

Brighton

IN HOLMWOOD

NEIGHBOURHOOD CONCEPT PLAN



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Brighton in Holmwood

An aerial architectural rendering of a residential development. The scene features a central pond surrounded by various types of housing, including multi-story apartment buildings and smaller townhomes. The buildings are shown in a light, sketchy style with some shading to indicate depth. The overall color palette is muted, with greys, browns, and soft greens. The background shows a grid of streets and more distant buildings, suggesting an urban or suburban setting.

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Neighbourhood Concept Plan

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EXECUTIVE SUMMARY

In the future, Brighton in Holmwood will become a thriving community, home to over 15,000 residents.

College Drive, 8th Street E., and the North Commuter Parkway via McOrmond Drive will provide the major connections to the City Centre and other Saskatoon destinations, while the Perimeter Highway will provide convenient access to external destinations.

A rapid transit system will be established along the 8th Street E. corridor and will provide an efficient public transit alternative to single occupancy vehicle use. Transit services will collect users from the more densely populated major nodes/corridors, the interior of the neighbourhood, and the adjacent business district and suburban centre. The community will embrace the transition from arterial roadways that segregate communities to the “Complete Street” concept, which serves to bring communities together by providing a safe pedestrian and vehicular environment in the neighbourhood.

To the east of Brighton is the Holmwood Suburban Centre and Business District, containing retail, office, residential and recreational uses, including high schools. This area provides the residents of Brighton with the opportunity to work, shop and pursue leisure activities in close proximity to where they live. The neighbourhoods are diverse, containing single and semi-detached dwellings, townhouses, apartments, and other alternative residential projects including mixed-use dwellings integrated into neighbourhood commercial developments.

In addition, opportunities for Residential Care Homes are dispersed throughout the community. The range of housing typology will appeal to many income groups and will allow people to remain in the community through the successive stages of their life. The residential areas also contain community-oriented uses to meet the local shopping, recreational, and social needs of residents. The shopping centres are anchored by retail and service commercial uses, and functions as an integrated shopping, working and living environment. People will enjoy travelling to the core, as its central location is convenient, and it will bring residents together for a variety of occasions.

The park system, with its formal and informal recreational areas, will allow residents the opportunity to get outside and enjoy the environment. Nature is embraced and promoted with the proposed constructed wetland complex, and this complex will provide a major recreational amenity and wildlife habitat for Brighton. These wetlands will contain a pathway system for passive recreation, with exceptional viewing areas, where residents can enjoy wildlife and nature away from the hustle and bustle of modern living, but in close proximity to their home.

Getting around the community will be made easy and convenient by the fused-grid road network and pedestrian system. Connections to external neighbourhoods and important destinations within the community, such as transit nodes, schools, parks and commercial centres, were designed to be short and direct. Additionally, the extensive regional pathway system will encourage walking and cycling. As well, public transit service will provide a viable alternative to driving, and will help to reduce dependency on the private automobile.

Overall, residents will find Brighton to be a very enjoyable place in which to live, work, play and learn. People will find that their needs are met closer to home, and this, in turn, creates a strong sense of community and contributes to a vital and healthy city.



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1.0 INTRODUCTION

This report presents a Neighbourhood Concept Plan (NCP) for the first residential neighbourhood to be developed within the boundary of the City of Saskatoon's Holmwood Sector Plan - Brighton in Holmwood. This neighbourhood area is located on 351 hectares/867 acres of land in east Saskatoon. Throughout this report, Brighton in Holmwood will be referred to as Brighton.

1.1 Background

In June 2000, the City's Future Growth of Saskatoon Study identified the Holmwood Sector as a desirable location for residential growth. On August 1, 2010, the City boundary was extended east to include the majority of the delineated Holmwood Sector (see Figure 1). When the eastern portion of Perimeter Highway is surveyed and registered, the City will propose to alter its boundaries once again, to bring the balance of the Holmwood Sector into the City boundary.

On April 16, 2012, Saskatoon Council approved the Holmwood Sector Plan (approved under the name of East Sector Plan). The Holmwood Sector Plan provides the boundaries and planning framework for the development of 6 to 9 neighbourhoods in east Saskatoon, with Brighton to be the first neighbourhood to be developed.

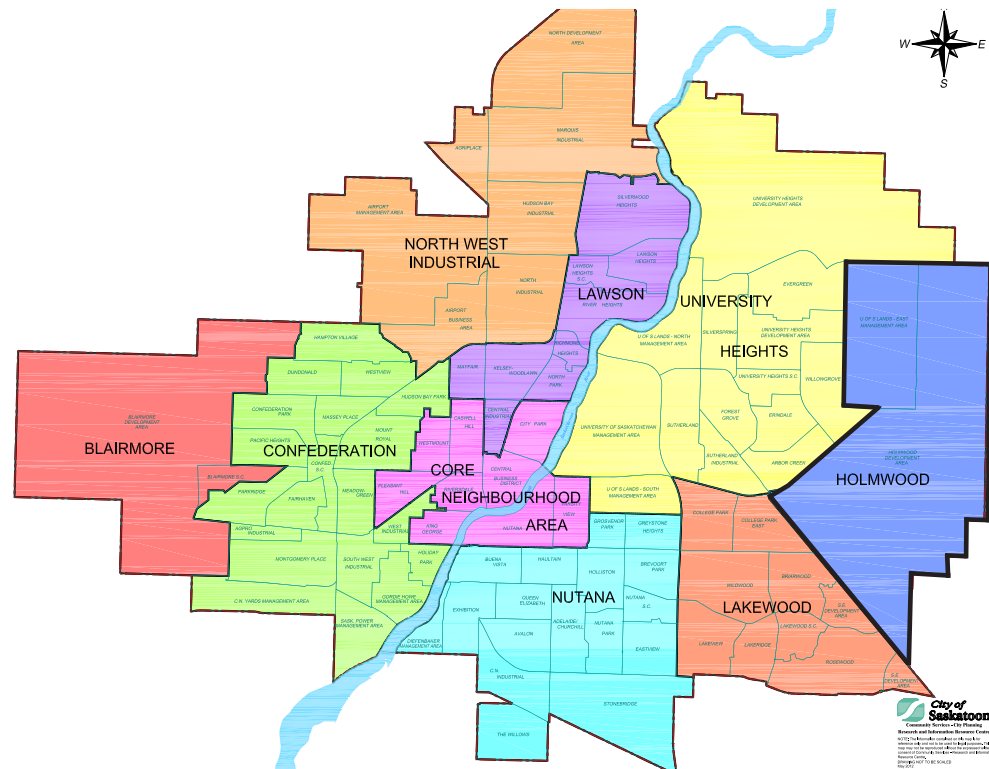
Approval of the Brighton NCP will enable the developer to proceed with detailed design, servicing, and sale of this neighbourhood.

The area included in the Brighton NCP is identified as Neighbourhood Development Area 1 in the Holmwood Sector Plan.

1.2 Purpose of the Neighbourhood Concept Plan

The Brighton NCP establishes a conceptual framework for the proposed neighbourhood. The Brighton NCP identifies a pattern of land uses and a configuration of services, including roadways, active transportation, water distribution, sanitary sewer, stormwater management, and the open space system.

