed it necessary to amend Schedule "A" of Bylaw 283-LU-07, Northshore Area Structure Plan.

NOW THEREFORE, pursuant to the authority of the Municipal Government Act, Revised Statutes of Alberta 2000, Chapter M-26, as amended, the Council of the City of Cold Lake duly assembled enacts:

1. Bylaw No. 283-LU-07 Northshore Area Structure Plan is hereby amended by replacing Schedule "A" with Schedule "A" attached hereto and forming part of this Bylaw.
2. Council Motion #2008-129 of April 22, 2008 to adopt the Parkview Estates Outline Plan is hereby rescinded.
3. This Bylaw shall take effect on the date of the final passing thereof.

FIRST READING passed in open Council duly assembled in the City of Cold Lake, in the Province of Alberta this 11th day of October, A.D. 2011, on motion by Councillor Buckle.

**CARRIED
UNANIMOUSLY**

SECOND READING passed in open Council duly assembled in the City of Cold Lake, in the Province of Alberta this 8 day of November, A.D. 2011, on motion by Councillor Buckle.

**CARRIED
UNANIMOUSLY**

THIRD AND FINAL READING passed in open Council duly assembled in the City of Cold Lake, in the Province of Alberta this 8 day of November, A.D. 2011, on motion by Councillor Lay.

**CARRIED
UNANIMOUSLY**

Executed this 15 day of November, 2011

CITY OF COLD LAKE



MAYOR



CHIEF ADMINISTRATIVE OFFICER

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2011 Amendment based on 2007 Northshore Area Structure Plan prepared by FOCUS Corporation

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Introduction

Purpose

This document is an Area Structure Plan to support the long term development of an area approximately 245 hectares in size within Cold Lake North. It is specifically located in the northwest corner of the intersection of Highways 28 and 55, south of 1st Avenue and east of the City of Cold Lake municipal boundary. This area will be called Northshore henceforth to reflect the heritage of nomenclature referring to West Coast landmarks, and to reflect its location in north Cold Lake within easy proximity to the Cold Lake shoreline.

The purpose of this document is to provide a statutory framework to act as a roadmap for the efficient and logical development of this area. This plan will address planning issues in a comprehensive manner, in order to effectively coordinate infrastructure and circulation design in conjunction with the spatial organization of land uses to ready the project for development.

Background

Cold Lake is characterized largely by its connections to the armed forces and the oil and gas industry, as well as its importance as a tourist destination. Given projected expansions in the both the military and resource sectors, additional development areas will be required to meet the challenge of a growing economy and diverse workforce.

Development in Cold Lake has been characterized by small, isolated development projects filling in undeveloped areas. As it will be the largest new development area in Cold Lake's recent history, a comprehensive planning framework that would resolve planning issues in this area on a more global level was appropriate.

Development Area

Location & Context

The subject site is located in the northwest corner of the intersection of Highways 28 and 55, south of 1st Avenue and east of the City of Cold Lake municipal boundary. The Northshore area contains approximately 245 hectares of land. (Map 1)

Existing uses within the plan area include the hospital and a small residential development in the northeast, along with several farmsteads scattered throughout the plan area. In addition to this, a lot to the northwest is currently being used for industrial development. A site adjacent to Highway 55 in the southwest currently houses a religious assembly use. The plan area also contains a number of utility rights-of-way to incorporate existing sanitary and waterlines in the area.

Topography & Vegetation

Portions of the site have been cleared for agricultural use, but much of the overall plan area is covered by trees, shrubs, and native grasses. The site is gently rolling, with several low-lying areas, some of which are subject to seasonal occurrences of standing water. The relief is highest in the southeast corner, and generally slopes towards the northwest. Existing natural features and topography are shown Map 2.

The site also contains a large natural area in the western half of the plan area, which is thought to play a part in the regional drainage system. This area is currently providing wildlife habitat. Anecdotal evidence from area residents have identified a range of animals using the area, including foxes, deer, and bears. The area is also currently providing ecological connectivity to the lake and the other significant open spaces, such as those within the nearby Cold Lake Reserve. An approximation of the area subject to seasonal standing water has been identified within this plan as a combination of open space and drainage corridor. This will be subject to refinement at the subdivision plan stage.

Soils

Soil information has been studied in detail for the southwest portion of the plan area. According to a Geotechnical Investigation undertaken by AMEC Environmental in November 2006, the southwest portion of the plan's soil consists of topsoil overlaying clay till. Below the clay till is a layer of medium grained sand, which was located four metres or more below grade.

These soils are suitable for development. However, a high water table was identified for the parcel. It is anticipated that the soil information for the southwest quarter will be generally consistent across the plan area. In regard to the high water table, we anticipate that areas of low elevation within the plan area may require de-watering methods to be undertaken as a part of any excavation activities. Geotechnical studies for each development area will be required prior to construction to confirm these assumptions.

Ownership

Excluding the three existing residential subdivisions, the remaining lands within the ASP area are comprised of 13 titled parcels held by 10 individual land owners, including both public and private entities.

Policy Factors

General

It is necessary to examine the various relevant policy documents that will affect the plan area before determining relevant specific development plans.

Municipal Government Act

Area Structure Plans are regulated by Section 633 of the Municipal Government Act, which identifies the key parameters that must be addressed as a part of an Area Structure Plan Bylaw. These parameters include the development sequence; the proposed land uses and densities for the area, either generally or specifically; the general locations of public utilities and transportation systems; and any other factors that Council deems necessary.

The Area Structure Plan is considered a statutory document, and must be consistent with all higher order plans, which include the Municipal Development Plan and Provincial Land Use policies.

Municipal Development Plan

The City of Cold Lake Municipal Development Plan (2007) was prepared based on the original Northshore Area Structure Plan (2007) and therefore reflects the original land use concept. Following approval of this amended ASP, the Municipal Development Plan will require amendment to reflect the revised land use allocations.

Land Use Bylaw

Under the City of Cold Lake's Land Use Bylaw, the majority of the site is designated under the Urban Reserve (UR) district, with the existing hospital and residential developments designated under the Public Services (PS) and Residential (R1A), (R1B) and (R1B-1) districts. The existing industrial use in the northwest portion of the plan area is designated Light Industrial (LI).

It is anticipated that the areas designated UR in plan area will be redesignated in accordance with the provisions of this Area Structure Plan, and the City of Cold Lake Land Use Bylaw. Redesignation of lands shall take place at such time that the plan of subdivision is registered and the developer has entered into a Development Agreement with the City of Cold Lake.

Department of National Defence

The plan area is located in relatively close proximity to 4 Wing, the armed forces base in Cold Lake. As this area facilitates a significant amount of air traffic, regulations to manage ground conditions to reduce the risk associated with bird populations and air traffic are in place in this location. Specifically, most of the plan area is within the eight kilometre radius from the air strip, which is defined as the 'Total Bird Hazard' area. Within this area, no activities can be undertaken that will increase the number of birds populating the area. This provision has no significant impact on most aspects of development, but does play a key factor in the selection of storm water management techniques, as the traditional pond system attracts waterfowl and other birds. Therefore, all portions of the plan area that are within the eight kilometre radius must use alternative storage methods that do not incorporate areas of permanent standing water, such as the use of dry ponds or subsurface wetlands.

Development Strategy

Overview

The Northshore ASP's overarching goal is to provide parameters to guide the development of a whole, coordinated, and functioning community that will positively contribute to the social and economic fabric of north Cold Lake. Northshore will develop into an area where people live, learn, shop, and recreate within their own community. Figure 4 illustrates the overall land use concept.

Northshore has been designed to become a 'community within a community', offering the benefits of some internal services and facilities while still maintaining its connection with the community at large to access regional facilities and major sources of employment. These internal services will include small scale commercial opportunities at the centre of the community, with ancillary institutional uses augmenting the medical services already provided by the hospital. A limited amount of highway oriented commercial will provide some additional variety in commercial opportunities in the immediate vicinity.

Northshore is intended to create cohabitation between the residential community and the natural environment by preserving existing wildlife corridors and bringing trees and nature into the streetscapes and public spaces to preserve some of the site's habitat and provide character to this community. The plan has been designed to augment and highlight the natural environment by providing connections to the natural areas through roadway and pedestrian linkages, and allows for a variety of housing choices in the vicinity of a diversity of open spaces.

Also, Northshore will provide lifestyle choices for all age groups and abilities. A diversity of housing styles will span the gamut of life stages to allow for a diverse and varied community, and will also allow residents to continue to live in their community as their lifestyles change and adapt. A person could grow up in a single family home, move to their first apartment, start a family of their own, and later retire without having to leave the community to find suitable housing to their family needs. Also, providing goods and services within walkable ranges helps to reduce overall reliance on vehicle trips and promotes incidental exercise.

The following provides the policy framework that will facilitate the actualization of this vision.

Community Design Principles

Global design principles are identified below to guide the development of the community. Additional land use specific principles will be identified in their respective sections.

1: Variety in Housing Styles

The mixing of housing styles and sizes is encouraged throughout the neighbourhood, in order to develop a varied urban environment. Residents from a range of incomes and lifestyle choices will be encouraged to live amongst each other.

Criterion:

- Houses are encouraged to be developed with different architectural details than those within their immediate vicinity.

2. Community Centred Design

Each residential development should be incorporated into the features and systems that surround it to ensure that a cohesive community is achieved.

3. Walkability Promotion

A pedestrian friendly environment increases safety, promotes incidental exercise, and assists in encouraging a positive sense of community ownership.

Criteria:

- Open spaces, services, and institutions should be dispersed throughout the plan area to promote walkable access to these amenities;
- Residential housing may front onto collector roadways to promote a pedestrian friendly streetscape; and
- Small, sub-neighbourhood level private or public open spaces are encouraged to provide localized areas of human interaction.

4. Safe Residential Environments

Safety and feelings of security are hallmarks of healthy and sustainable communities, and should be considered as a part of neighbourhood design.

Criteria:

- Subdivision design and landscaping should consider clear sightlines and reduce potential entrapment locations; and
- Natural surveillance of public open spaces should be encouraged through the placement of roadways and adjacent development.

5. Environment Orientation

Integration and cooperation of development with the existing context of the landscape create unique and appealing communities. It also allows the maintenance of aspects of the original ecosystem's functionality.

Criteria:

- Housing will be oriented towards major view corridors, where available;
- Developments should consider the potential of maximizing passive solar energy and other energy saving considerations when undertaking site planning, architecture and/or landscaping; and
- Development is encouraged to maintain existing tree stands or other natural features, where these features can be sustainably integrated into development.

6. Density Balance

Establishing an overall residential neighbourhood density that addresses the community's housing needs without creating a sense of crowding is important to the community's fabric.

Criteria:

- Northshore's density ratio will strive for approximately 75% low density (single family) to 25% medium and high density (multifamily) development in keeping with the City's Municipal Development Plan; and
- All high density projects should consider transitions into low density areas.

Low Density Residential

Single detached lots will be located throughout the plan area. They will be developed in accordance with the provisions of the existing low density land use districts found in the Land Use Bylaw. As the primary land use within the plan area will be the provision of single detached residential housing, its ultimate development will have a significant impact on the character of the overall project. Additional design criteria are as follows:

Criteria LDR1: Residential housing may not front onto arterial roadways.

Low density residential development may consist of a mixture of laned and un-laned lots. Single detached housing may not be oriented to front onto arterial roadways. Low density residential development may front onto collectors, but are encouraged to be developed with a laneway and rear access parking facilities in order to reduce issues related to on street parking and cars accessing the collector from front-attached garages. Where the lot has direct access to a rear lane but is not fronting a collector roadway, the development of detached rear garages is encouraged but is not mandatory.

Criteria LDR2: Consider streetscape variation using alternative front garage locations.

Where lots do not have access to a lane in order to develop a detached garage and accommodate resident parking requirements, a variety of options for the provision of a front access garage are available. Garages may be attached and extend beyond the facade of the house, which is typical practice for many low density residential communities (1). On wider lots, a few additional options are also available. Garages may be detached and placed at the rear of the property with access provided by way of a side yard (2). Garages can also be attached and recessed slightly from the primary facade (3), or attached directly to the primary facade (4). Each of these options is shown below:



These options only act as examples of the myriad of design possibilities available to vary the front garage's relationship with the house itself. The use of a range of front access garage methods is encouraged to promote a varied streetscape and more visual interest to the community.



Alternative Garage Examples

Criteria LDR3: Variation in building facade treatments is encouraged.

In addition to varying the streetscape using garage placement, developments are also encouraged to vary front facades, building heights, and finishing details to further create community definition and a unique community identity. However, the final designs must attempt to work together to achieve a level of aesthetic harmony. The

sketches and image below identify how variation can be achieved, while still providing a cohesive and coordinated development aesthetic:

Facade Variation Examples



Criteria LDR4: Buffering and/or transition spaces must be considered when developing low density residential adjacent to more intensive land uses.

The consideration of buffers, screening methods, or appropriate building transitions is key to the harmonious development of the plan area. All efforts must be made to ensure that development of low density residential housing is sensitive to its surrounding context. Its development must not cause undue conflict with adjacent uses.

Multifamily Residential

Multifamily (medium and high density) residential development will provide enhanced lifestyle choices for residents in the broader Cold Lake region. Overall, the City of Cold Lake has a very low percentage of overall multifamily density residential in the community. Northshore intends to provide an increased amount of multifamily residential than has typically been provided in Cold Lake, without significantly deviating from the low density character of existing development in the vicinity.

Multifamily residential would include both medium and high density residential development. Medium density residential may consist of semi-attached dwellings, townhousing or stacked townhousing. High density residential would consist of apartments or apartment-style condominiums.

Criteria MFR1: Multifamily residential will be located along collector or arterial standard roadways.

Multifamily residential has been provided along the higher order roadways to ensure the highest concentrations of residents are able to access roadways efficiently to accommodate the increased traffic generation compared to low density residential development.

Criteria MFR2: Multifamily residential will be located in proximity to neighbourhood amenities and services.

Multifamily built forms are to be located within a walkable proximity to community amenity areas and/or open spaces. This will maximize the number of residents who can easily access these areas.

Criteria MFR3: Consider integration of private amenity spaces with the public realm to increase walkability and overall neighbourhood design.

Private amenity spaces and/or structures will be developed in association with low rise apartments to ensure that residents have enhanced access to neighbourhood features, and that the multifamily residential developments themselves become an asset and amenity to the community at large.

Criteria MFR4: Medium & High density residential must provide appropriate transitions between potentially impacted neighbouring land uses.

Where multifamily residential development is bordered by low density residential or commercial, it must provide adequate transition in built form to ensure that the two different scales of developments interact harmoniously. This buffering will be achieved using landscaping measures, attention to the placement and number of windows and doorways, fencing, and/or other appropriate methods to be determined at the development permitting stage.

Commercial Mixed Uses

Several varieties of mixed use buildings are encouraged in defined locations in the plan area. Commercial mixed uses will be permitted at the intersection of Hospital Road and English Bay Road.

Criteria MU1: Medium density residential will be the dominant development style in a mixed use development.

Mixed use development is intended to integrate limited service style uses into medium density developments. The intent is not to allow large scale commercial uses in these locations.

Criteria MU2: Commercial mixed uses must be community level services and amenities.

These sites are intended to facilitate community sustainability and interaction, and therefore the uses permitted should facilitate those goals. Examples of the uses anticipated to develop in the commercial or institutional mixed use areas will be identified in their individual sections below.

Criteria MU3: Ancillary uses in mixed use properties may either be adapted into a primary use structure or be freestanding structures that integrate with the primary structures.

Mixed use development is intended to provide a single, integrated site development. This can be accomplished in two ways. Developing a single building, such as a low rise apartment that accommodates commercial opportunities on the first floor, would provide the ancillary use in the same building structure. Conversely, integrating a small stand-alone pad into a surrounding development, such as a small convenience store similar in scale and building materials to a surrounding townhousing development, would also meet the aims and Criteria of the mixed use area.

The commercial mixed use area's residential component may include attached dwellings, townhousing, and/or low rise apartments. Use examples under Criteria MU2 for commercial developments appropriate to the intended development scale include convenience stores, neighbourhood bakeries, cafes, delis, or small restaurants.

Highway Commercial

A highway commercial area will be provided in Northshore at the entrance to the neighbourhood from Highway 28. Its purpose is to be dedicated for mid to large format commercial uses. These services will provide services to the people within Northshore, and also those from the surrounding area.

Criteria HC1: Highway Commercial development will be oriented towards the highway corridor only.

The highway commercial area is intended to provide services to the highway corridor, which can also be accessed using high order roadways within the plan area. Local roadway connections to the highway commercial area are not permitted to reduce shortcutting of non-residential traffic.

Criteria HC2: Buffering is required between the Highway Commercial area and surrounding residential development, and must consider noise, light, and building massing.

Any highway commercial development in this area must respect its surrounding context, and therefore must address its transition into the low density residential development intended to border this area. Use of fencing, directional lighting, careful placement of loading bays, and other buffering methods should be considered at this transition.

Institutional Uses

The existing religious assembly use will be integrated into the Northshore plan. Access into and out of the site is currently accommodated from Highway 55. As the residential development proceeds, its access will change to the internal roadways and the Highway 55 access will be abandoned.

The existing hospital site will remain unchanged in its current location and will be augmented by the addition of some institutional lands to the south.

Light Industrial Uses

The north-west portion of the plan area has been designated for Light Industrial purposes. A portion of this area known as Lot A was previously used as a sewage lagoon by the Town of Cold Lake. This lagoon was subsequently decommissioned and reclaimed by Alberta Environment in the mid 1980's.

The light industrial area will be buffered from the surrounding residential land uses by the large open space/drainage area and a Neighbourhood commercial area on the east and a drainage course/green buffer on the south. Adjacent lands located directly north of 1st Avenue (outside the plan area) are currently designated for light industrial use. Traffic generated by the light industrial businesses has a direct route away from the City via 1st Avenue, thus avoiding residential areas.