Figure 1: City of Saskatoon Suburban Development Areas Map



1.3 Neighbourhood Concept Plan Goals

The Brighton NCP was designed using new planning concepts and ideals, while keeping the City of Saskatoon Strategic Plan, the Growth Plan to 500,000, and the Holmwood Sector Plan in mind. The following outlines the goals for Brighton and its development potential.

- **Conserving and Integrating Nature:** to conserve highly significant natural areas where feasible and to integrate nature into the residential, commercial, institutional, and recreational neighbourhood amenities.
- **Sustainable Growth:** to implement servicing and development strategies that are compact and will be environmentally and economically sustainable, providing a high quality of life.
- **Low Impact Development (LID) and Best Practices:** to integrate LID practices and sustainable design methodologies into the neighbourhood infrastructure components.
- **Balanced Transportation:** to create and promote an interconnected transportation system that balances the needs of motorists, transit users, pedestrians and cyclists.
- **Complete Streets and Transit Oriented Development:** to allow for the main streets and arterial roadways to connect neighbouring communities, and allow the opportunity for great pedestrian access and focused density along transit routes.

- **Pedestrian and Cyclist Circulation:** to encourage both passive recreation and active transportation through logical and safe connections to major nodes within the community and to external communities.
- **Community Identity:** to create a viable and adaptive community where a distinct identity can be fostered.
- **Neighbourhood Focus:** to emphasize and create a complete community by integrating all uses, including: residential, commercial, educational, park space, mixed-use and nature in a cohesive manner.
- **Local Employment:** to offer employment opportunities that allow for people to work in close proximity to where they live and to foster a community focus.
- **Housing Diversity:** to accommodate a wide range of housing types to meet the needs of varying age groups, income groups and lifestyles.
- **Recreational Amenities:** to meet the active and passive recreational needs of residents.
- **Educational Needs:** to provide public and separate school sites to meet the educational needs of the community.

2.0 REGULATORY FRAMEWORK

2.1 City of Saskatoon Official Community Plan Bylaw No. 8769

The City of Saskatoon's Official Community Plan (OCP) is a broad range planning document that provides the policy framework to define, direct, and evaluate development in the City of Saskatoon, ensuring that development takes place in an orderly and rational manner. The OCP will need to be amended to include the new land uses proposed in this NCP.

2.2 City of Saskatoon Zoning Bylaw No. 8770

The lands within the proposed neighbourhood are currently within the City of Saskatoon, however, they are still zoned FG - Future Growth Sector Overlay District - as per the Corman Park - Saskatoon Planning District Zoning Bylaw No. 23/10. Prior to legal subdivision, the developer of the site will apply to have these lands zoned under the City of Saskatoon Zoning Bylaw No. 8770.

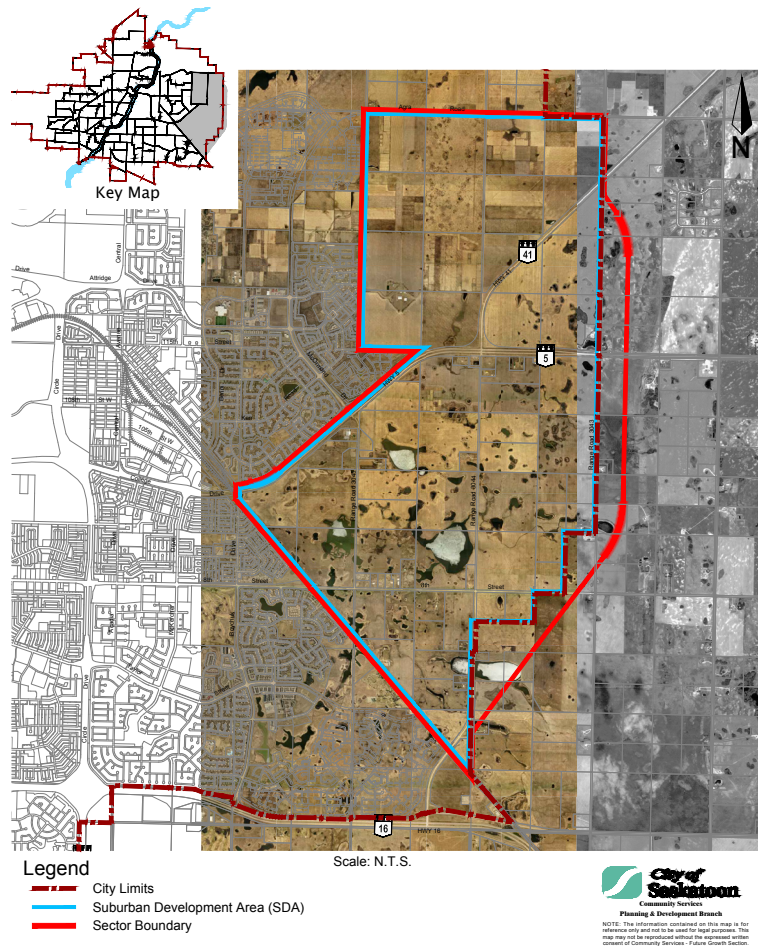


2.3 Holmwood Sector Plan

The Holmwood Sector Plan is a large-scale plan for a Suburban Development Area (also known as a sector) as set out in the OCP (as can be seen in Figure 2). The Plan establishes a layout for the preparation of future and more detailed Neighbourhood Concept Plans to ensure that growth proceeds in a balanced, compact, contiguous manner. The Holmwood Sector Plan identifies key land uses, transportation, and servicing components that will need to be addressed in detail during the NCP process.

The vision for the Holmwood Sector was to develop neighbourhoods that are interconnected and integrated with one another, providing a mixture of land uses and housing options. The vision included the concept of high quality employment areas and suburban centres that would allow residents to live, work and play within the same area. The vision also included a sector that promoted and embraced alternate/sustainable transportation options including the integration of extensive pedestrian and cyclist facilities, and transit-friendly nodes and corridors. Acknowledging that the Holmwood Sector encompassed existing wetlands, the Sector's vision included communities that embrace nature and its integration into the built environment.