Typical examples of Light Industrial uses would include: business support services, automotive and equipment repair or rental services, general contractors or storage.

Heavy Industrial Uses

The northwesterly corner of the plan area is designated for Heavy Industrial purposes, primarily to support the existing asphalt operation currently located there. This particular use requires the designation of an area for Heavy Industrial given that such operations may produce some dust, noise or odor. The Heavy Industrial area is buffered from residential development by the Light Industrial area and the open space/drainage area.

Emergency Services

Emergency Services are provided by the Royal Canadian Mounted Police, from the main detachment located in Cold Lake South, Cold Lake Ambulance Society from the Hospital and Cold Lake South, and the City of Cold Lake Fire Rescue from stations in both Cold Lake North and South. It is anticipated that a new fire hall to replace the existing facility in Cold Lake North, will be located within the plan area at the intersection of the two arterial roadways.

Green Infrastructure

General

The open space system in Northshore has been designed to provide access to natural features and centrally located open spaces. (Map 5)

Open Space Principles

1. Variety in Park Provision

Several different park styles will be provided to appeal to all resident interests and activity levels. Open spaces will provide passive recreation with optional active options, such as a play structure, as well as providing storm water management functions. Community level parks will provide full active and passive recreation spaces. Storm water management facilities have also been incorporated into the neighbourhood to provide unique open space features to the neighbourhood.

Criteria

- Both passive and active recreation opportunities will be provided within the plan area; and
- A portion of the periphery of stormwater facilities will be freely accessible to the public.

2. Ecological Connectivity

Parks and the open space system should attempt to maintain some of the existing natural functionality of the site.

Criteria:

- Create a linked system of open spaces that provide connectivity to other natural areas in the broader region;
- Maintain existing trees and site features in some parks and open spaces; and
- Integrate development with natural features, where feasible.

3. Municipal Reserve Dedication

The use of municipal reserves for the purpose of providing 'green infrastructure' to the community is critical in its liveability and day-to-day function. Neighbourhood and area level parks provide significant community value, provide destinations for pedestrian traffic, become neighbourhood landmarks, and add beauty and character to communities.

Criteria:

- Each subdivision plan must provide municipal reserve dedication in accordance with Section 666 of the Municipal Government Act; and
- Priority will be placed on providing municipal reserves as land rather than cash, where logical, for the benefit of the community at large.

School Site

An elementary school site 4.6 hectares in size has been located in the centre of the plan area. It will provide a significant open space opportunity for the community, and will contain active use facilities, such as a ball diamond, soccer field, and/or play structures that will be accessible to the public. Joint use of this facility for school purposes as well as community events and programming is encouraged to fully incorporate the site into the community fabric. This school will accommodate the majority of the elementary school children anticipated in Northshore, with the balance attending surrounding schools.

Storm Water Management Facilities

A number of storm water management facility locations have been accommodated within the plan area. These ponds also serve as amenities for residents by incorporating a functional water feature or open space within their community.



Dry Pond Example



Wet Pond Example

Open Space/Drainage Area

An existing low-lying area in the west portion of the plan area is expected to be utilized as an open space amenity that will also provide for storm water management, and act as a natural buffer between the light industrial area in the northwest corner of the plan and the residential neighborhoods. The open space/drainage area will be provided through a combination of municipal reserve, and public utility lots as appropriate to support recreational, or storm water management uses. The overall system will provide habitat, ecological connectivity, and a significant open space amenity that will provide community character, views, and scenic walks for the entirety of the Northshore area.



A biophysical assessment of the ASP area was conducted in 2007 by Spencer Environmental Management Services Ltd. in conjunction with the preparation of the original Northshore ASP. The report notes that the area was not considered to be a wetland by Alberta Sustainable Resource Development as none of the water bodies within the plan area are considered to be permanent, naturally occurring features.

Linear Parks

Two significant linear parkways have been provided in the plan area; one located in the central west area of the plan, and the other east of English Bay Road. These linear parks, in conjunction with linear public utility lots, are intended to provide connectivity into and out of the open space/drainage area, school site and neighbourhood open spaces.

The linear parks also have the potential to provide trail connections through the plan area that will allow for future regional railway linkages.

Local Parks

The remaining municipal reserve allocation is to be provided as small local parks or 'tot lots' that will provide localized amenities for area residents. These small parks are to be generally located in portions of the plan that are the farthest walking distance from an area or regional level park space. Local parks may also be used to provide enhanced entryways into other community amenities, such as the open space/drainage area or public utility lots.

Criteria LP1: Local parks are to be identified and specifically located in subdivision plans.

Local parks are important to the overall functionality of the community at large. The size of local parks may range in size between 1 and 2 hectares, depending on the needs of the neighbourhood. A specific allocation of the municipal reserve will be determined at the subdivision plan level.

Criteria LP2: Local parks require a minimum roadway frontage of 20% of their overall perimeter.

While local parks are intended to be small and local in nature, it does not mean that they should be allocated as afterthoughts or in undesirable development locations. Therefore, a minimum frontage ensures that the parks are accessible by the general public and provides street parking opportunities. Ensuring a minimum amount of street frontage also provides for more open sightlines into local parks.



Park Frontage Example

Public Utility Lots

Public utility lots will be used throughout the plan area to facilitate access and provide protection for utility lines and orientations. The existing alignment of English Bay Road to be abandoned as development proceeds will be converted to a public utility lot to protect the existing sewer right-of way within it, which will provide an additional walkway linkage to the centre of the community.

Transportation

Overview

A logical and efficient transportation system is imperative for the functionality and connectivity of any neighbourhood. A functional roadway hierarchy will be put in place to provide convenient access for all residents of the area. Of equal importance will be the pedestrian linkages, which will also facilitate circulation throughout the community. The proposed arterial and collector roadways are shown in Figure 4.

Transportation Principles

This area will be governed by the following global parameters relating to the transportation system:

1. Hierarchical System

Roadways will be developed in a hierarchical system in order to effectively sort and channel traffic.

2. Frontage on Community Facilities

Reasonable roadway frontage will be provided to public open spaces to ensure community accessibility to these features.

3. Pedestrian Access

Pedestrian access will be provided to major facilities and open spaces through a combination of trails and sidewalks.

Transportation Network

The transportation system will consist of an arterial and collector system, with local roadways radiating from the system. This will allow heavier traffic to concentrate on a few higher order roadways capable of handling larger volumes. This also keeps traffic on local streets to a minimum, thereby improving safety and contributing to the residential nature of these roadways.

English Bay Road and 25th Street (Hospital Road) will function as arterials within the plan area, as they create important highway connections that will be used by the broader community. The looped roadway serving the western portion of the plan area will be classified as a major collector roadway. Conceptual orientations for the minor collectors and local roads to be located in each development cell are defined on Map 4: Development Concept, and will be further refined at the subdivision stage as development proceeds.

The ultimate roadway standard within the plan area will be urban for all order of roadway. Planted boulevards are encouraged throughout the plan area to provide a buffer between pedestrian and vehicular traffic and to provide convenient locations for snow storage.

Pedestrian & Bicycle Linkages

Pedestrian and bicycle linkages will be provided throughout the plan area to facilitate non-vehicular movements. Several linear parks and public utility lots within the plan area have the potential to develop as pedestrian and bicycle linkages with the school site and open space/drainage area as focal points.



Trails connecting to the school assist in providing a healthy atmosphere for school aged children, as it provides families the ability to incorporate walking to school into their daily routine, which reduces vehicle trips and increases incidental exercise opportunities.

Additional pedestrian linkages will be provided throughout the roadway system through sidewalk access and trails adjacent to stormwater facilities and smaller order park spaces.

Servicing

General

Servicing for the Northshore plan will be provided in accordance with City of Cold Lake Engineering Standards and requirements.

Servicing Principle

This area will be governed by the following principles pertaining to the provision of servicing:

1. Efficiency

Servicing will be provided in as efficient a manner as possible in order to reduce the long term costs of infrastructure maintenance.

Criteria:

- Servicing will connect to existing systems in the area; and
- Most efficient method of servicing will be undertaken.

Sanitary Sewer

Northshore will be serviced through the existing sanitary sewers within the plan area. An existing line extends south from 1st Avenue generally along the alignment of the existing English Bay Road to the sanitary lift station north of Highway 55. The second extends from existing development to the east of the plan area and connects to the line in English Bay Road at roughly the centre of the plan area. Development in Northshore will connect to these systems as development proceeds. Ultimately, all these sewers are serviced to the existing sanitary lift station located along the existing English Bay Road north of Highway 55. The sanitary servicing concept is outlined on Map 7.

Stormwater Management

Storm sewer servicing for the plan area will generally flow from northeast to southwest and will eventually discharge through the drainage channel in the southwestern portion of the plan area.

The northern-most stormwater facility may be developed as a wet pond dependent upon its final size and configuration, as it falls on the boundary of the eight kilometre bird hazard zone imposed by the Department of National Defence. Should this pond straddle the eight kilometre boundary, a dry pond may be required. All other ponds within the plan area shall be developed as dry ponds to not increase the avian population that could impact DND operations.

All of the storm facilities will be designed to work in concert to restrict runoff to pre-development or controlled rates. Available best-management practices will be considered, and incorporated where appropriate, into the design of the storm sewer collection and stormwater management facilities. The Stormwater management concept is depicted on Map 8.

Water Service

The plan area will be provided water servicing by connecting to Cold Lake's existing water distribution system in three locations. Two connections are available in the northeastern portion of the study area; one at 1st Avenue and approximately 26th Street, and the other at 3rd Avenue and 25th Street. These two connections will service the initial

phase of development in the northern portion of the plan area. The third water connection will be facilitated through the extension of an additional waterline to the south at 16th Avenue to the existing alignment of English Bay Road. This additional waterline will be required in order to provide water capacity to support the development within Northshore and will provide a necessary water main looping opportunity for the waterline connections to the north. Map 9 illustrates the water servicing concept.

A Water Network Analysis will be required in order to confirm pipe sizes and appurtenance requirements, and can be completed at the subdivision stage as development progresses.

Franchise Utilities

Franchise utilities providing natural gas, electricity, cable and telephone services will be required to support development within the plan area. All franchise utility services are currently available within the developed portions of the plan area and will be extended as development proceeds. Distribution networks for the various franchise utilities will be determined at the subdivision stage and the required rights-of-way allocated at that stage of development.

Implementation

General

The policies contained within this ASP will be implemented at the subdivision and construction phase as development progresses within the development areas contained within the plan. The subdivision plans must be consistent with the principles and criteria of the Area Structure Plan. Land shall be redistricted in accordance with the City's Land Use Bylaw following the registration of plans of subdivision for each development phase.

Staging

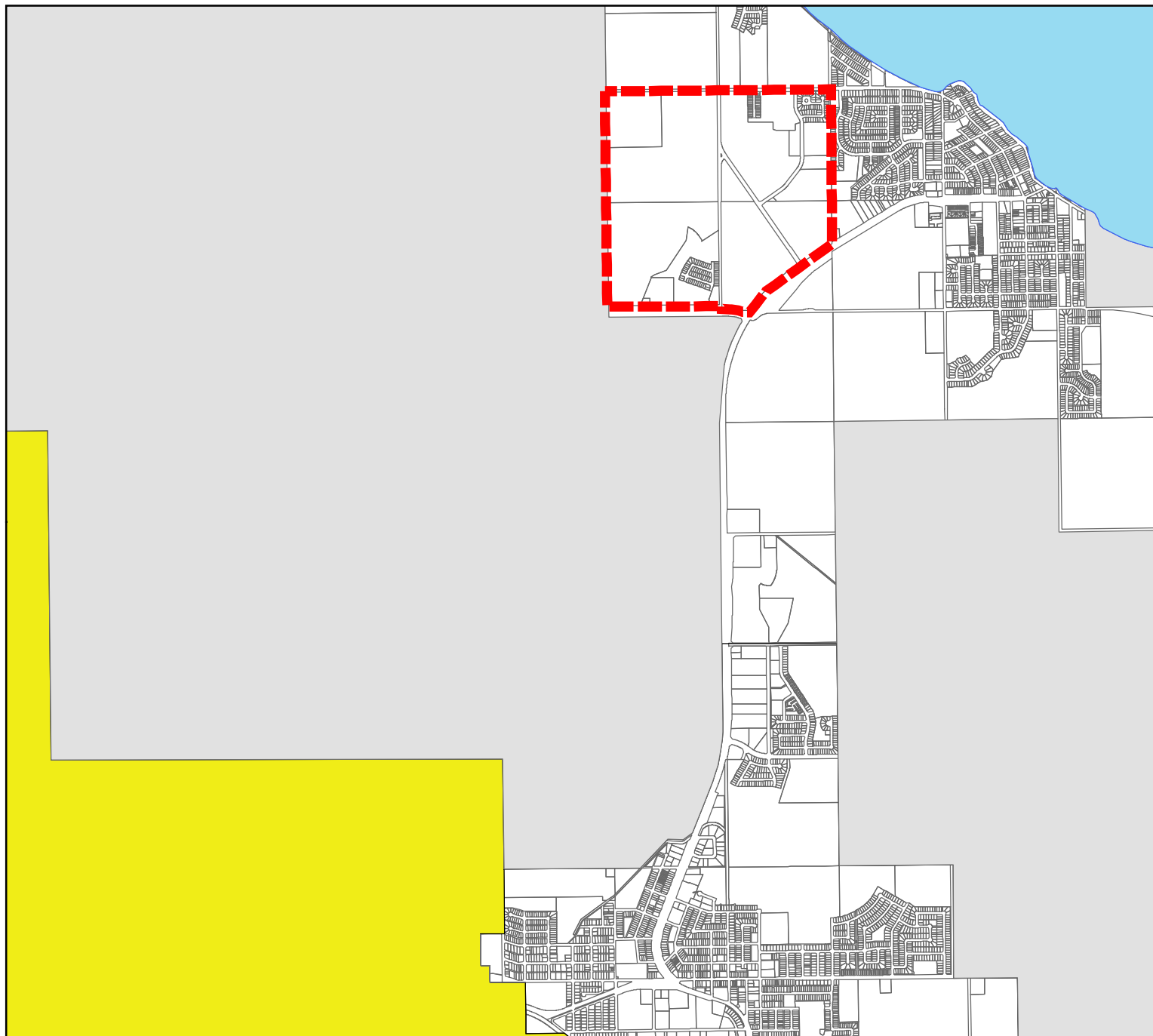
Staging will commence in the northeast, which can easily connect to existing infrastructure to facilitate initial phases of development.

It will be closely followed by the southwestern parcel, which will require the extension of the waterline. Ultimately, staging will be driven by the extension of the waterline to allow looping opportunities, which will be required for the northeast quarter to fully develop, and is required to service all remaining portions of the plan area.

The northwestern corner of the plan area, Lot A, Plan 4258TR comprising 16.2 ha, is currently developed and designated for industrial use.

It is anticipated that full build-out of the plan area will be completed within a 10 – 15 year window. However, the ultimate rate of growth in the plan area will be governed by the pace of the area economy and other salient market conditions, but will be generally in accordance with the development pattern depicted on Map 10.

Appendix A - Maps



Area Structure Plan Boundary



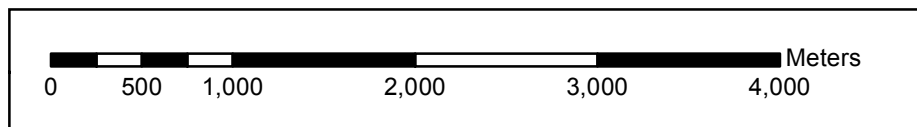
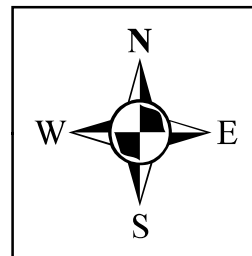
Municipal District of Bonnyville #87