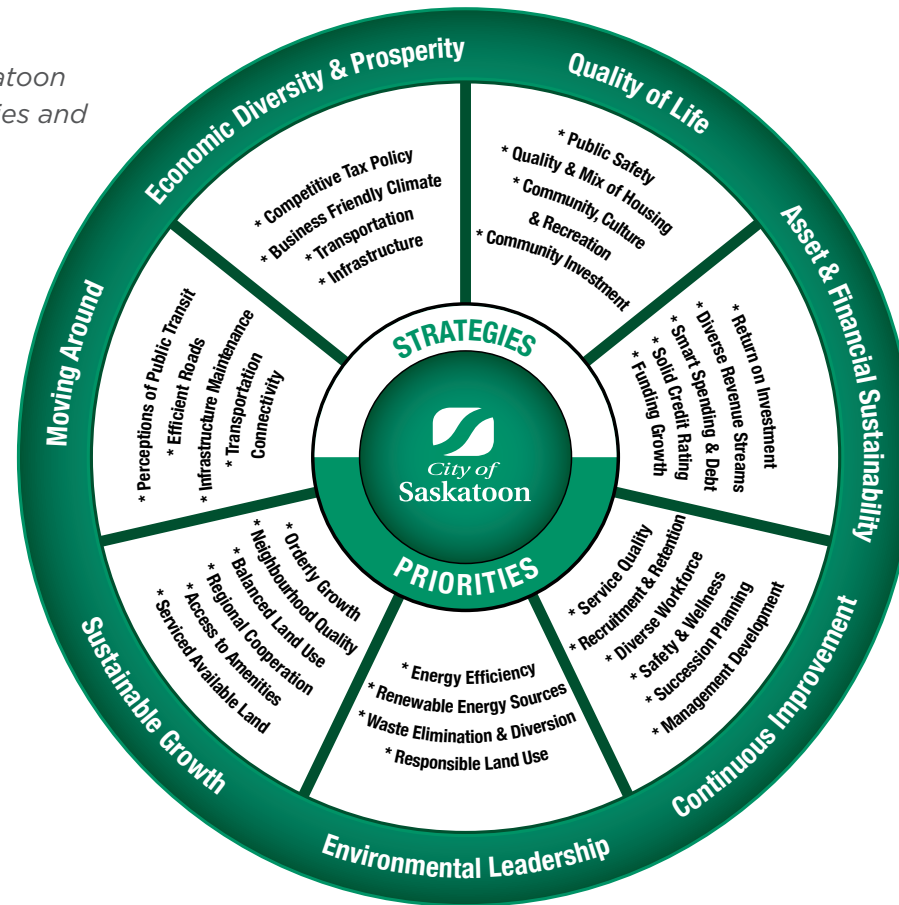
Figure 2: Holmwood Sector Plan



2.4 City of Saskatoon Strategic Plan 2013-2023

In 2009, the City began the process of developing a strategic plan for the City and the wider community of Saskatoon and area. From this process, the City developed a community visioning initiative called “Saskatoon Speaks”. Through this, respondents were given the opportunity to talk about the things they value as citizens, the opportunities and challenges they see, and the vision that they have for Saskatoon into the future. Utilizing this research, the City’s ten year Strategic Plan was developed. Although the Strategic Plan was developed with the City of Saskatoon administration in mind, we believe that the goals developed under this Plan can be applied in a broader sense to Saskatoon development (as can be seen in Figure 3).

Figure 3: City of Saskatoon Strategic Plan Strategies and Priorities Graphic



- **A Culture of Continuous Improvement:** With a focus on continuous improvement in our systems and infrastructure, innovative and creative solutions can be implemented that go beyond conventional approaches to design.
- **Asset and Financial Sustainability:** This goal can be related to the development of sustainable neighbourhoods that implement “smart growth” principles. Developments that are compact and efficient with the use of infrastructure lessen the financial impact on the ongoing maintenance programs, and aid the City in maintaining the sustainability of its assets.
- **Quality of Life:** Fostering neighbourhoods that form “complete communities” that feature employment opportunities, a range of housing options that meet the needs of its residents, a distinct sense of place that is furthered with art and cultural aspects, and finally recreational areas that combine active living with the natural beauty and social benefits of parks.
- **Environmental Leadership:** Communities that strive to embrace the natural environment and are forward-thinking with respect to integrating these features into the built environment. Where practical, environmental initiatives such as reduced consumption of energy and water, renewable energy sources and innovative use of recycled materials will be integrated into Brighton.
- **Sustainable Growth:** New developments are planned and designed to be both environmentally and economically sustainable, contributing to a high quality of life for its residents. Brighton will be walkable and will feature increased density along specific nodes and corridors to encourage transit use.
- **Moving Around:** Transportation networks that include efficient travel for all modes. Brighton will include an efficient transit system that is supported by well-planned nodes and corridors that increase density and incorporate a mix of land uses, comprehensive pedestrian and cyclist facilities that are interconnected within the neighbourhood and to external destinations, and street networks that move vehicular traffic quickly and easily avoiding congestion.
- **Economic Diversity and Prosperity:** People from across the province, Canada and the world are drawn to Saskatoon for its quality of life, limitless opportunities and highly-skilled and educated workforce. Saskatoon's regional economy continues to grow and diversify, demonstrating long-term sustainability. Brighton will contain a mix of retail and commercial uses to encourage employment opportunities in the area.

3.0 BACKGROUND

3.1 Location and Description

The Brighton NCP is located within the larger Holmwood Sector, and can be found in portions of:

- Section 29 - Township 36 - Range 4 - West of the 3rd Meridian,
- Section 30 - Township 36 - Range 4 - West of the 3rd Meridian,
- Section 31 - Township 36 - Range 4 - West of the 3rd Meridian, and;
- Section 32 - Township 36 - Range 4 - West of the 3rd Meridian.

The total area within the Brighton NCP is 351 hectares (867 acres). The neighbourhood is bound on the northwest by College Drive (Highway 5), the southwest by the Canadian Pacific Railway track, 8th Street E. to the south, and McOrmond Drive to the east, as can be seen in Figures 4 and 5.

Figure 4: Brighton Neighbourhood Concept Plan Location

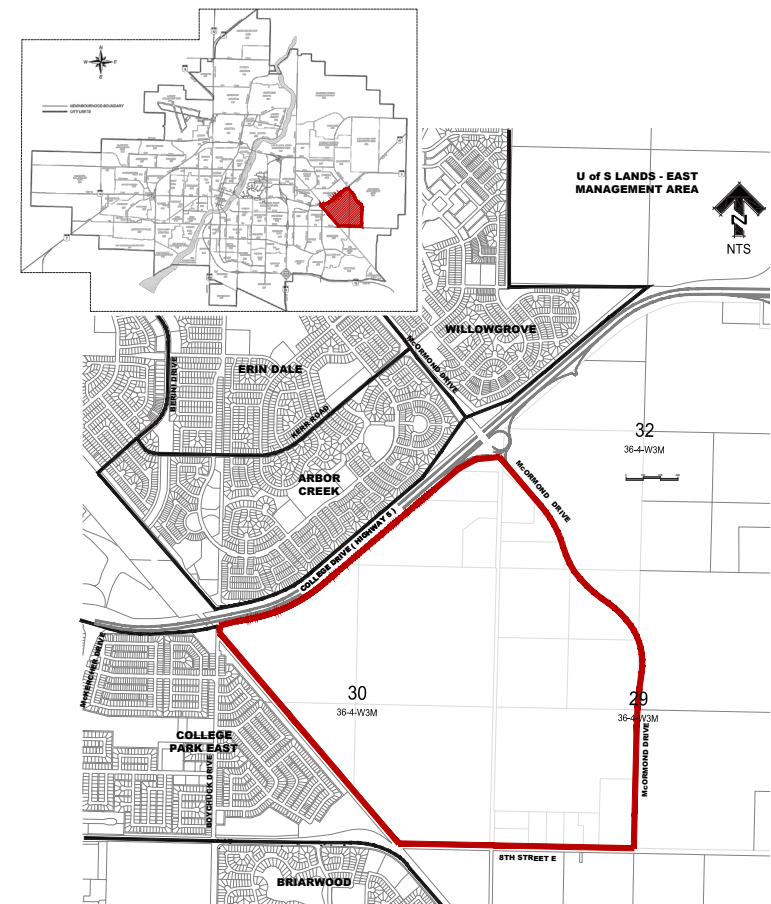


Figure 5: Aerial Photograph of Brighton



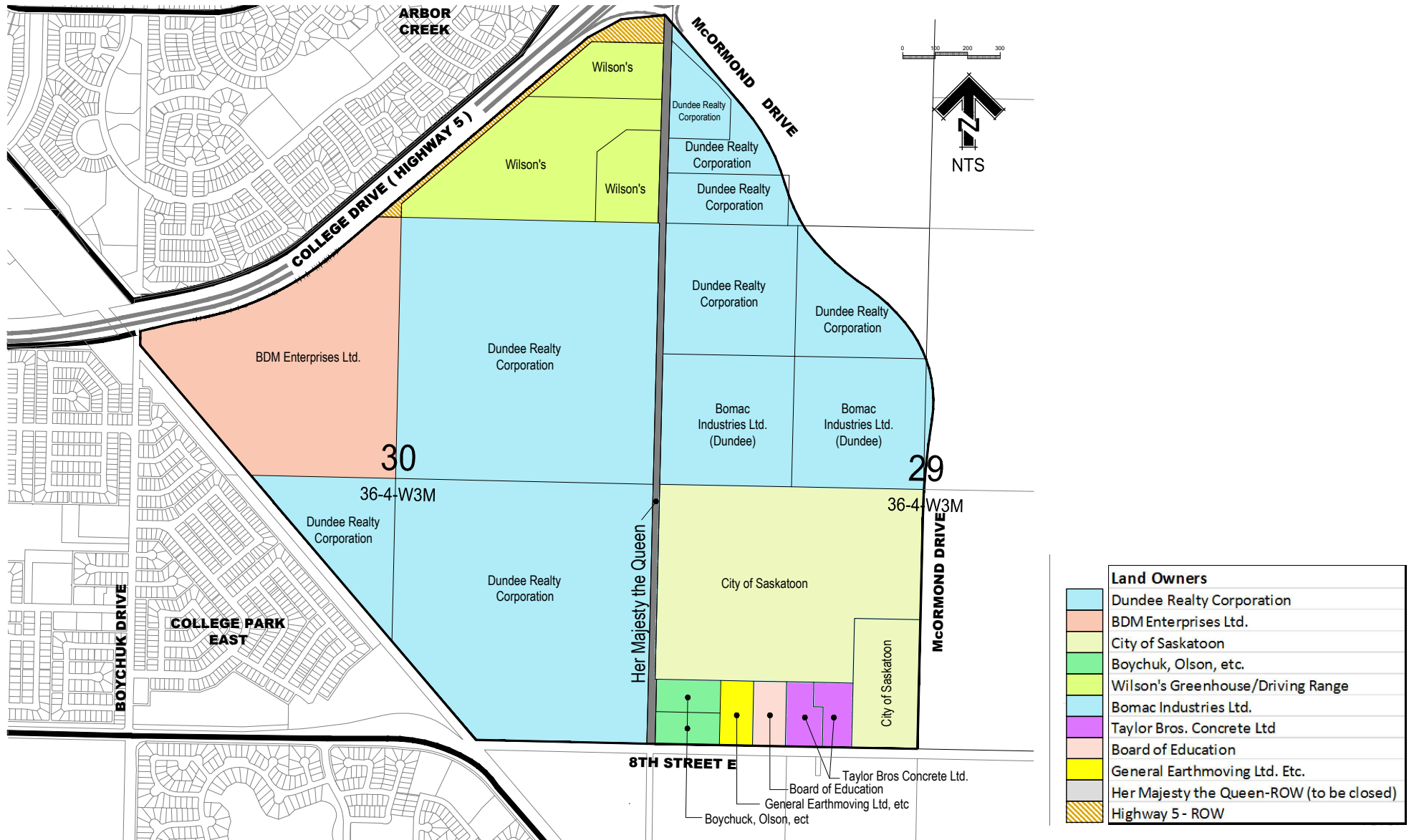
3.2 Land Ownership

Brighton has 9 principal land owners, with Dundee Realty Corporation holding the largest percentage of land. The adjacent table illustrates the land ownership and area within the Neighbourhood Concept Plan boundary.

Table 1: Land Ownership in Brighton

Landowner	Hectares	Acres	%
Dundee Realty Corporation	206.4	510.0	60.0%
City of Saskatoon	54.1	133.6	15.7%
BDM Enterprise Ltd.	40.4	99.8	11.8%
Wilson's Greenhouse/Driving Range Ltd.	29.3	72.4	8.5%
Taylor Bros Concrete Ltd.	4.1	10.0	1.1%
Boychuk, Olson	3.9	9.8	1.2%
General Earthmoving	2.0	5.0	0.6%
Board of Education (Prairie Spirit School Division)	2.0	5.0	0.6%
Her Majesty, the Queen (road right-of-way)	1.9	4.7	0.5%
Total Area in Titled Land	344.1	850.3	100%
Road Allowances	6.7	16.5	--
Total Gross Area	350.8	866.8	--

Figure 6: Land Ownership in Brighton



3.3 Existing Land Uses within the Neighbourhood Boundary

The majority of the land within the proposed neighbourhood boundary is used for agricultural purposes and includes natural wetland features. Located southwest of the McOrmond Drive and College Drive intersection, an operating greenhouse, a driving range and a go-cart track exist. Along McOrmond Drive, an off-leash dog park, snow dump site, and an RV retail centre can be found. Additionally, along 8th Street E, a commercial concrete plant (pictured below on the left) and the City of Saskatoon's Nicholson Yard Material Handling site are located (pictured below on the right).

3.4 Adjacent Land Uses

North of College Drive are the existing residential neighbourhoods of Arbor Creek and Willowgrove. These two neighbourhoods were developed between 1996 and 2011, and a large component of the housing stock within them is comprised of low-density, single-detached homes. Arbor Creek and Willowgrove will be connected to Brighton by McOrmond Drive, which bounds Arbor Creek on the northeast and Willowgrove on the west. McOrmond Drive will be the eastern boundary road for Brighton.

West of the Canadian Pacific Rail is the existing community of College Park East. College Park East was developed throughout the 1960s and 1970s with mainly single-detached housing. 8th Street E. bounds the neighbourhood on the south and will provide vehicular connection to College Park East. The potential for two pedestrian connections over the rail line are being explored to connect Brighton to College Park East, Briarwood, Hyde Park and Arbor Creek.



Commercial concrete plant on 8th Street E.



City of Saskatoon Nicholson Yard Material Handling site.

3.5 Physical Characteristics

Topography

The site is located within the eastern portion of the Saskatoon Plain topographical area of the Moist Mixed Grassland Ecoregion of Saskatchewan. The landscape is comprised of gently undulating glaciolacustrine landscapes within the southern portion.

Specifically looking at the development area, the landscape has a gradual decrease in elevation from the northeast/southeast to the west. This topographic low created in the west portion of the Sector (30-36-4 W3M) becomes the central location for drainage.

Soil Types and Erosion

Orthic Dark Brown and Dark Brown Solonetzic surficial soils are present within the development area. The surficial soils within the study area are underlain by lacustrine deposits of clay over clay till.