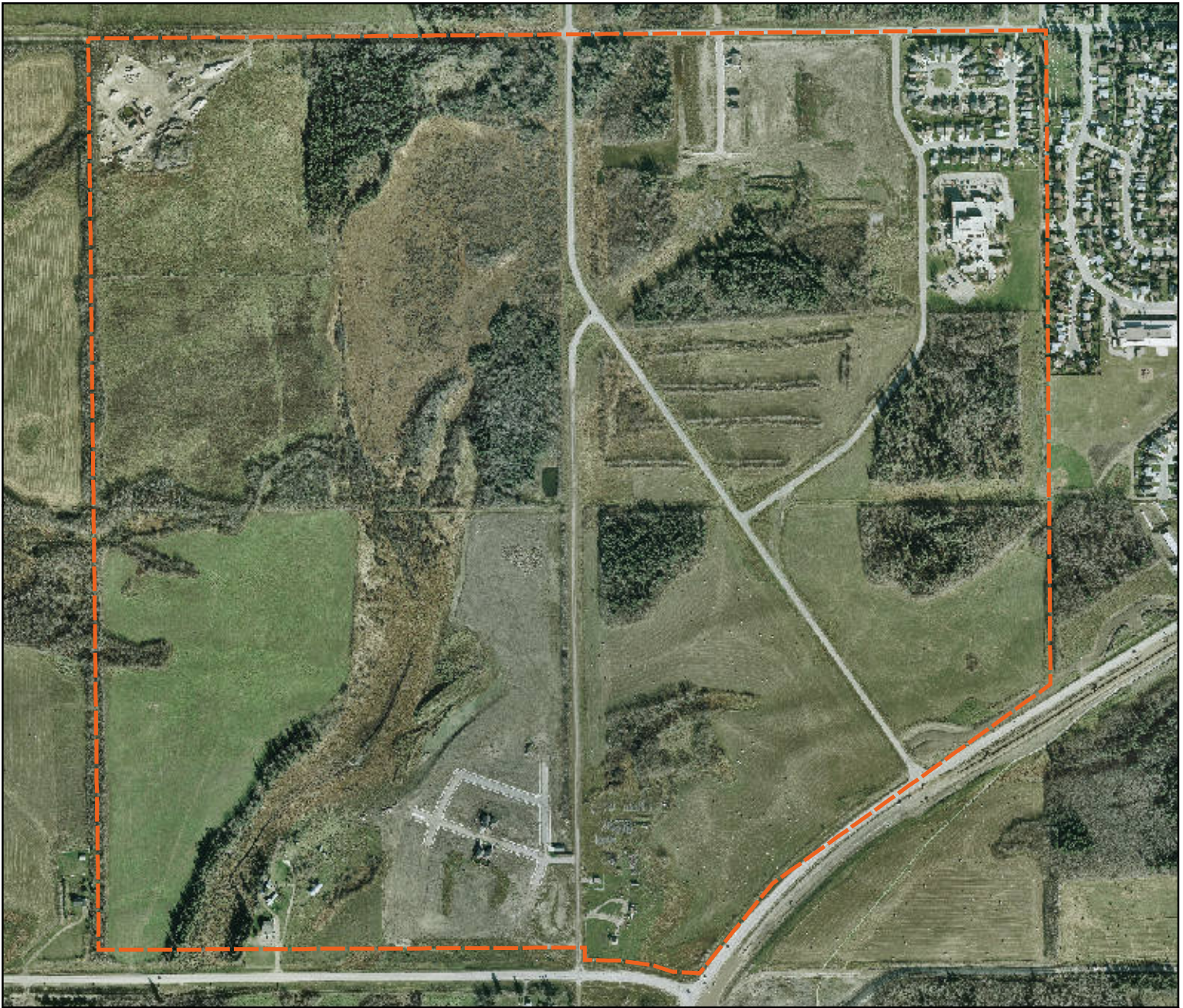
C.F.B. Cold Lake



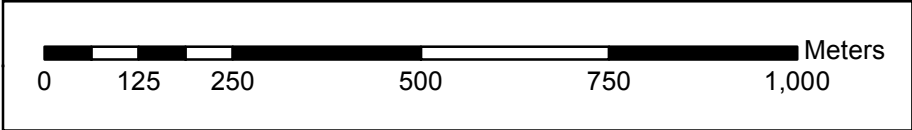
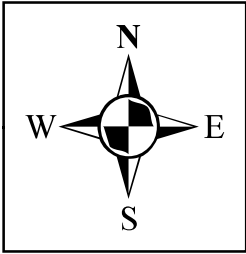
City of Cold Lake



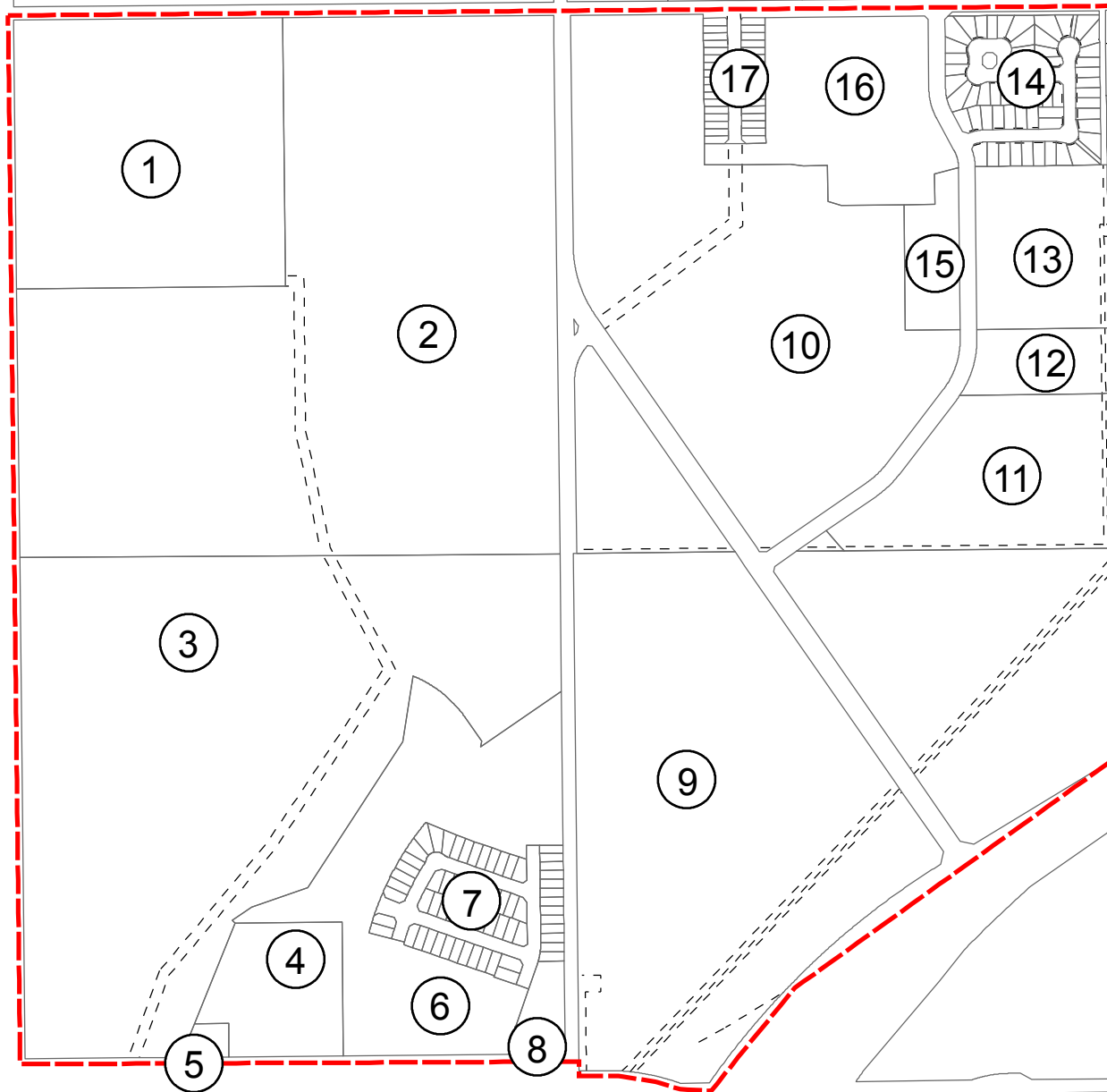
MAP 1 - Location Plan



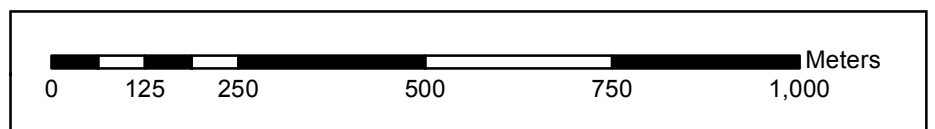
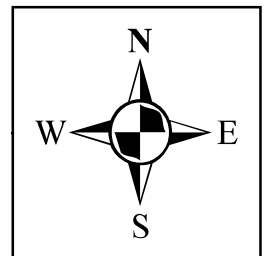
 Area Structure Plan Boundary