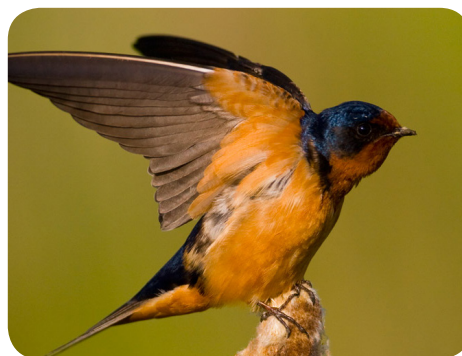
The Land Capability for Agriculture within the development area is predominately Class 3, which means that the soils have moderately severe limitations that restrict the range of

crops or require special conservation practices. The main limitation to agriculture within the study area is due to one or more of the following: undesirable structure, low permeability, and/or a restricted rooting zone.

Vegetation and Wildlife

The two most common wildlife species observed during a natural screening of the Holmwood Sector in 2011 were the American coot and red-winged blackbird. The following two Committee on the Status of Endangered Wildlife in Canada (COSEWIC) listed bird species were observed within the development area: horned grebe (Special Concern), and barn swallow (threatened, pictured below). Additionally, five Saskatchewan Conservation Data Centre (SKCDC) listed plant species were observed within the Sector: narrow-leaved cattail (S1, pictured below), narrow-leaved water plantain (S3), Engelmann's spikerush (S2), blunt-leaved yellow cress (S2S3), and tall beggar's tick (S2S3).

Any rare plants that are encountered during construction will be transplanted to an appropriate location on the landscape. A wildlife survey will be completed immediately prior to construction to ensure that no listed or migratory birds will be impacted by construction.



Barn Swallow.



Narrow-leaved Cattail.

Natural Areas

There are some remnants of natural areas, including wooded patches and shelter belts, but the majority of these natural areas are associated with wetlands. There are numerous wetlands within the Holmwood Sector, which have varying degrees of permanence on the landscape. This variability in permanence is due to the nature of prairie pothole wetlands having a highly variable seasonal hydroperiod and water levels that vary considerably from year to year depending on climate variability.



Prairie shelter belt example.



Prairie wetland example.

As such, the Holmwood Sector wetlands do not have an average stable water level, but instead pass through cycles of wet and dry conditions. The majority of the ephemeral, temporary, and seasonal (Class 1, 2, and 3) wetlands have been ploughed through during dry periods for agricultural purposes.

The 2012 Stantec Wetland Assessment identified 28 wetlands (Class 3, 4, and 5) in the development area.

A functional assessment was used during the survey to assist in land use planning.



4.0 ADDITIONAL BACKGROUND INFORMATION


4.1 Hydrogeological Analysis

In 2009, Dundee Developments commissioned a Hydrogeological Investigation for the Holmwood Sector. The following summarizes the site conditions within and immediately surrounding the proposed Holmwood Sector and Brighton.

- The hydrogeological investigation has identified a groundwater flow system in the Sector that is influenced by regional features such as the Strawberry Hills east of the site.
- The majority of the uppermost groundwater flow is through the clay and silt of the Haultain Formation, which occurs from surface to a depth of 11 m.
- The majority of the site is transitional recharge or discharge.
- The water table is less than 2 m below surface in the south/central and the extreme west portion of the subject site.

The study defined four land categories on the basis of water table conditions, with Categories I, II and III found in Brighton.

Categories I and II are areas where the water table is less than 2 m below ground level. If Category I lands cover an area where commercial and residential building is planned, remedial measures are considered necessary at the time of development. Category II lands are located close to the ponds. Toe-drains around the ponds may be considered if groundwater piping is observed to limit erosion. Category III lands cover areas where the water table may affect development. The depth to the water table will need to be assessed during subdivision stage to ascertain whether mitigation measures should be introduced. Category IV lands have water tables that are anticipated to be greater than 3 m below ground and no special consideration is required if the current grade is maintained.



Based on the findings of the study, basements constructed in the Category I and Category II lands will require mitigation measures as development progresses to address the potential for groundwater infiltration into basements.

Mitigation measures can include deep stripping to remove organic material built up in low areas and replacement with compacted fill, placement of compacted fill in excess of 1 m above original grade to bring basement elevations up, or the use of sub-drain systems that have been utilized in other areas of the City, to depress the groundwater table to allow the construction of basements.

These measures are two of many that could be implemented to remediate the water table conditions on the Category I land and II land. Additional groundwater monitoring will take place throughout development and appropriate measures will be undertaken to remediate groundwater issues in affected areas. The 2009 Hydrogeological Investigation can be found in the Appendix of this report.

4.2 Phase I Environmental Site Assessments

Phase I Environmental Site Assessments (ESAs) were completed for land within the Sector under the ownership of Dundee. These reports were completed by AECOM and can be found in the Appendix of this report. The assessments identified areas of general debris clean up around the existing ponds and historic fill areas that will require geotechnical assessment during development. These studies also identify the potential environmental concern of the snow dump site and the Nicholson Yard Material Handling site (shown to the right) containing hazardous chemicals and materials. Further investigation with respect to these lands will be required.



Aerial view of the City of Saskatoon Nicholson Yard Material Handling site.

4.3 Buffers and Sound Attenuation Berms

A noise and vibration analysis for Brighton was completed by Patching Associates (please see Appendix). The analysis was conducted along Highway 5 for noise and along the CP rail line for both noise and vibration purposes. The findings of the study indicated that a minimum 2.0 m berm will be required adjacent to Highway 5 to provide the required sound attenuation to meet residential requirements. This minimum standard will be accommodated within the 34 m buffer parallel to Highway 5. If possible, the berm will be increased for additional visual screening.

The noise and vibration analysis of the existing CP rail line indicated that a setback of 60 m from the edge of rail to the building envelope is required to ensure that residential dwelling units are located within acceptable vibration limits. This setback will be met with the existing CP ROW, the 40 m buffer strip, the road right-of-way and the residential lot setback. The 40 m buffer will also feature a berm that will provide visual screening of the rail line to residents. This berm will be built to the maximum height while maintaining City of Saskatoon design standards.

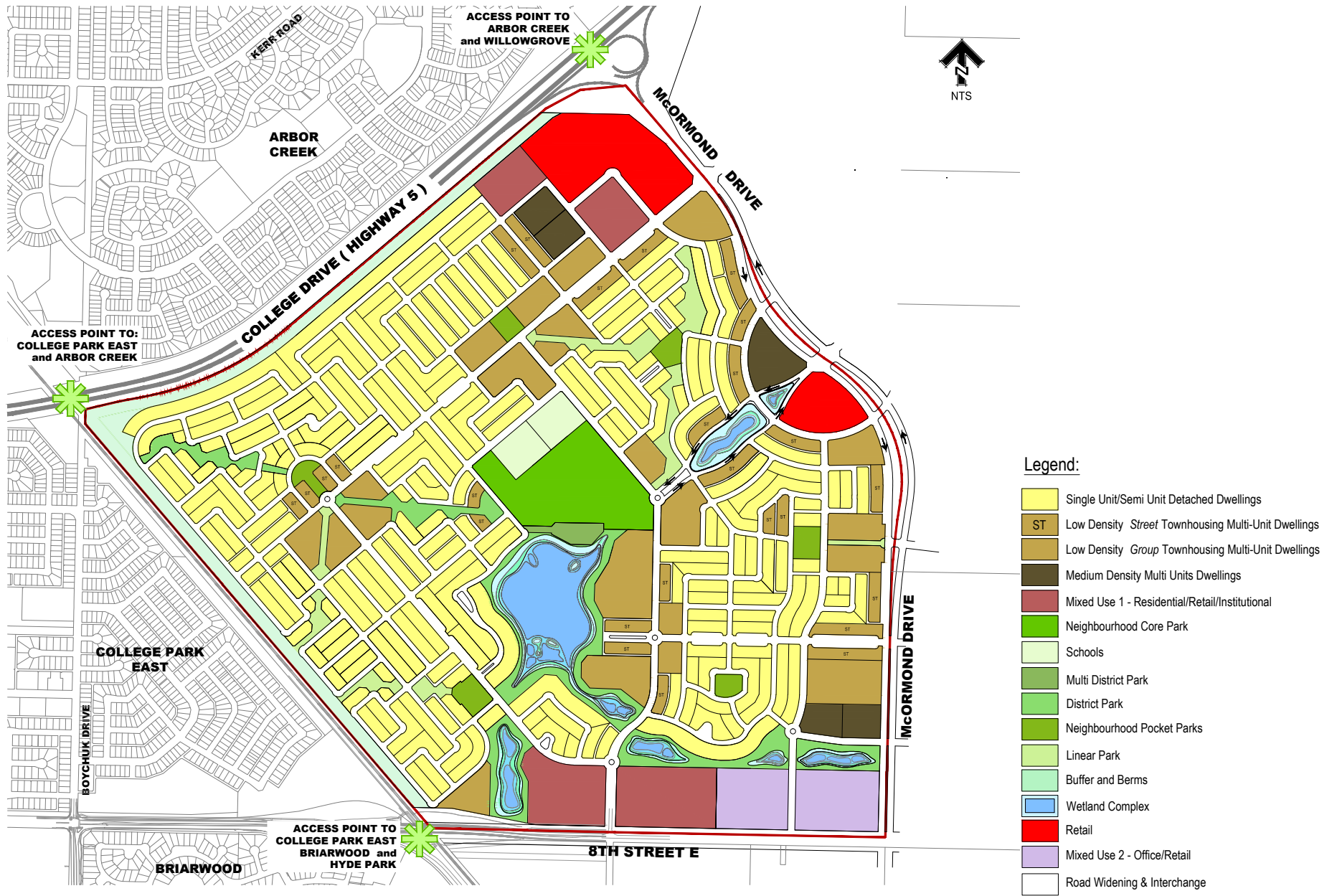
5.0 NEIGHBOURHOOD CONCEPT PLAN

5.1 Development Concept

Brighton has been designed to be an attractive, walkable neighbourhood, with amenities, transit and recreational open space in close proximity to the neighbourhood residents. Neighbourhood elements such as the constructed wetland complex, the extensive linear park system, the Complete Street format for McOrmond Drive, and the central modified divided entrance roadway with an internalized water feature will promote neighbourhood identity, character and a sense of place. The Neighbourhood Concept Plan is shown on Figure 7 - Brighton Land Use Concept Plan.



Figure 7: Brighton Land Use Concept Plan



5.2 General Neighbourhood Layout

As per the goals of the City of Saskatoon's Strategic Plan, the overall layout of the neighbourhood is intended to promote pedestrian connectivity through a strong park system supported by sidewalks on both local and collector streets, while limiting non-local vehicular traffic via a collection of residential cells with a modified or fused-grid street pattern.

Non-single-detached housing is generally located along intended transit routes or collector streets and near the retail areas to place more residents in close proximity to shopping, services, transit, and parks. This will ultimately help to minimize vehicular traffic on local streets.

The pattern of local streets in the neighbourhood is comprised of a mix of fused-grid with limited curvilinear road networks - a combination designed to promote pedestrian mobility and connectivity and to reduce vehicular short-cutting from non-local traffic. Each residential cell within the neighbourhood contains an integrated pocket park which will serve as a localized focal point or gathering place. These features are physically linked to each other, in many instances, by uninhibited pedestrian pathways within linear parks containing a number of openings to local streets or along sidewalks integrated with the collector roadway system.

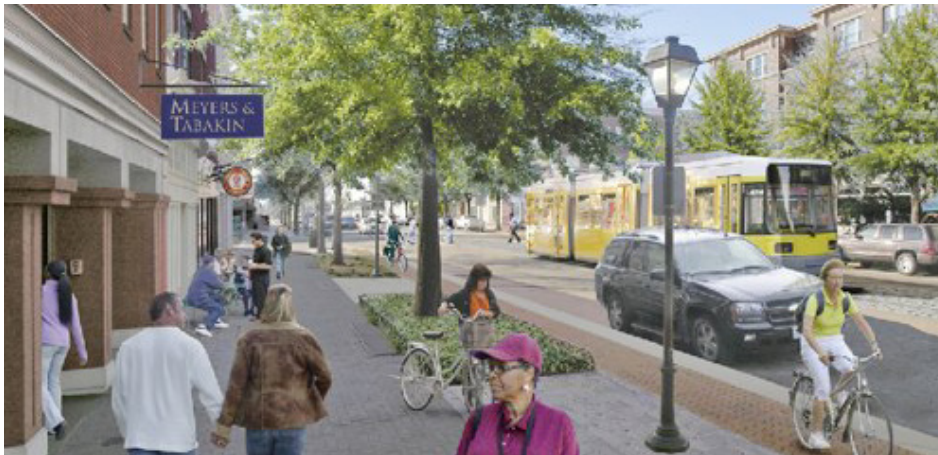
Figure 8a: General Brighton Layout - Village Centre



Brighton in Holmwood

Figure 8b: General Brighton Layout - Residential Mix





Example renderings of the Complete Streets concept.

5.3 Complete Streets

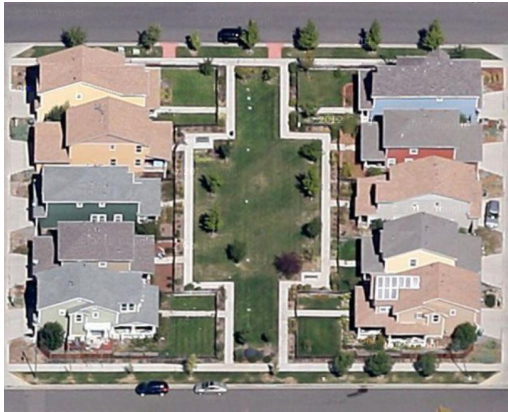
The Brighton NCP has looked to the City of Edmonton's Complete Street Guidelines - May 2013 as a template for street design (please see attached Appendix CD).

Complete Streets is a transportation policy and design approach that requires streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation. Complete Streets allow for safe travel by those walking, bicycling, driving automobiles, riding public transportation, or delivering goods

Benefits of Complete Streets can include improved safety, health, economic, and environmental outcomes. Complete Streets emphasize the importance of safe access for all users, not just automobiles.