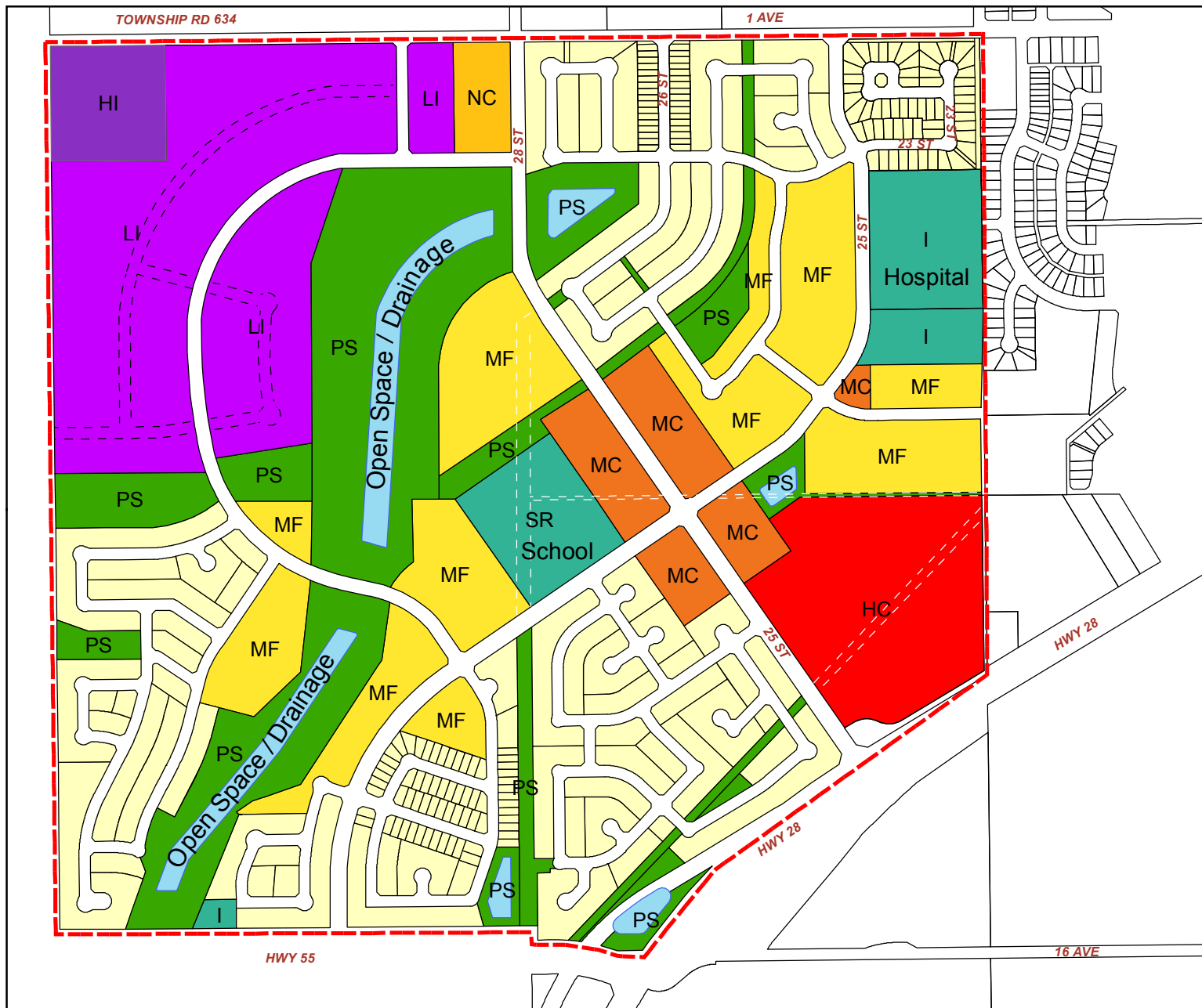
MAP 2 - Natural Features



Land Ownership Map	
Parcel Number	Current Owner
1	Public
2	Private
3	Private
4	Private
5	Public
6	Private
7	Creekside Subdivision
8	Public
9	Private
10	Private
11	Private
12	Private
13	Public
14	Pork Estates Subdivision
15	Private
16	Private
17	Parkview Estates



MAP 3 - Landownership



--- Potential Roadway

— Utilities ROW

Existing Parcels

HC Highway Commercial

HI Heavy Industrial

I Institutional

LI Light Industrial

MC Mixed-use Commercial

MF Multi-Family Residential

NC Neighborhood Commercial

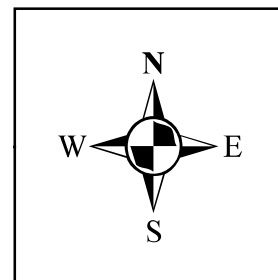
PS Public Service

SF Single Family Residential

SR School Reserve

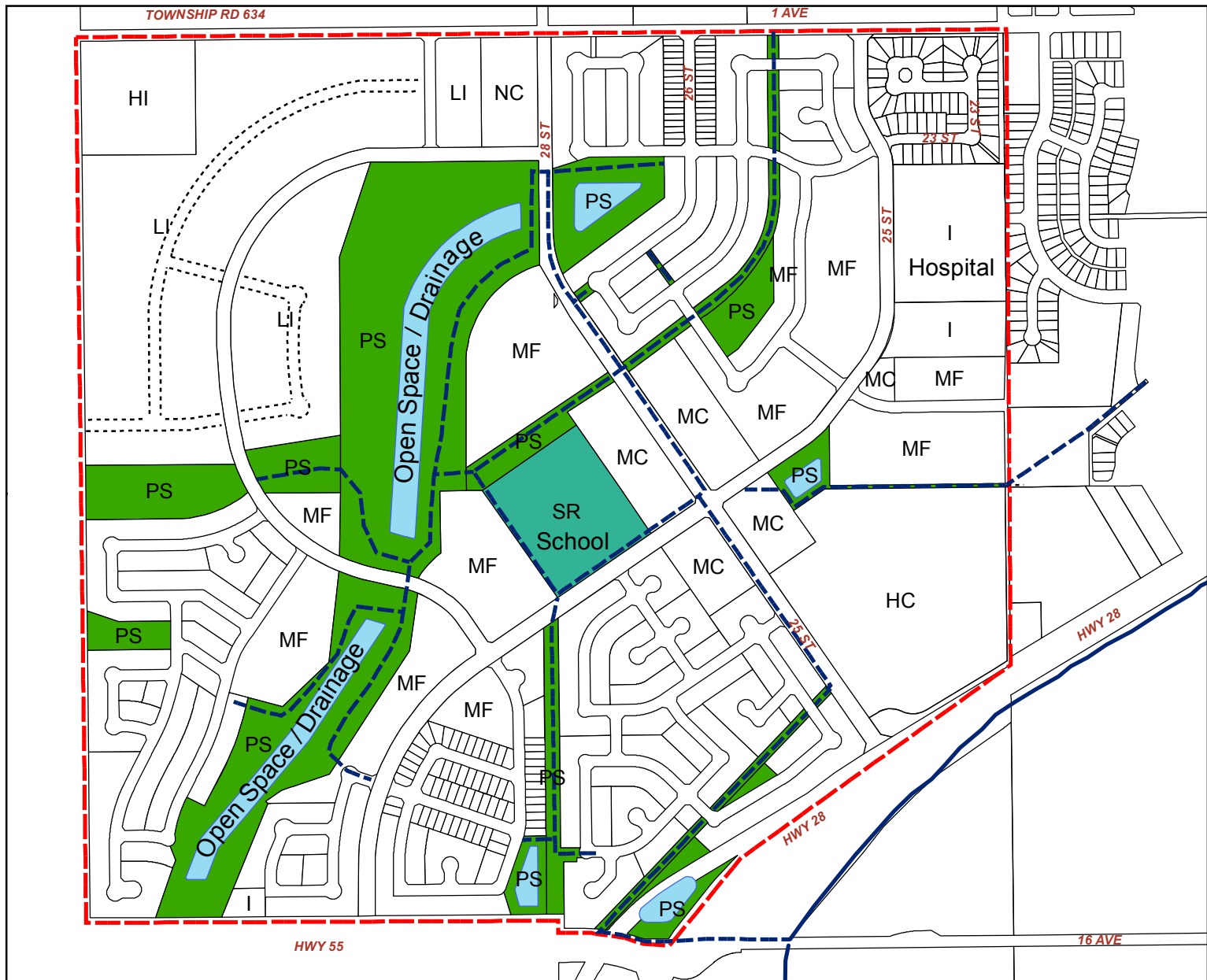
Storm Water Management Facility

Plan Boundary

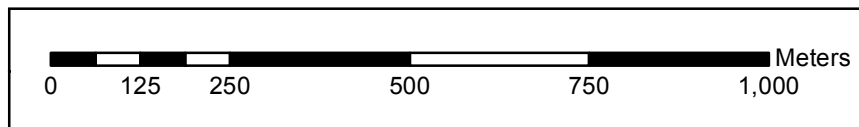
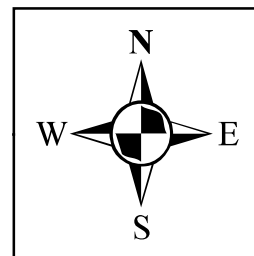