5.4 Housing Fronting onto Parks

Some of the proposed land uses in the Concept Plan Area make use of houses fronting onto open space areas with pedestrian access provided to the front in these areas. An example of this exists in the Calgary, Alberta, community of Garrison Woods and other examples can be found in Denver, Colorado, USA (as seen in the photos below and to the right).



5.5 Fused-Grid

Brighton will utilize the fused-grid road pattern throughout the entire community. The fused-grid road pattern was first introduced by Canada Mortgage and Housing Corporation (CMHC) through a series of research papers designed to minimize the frequency of pedestrian-vehicle conflicts by transforming neighbourhood streets into a series of crescents and/or cul-de-sac from the traditional grid-like pattern and in turn, reward the pedestrian with safer and more frequent walking options.

The fused-grid is literally a fusion of the traditional urban grid system and the loop cul-de-sac system of typical postwar subdivision design, as can be seen in Figures 9 and 10. This design results in the best aspect of both street systems – excellent pedestrian connectivity and urban design opportunities of a grid system combined with the efficient traffic flow of a typical loop and cul-de-sac system. Because of an improved pedestrian system, pedestrian activity and interaction is encouraged. Residents have access to communal open space and park areas within easy walking distance. The design creates a situation in which park areas provide a terminal vista for many of the area streets.

Figure 9: Aerial view of a Fused-Grid Neighbourhood Park Layout



What is a fused-grid in the Brighton proposal?

- The proposed design maintains the structure of the perimeter surrounding streets.
- Traffic flow becomes efficient and improved from conventional subdivisions.
- Improving pedestrian connections.
- Road surface overall has decreased.
- The major collector roads will facilitate transit accessibility

Open spaces become important components within the community as park space is central to each neighborhood cell. These open space features create a sense of place and serve as a meeting spot for area residents. The open space connectivity provides an ideal opportunity to implement low impact development methods of rainwater management. The fused-grid system provides the frame work on which a larger collection of sustainable suburb and Low Impact Development (LID) initiatives can be applied.

Figure 10: Fused-Grid Road and Park Network Example in Brighton



5.6 Village Centre

The Village Centre, located in the east-central portion of the Plan, will perform as the heart of the neighbourhood, providing for the daily goods and services of this neighbourhood's residents as well as for those residents in the future neighbourhood to the east. In addition to the retail component, medium-density multiple-unit dwellings (apartments) and townhouses (on-street and comprehensive sites) will be incorporated into the Village Centre, intended to provide a supporting population to create a vibrant place to live, with tree-lined streets and rear parking areas to promote attractive streetscapes.

It is anticipated that some form of public amenity will be incorporated into the Village Centre that will function as a gathering place and focal point for the neighbourhood residents. The main entry road into the neighbourhood will begin at the Village Centre and will be divided with a constructed wetland and water feature in the centre to create a strong sense of arrival into the neighbourhood. A grand vista to the centralized neighbourhood open space and beyond will be afforded from the Village Centre.

Figure 11a: Aerial Village Centre Concept



Figure 11b: Village Centre Concept



District Retail is intended to be located adjacent to major roadways bounding the neighbourhood, namely along McOrmond Drive, in order to conveniently provide goods and services to those travelling by active transport and by vehicle. Vehicle access to the McOrmond Drive retail will be provided by Brighton`s internal collector roadways. Due to the location of the interchange and the required intersection spacing parameters, direct access to the site via College Drive is not possible.

Medium-density multi-unit dwelling housing (apartments) and comprehensive townhouses will be located in close proximity to provide additional support of retail, mixed-use, and transit-oriented development.

5.8 McOrmond Drive

The look of McOrmond Drive will be less utilitarian and more aesthetic by the fact that housing and other uses will front or face onto this arterial, and will be accessed via one-way laybys. Solid fences are to be discouraged such that pedestrians will be able to travel the length of this road in a pleasant, attractive environment. McOrmond Drive will be divided with separations greater than the standard median. These areas will contain low-maintenance, indigenous plant materials. Major intersections will be addressed via signalization or stop signs depending upon the anticipated traffic volumes. Pedestrians will be provided safe crossings of McOrmond Drive at signalized intersections and on crosswalks at appropriate intervals to connect to employment, the suburban centre retail, schools, and open spaces within the neighbourhood.



Example of District Retail building facades.



Bioswale stormwater management alongside a safe pedestrian crossing.

5.9 South Mixed-Use Apartments

As 8th Street E. transforms into a primary transit route for the area, medium-density residential housing will help to support the transit service found along 8th Street E. A site located at the south end of the neighbourhood is identified to be developed with a mix of housing forms including, but not limited to, apartments, townhouses, commercial, office/retail, and live-work units.



Mixed-use apartments example.

5.10 Neighbourhood Entry Points

Access into Brighton has been planned by utilizing the neighbourhood's boundary conditions of College Drive to the north, Canadian Pacific Railway right-of-way to the west, and 8th Street E. to the south and McOrmond Drive to the east. Two access points will occur from 8th Street E., and six are proposed from McOrmond Drive. As many access points to McOrmond Drive as possible are proposed to increase accessibility and connectivity for local residents. Some of these accesses will be designed with a form of enhanced entry features in order to promote neighbourhood identity and may be in the form of signage, fencing, landscaping, or a combination of all three elements.

The roadway layout, the divided main entry parkway passing through the Village Centre and terminating at the Neighbourhood Core Park, and the parkway-themed McOrmond Drive, will serve to create safer access for pedestrians, while effectively providing internal and external access into the neighbourhood.

5.11 Residential Uses – Housing Options

To remain in accordance with the City of Saskatoon’s Strategic Plan, Brighton will offer a variety of housing forms including: single-detached unit homes in a laneless configuration; narrow-lot single-detached and semi-detached unit homes with rear lane access; medium density and multi-unit housing including condominium townhouses, street townhouses and walk-up apartment-style developments. This variety of housing forms will foster a wide range of lifestyle choices and offer residents the opportunity for different levels of housing affordability, as well enable them to continue to reside in the neighbourhood throughout their changing accommodation needs.

At complete build-out, the neighbourhood will comprise approximately 57% multi-unit dwellings and 43% single-unit dwellings, resulting in a neighbourhood density of 7.4 dwelling units per acre. This density meets the City of Saskatoon’s density target of 7.0 upa and the goal of creating a compact urban form and a fiscally and environmentally sustainable community as expressed in the City of Saskatoon’s Official Community Plan Bylaw No. 8769. Table 3: Brighton Development Statistics identifies the area devoted to various housing forms, population projections, and density estimates (see Page 54).

5.12 Affordable and Entry Level Housing

To meet the objectives of the City of Saskatoon Housing Business Plan, multi-unit parcels within the Brighton Plan Area will be available for both affordable and entry-level housing.

Affordable housing is attainable to households that are below the Maximum Income Limits, as set in the Housing Business Plan. Currently, these limits are \$74,000 for households with dependents and \$66,500 for households without dependents. Affordable housing can either be rental or ownership.