0 100 200 400 600 800 Meters

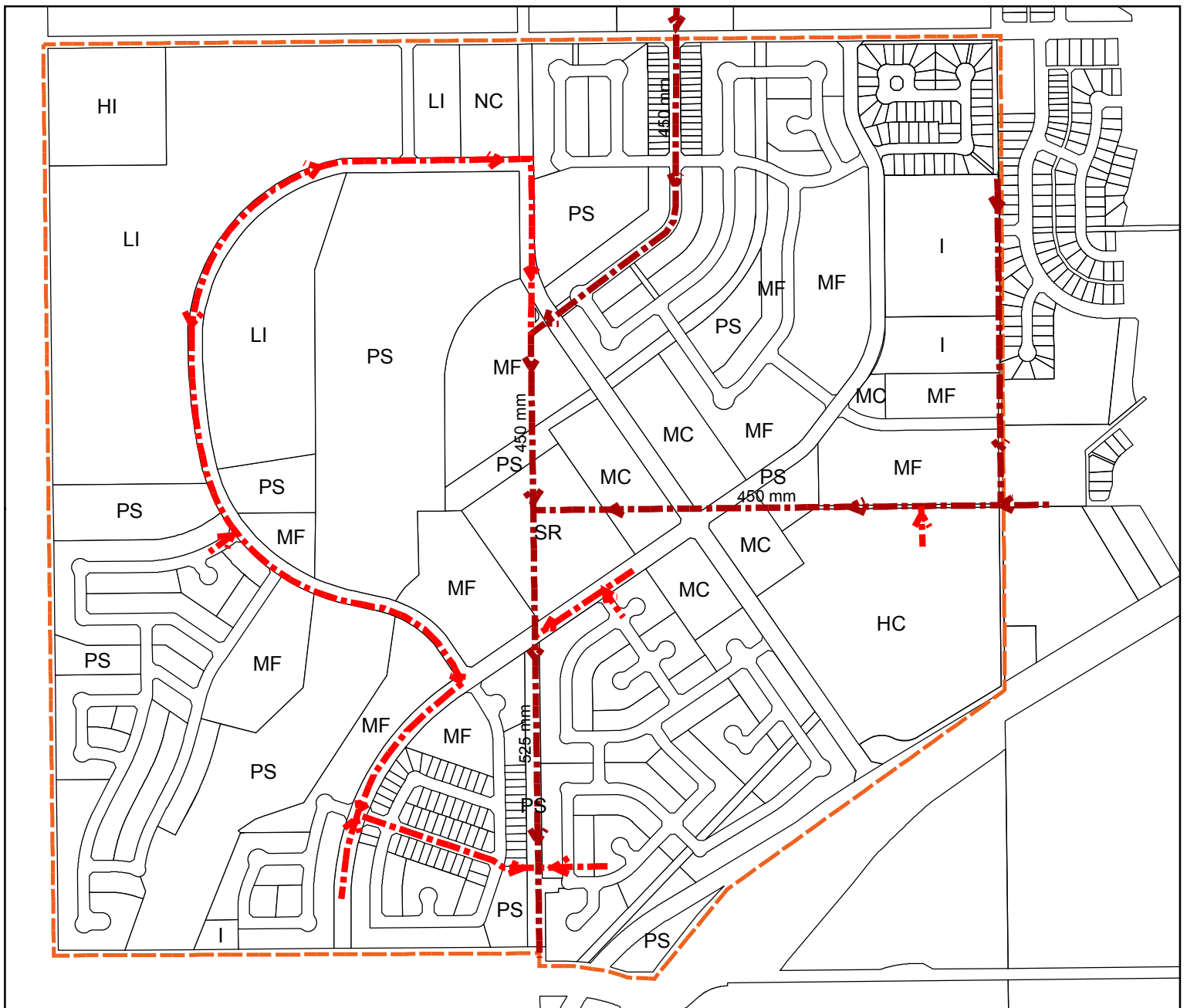
MAP 4 - Development Concept



- Plan Boundary
- Open Space / Public Utility Lot
- School
- Potential Pedestrain Linkage
- Millenium Trail



MAP 5 - Green Infrastructure

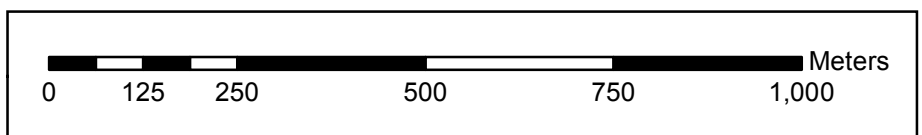
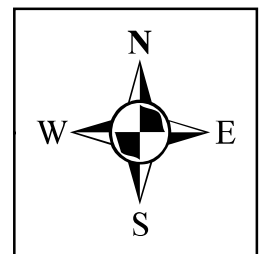


 Area Structure Plan Boundary

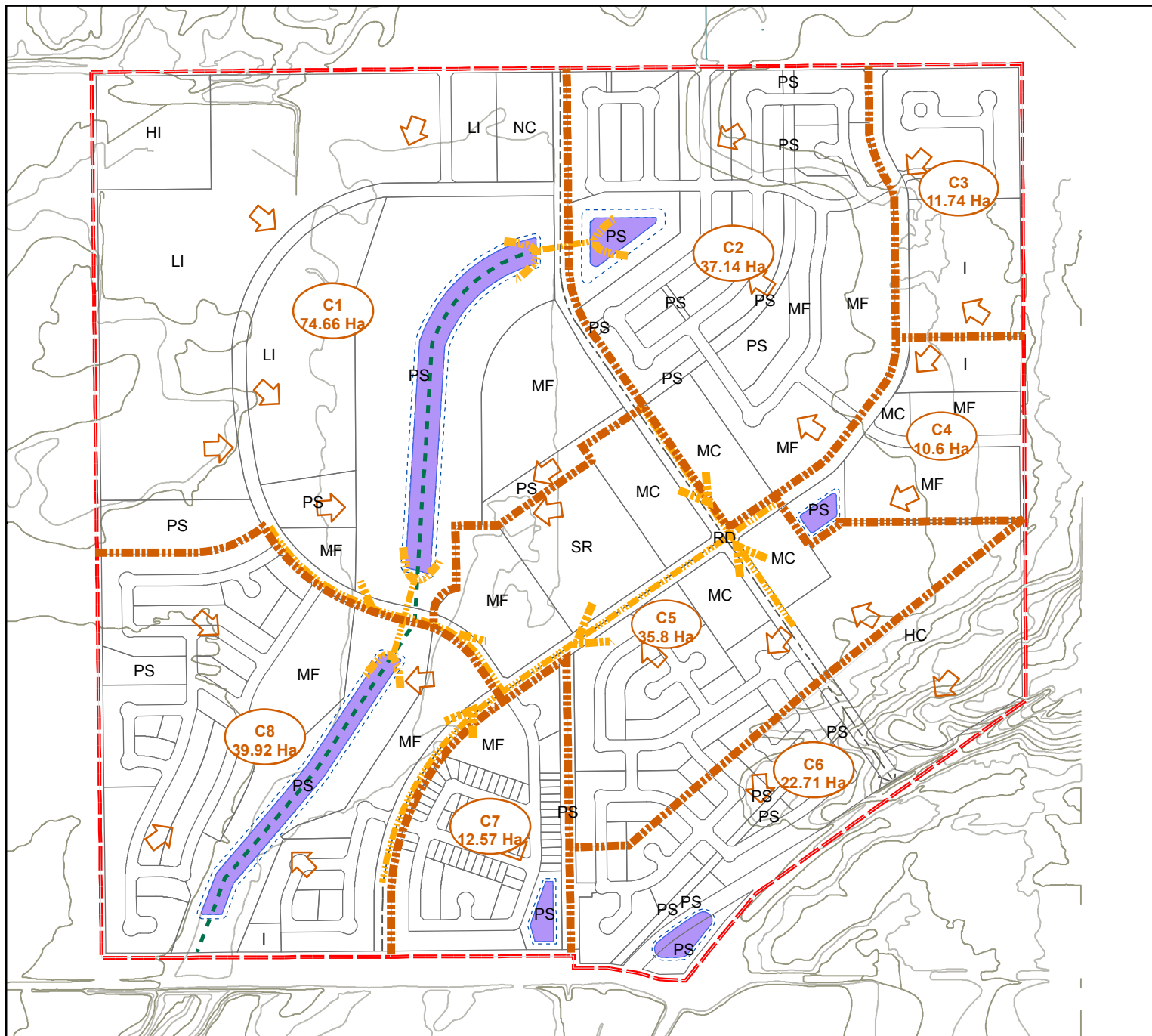
 Existing Sanitary Servicing








 Proposed Sanitary Servicing

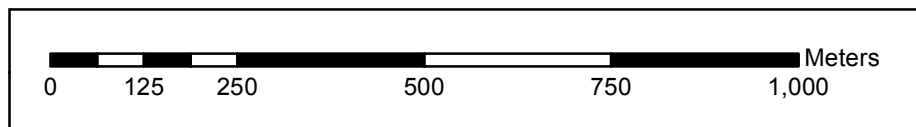
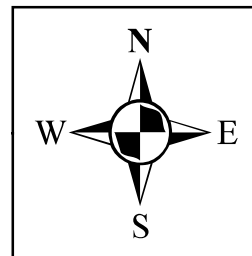
 Sanitary Lift Station



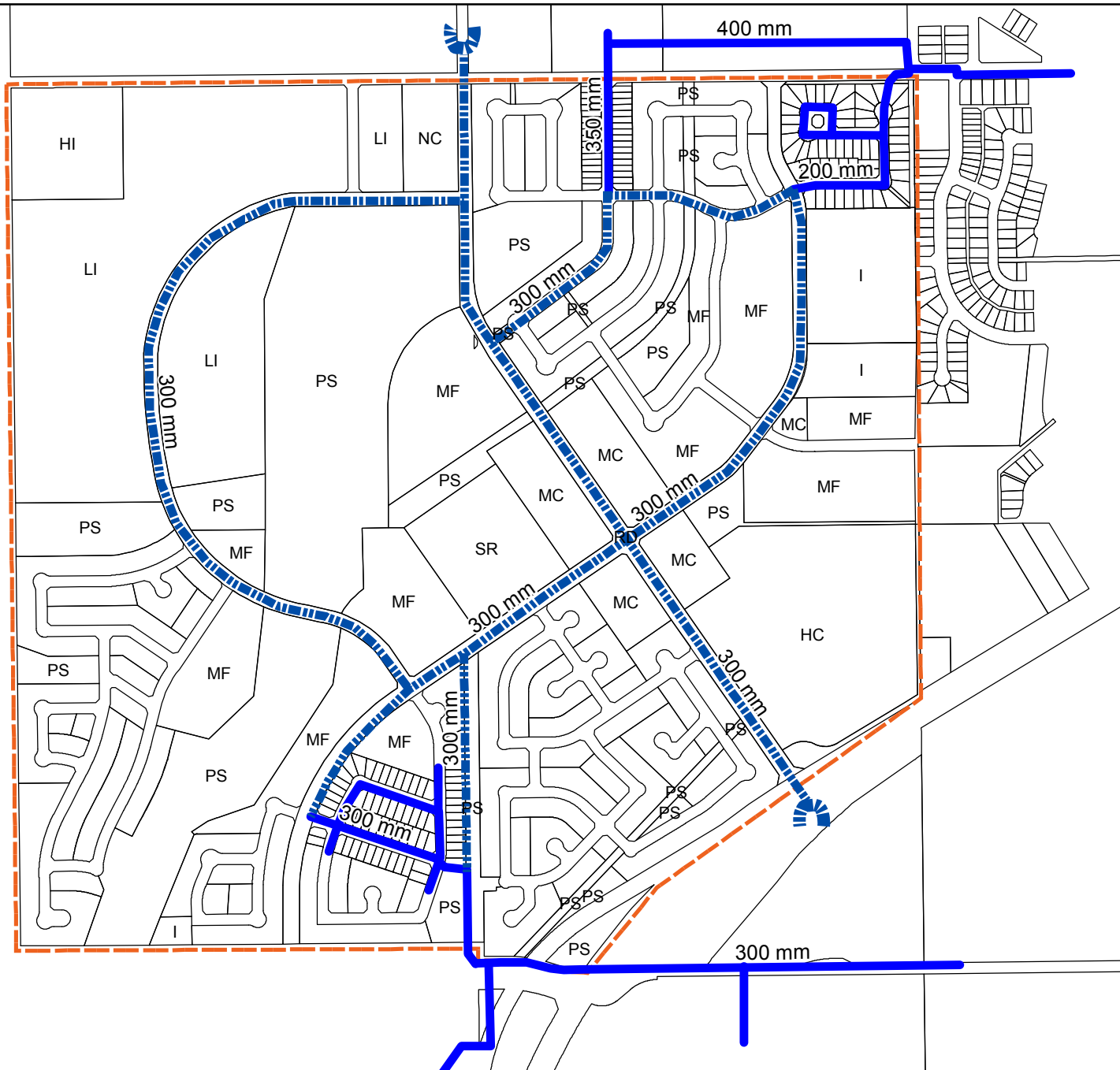
MAP 7 - Sanitary Servicing







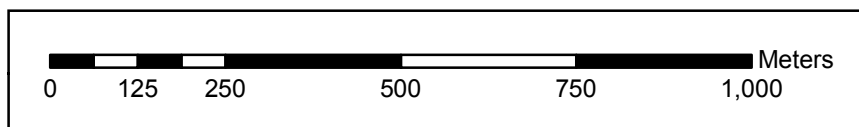
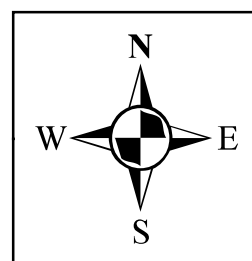
-  Area Structure Plan Boundary
-  Proposed Storm Management Facility
-  Drainage
-  Storm Water Basin Boundary
-  Proposed Storm Water
-  Storm Catchment
-  Major Storm Flow



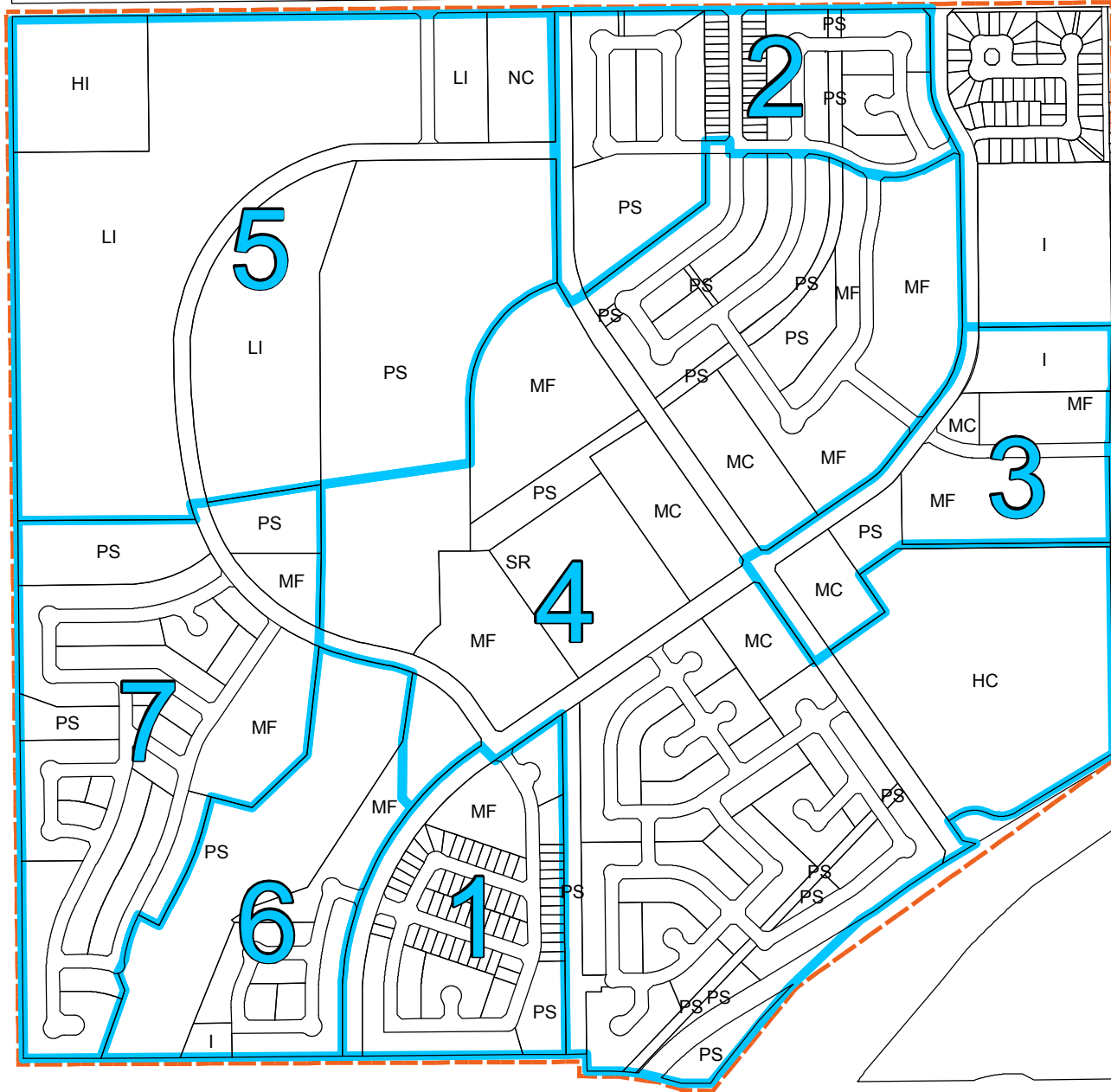
MAP 8 - Stormwater Servicing


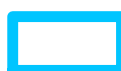


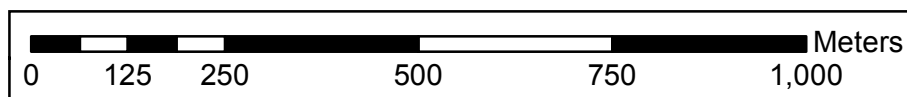
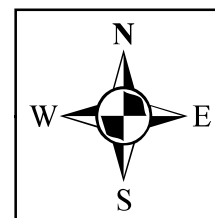
-  Area Structure Plan Boundary
-  Proposed Water Main and Size
-  To Future Connections
-  Existing Water Main and Size



MAP 9 - Water Servicing



-  Area Structure Plan Boundary
-  Staging Boundary



MAP 10 - Implementation Plan

Preliminary Development Statistics Northshore

	ha	% GDA
Gross Area	245.13	
Gross Developable Area	245.13	100.0
School Site	4.70	2.0
Hospital	4.82	2.0
Religious Assembly	0.34	0.1
Open Space/Public Utility	43.60	18.1
Roads	19.76	8.2
	73.22	30.4

Net Developable Area	171.91	69.8
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	ha	% GDA	Units	Population ¹
Single Family Residential ²	78.26	32.5	783	2504
Multifamily Residential ³	30.77	12.8	1385	4015
Mixed-Use Commercial ⁴	8.60	3.6	516	929
Neighbourhood Commercial	1.90	0.8		
Highway Commercial	13.10	5.4		
Institutional	2.38	1.0		
Light Industrial	32.80	13.6		
Heavy industrial	4.10	1.7		
Total	171.91	71.4	2683	7449

Student Population⁵	1788
Kindergarten - Grade 9	1233
Grades 10-12	554

Notes:

1. 3.2 persons/unit for SFR, 2.9 persons/unit for MFR, 1.8 for Mixed Use
2. Unit total based on 10 units/ha
3. Unit total based on 45 units/ha
4. Unit total based on 60 units/ha
5. Student generation: (students/unit), 24.2% of total population (ages 5-19), based on 2006 Census of Canada;
K-9 69% of students, 10-12 31% of students