Entry-level housing is attainable by households with incomes just above the limits for affordable housing. Households with annual incomes between \$60,000 and \$80,000 are typically in the entry-level market. Entry-level housing is sold at price points that are attainable to this income group.



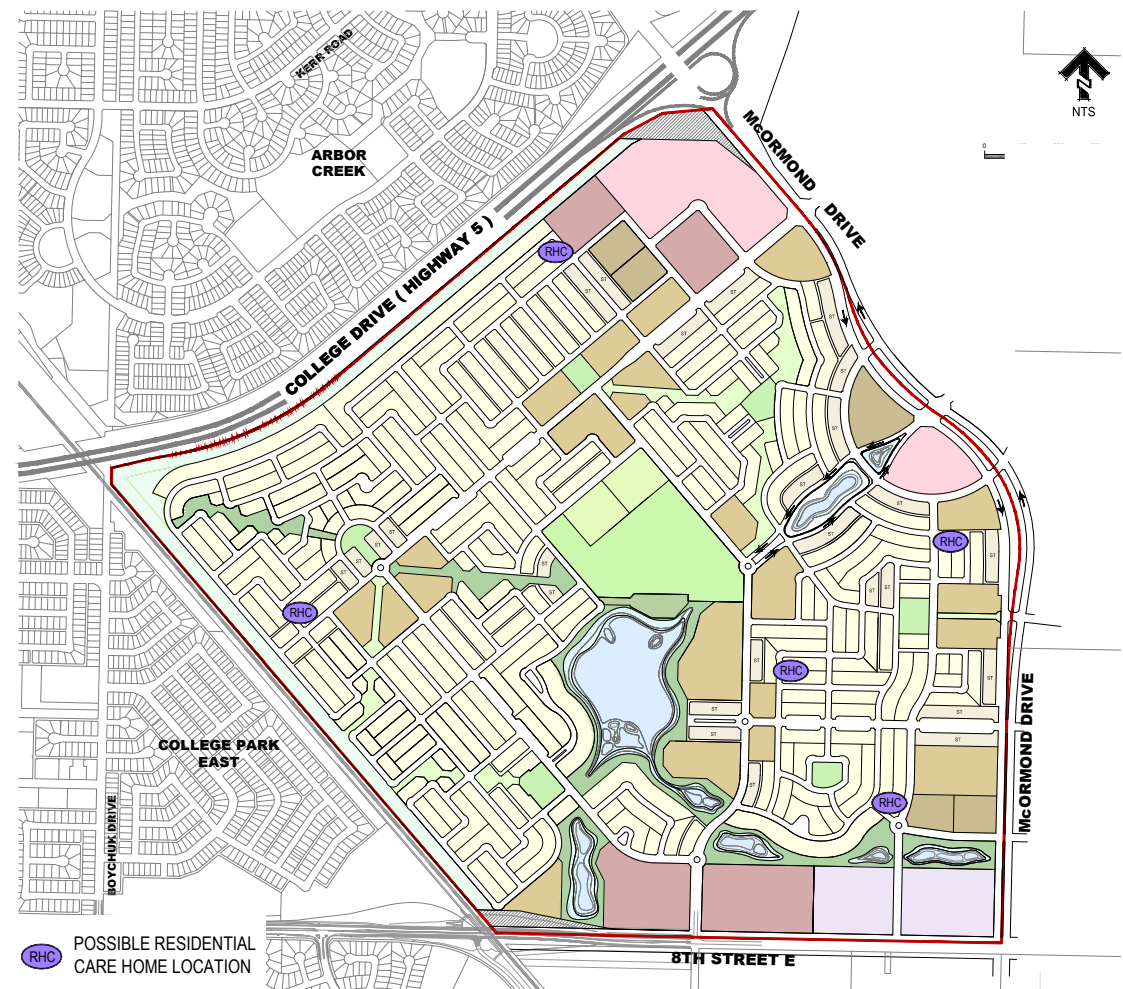
5.13 Residential Care Homes - Type II

Sites within the Brighton Plan Area will be pre-designated for development as Residential Care Homes- Type II. A Residential Care Home - Type II is a care home in which the number of residents under care is more than five (5), but no more than fifteen (15). The locations of these sites will be spread out throughout the development. In general, these site uses will be located adjacent to collector streets on corner lots in order to provide access to transit service, and to mitigate any potential parking conflicts. If not purchased for these uses, the subject lots will be returned to inventory and sold as typical single-unit lots.

5.14 Architectural Guidelines

Developer-initiated design guidelines will strengthen and unify the visual integrity of the neighbourhood and provide customer confidence by reinforcing thematic elements throughout the neighbourhood. The intent is to incorporate mandatory design elements in order to enhance and reinforce neighbourhood streetscapes.

Figure 12: Potential Residential Care Home Type - II Locations



5.15 Open Space and Municipal Reserve

As dictated by The Planning and Development Act, 2007, a designated portion of the NCP must be dedicated as Municipal Reserve. The City of Saskatoon's Administrative Policy #A10-017 – Park Development Guidelines – delineates several different park categories that address the needs of particular groups of people, while simultaneously maintaining the flexibility of programming an attractive environment which will encourage use by residents.

The Park Development Guidelines provide for the distribution of dedicated land between park types. The recommended allocation of park land is as follows:

Neighbourhood Parks– 61% of Municipal Reserve dedication

District Parks– 36% of Municipal Reserve dedication

Multi-District/Special Use Parks – 3% of Municipal Reserve dedication



Brighton in Holmwood

Open space and Municipal Reserve calculations were reviewed on a Sector-wide basis through this NCP process, and the broader recreational needs of the Holmwood Sector were explored. As a result, larger-than-typical District / Multi-District park space is proposed within the Suburban Centre to meet the active recreation needs of the Holmwood Sector.

In consultation with the City of Saskatoon, the balance of the District Park space was then re-distributed to the various neighbourhoods such that there are continuous path systems and linkages between the neighbourhoods providing access to the natural features within the sector, to the suburban centre and business districts and to the active recreational areas within the communities themselves. In doing this, the goals of both the Sector and the NCP are met.



It is proposed that all of the Municipal Reserve dedication requirements (33.42 ha) be allocated within the community of Brighton. The Neighbourhood Core Park, Pocket Parks, and Linear Parks will fulfill the required Neighbourhood Park dedication, with the remainder of the Municipal Reserve allocation receiving District Park and Multi-District Park designation. The rationale for the inclusion of the District Park and Multi-District Park area requirements is based on the provision of a park system in the Brighton NCP that is configured not just for the residents of Brighton but also for the surrounding (existing and future) neighbourhoods connected to Brighton. The proposed park system will promote a healthier lifestyle by providing a greater frequency of safe, connective walking/cycling paths throughout the neighbourhood. When associated with the constructed wetlands, the park system will also provide many unique interpretive and educational opportunities for the patrons.

Table 2 indicates Municipal Reserve calculations for this neighbourhood:

Table 2: Municipal Reserve Calculations

Municipal Reserve (MR)	Area (ha)	Areas (ac)
Neighbourhood Core Parks (1)	10.03	24.78
Neighbourhood Pocket Parks (6)	4.02	9.93
Neighbourhood Linear Park	6.34	15.67
District Park	12.03	29.72
Multi District Park	1.00	2.47
Total MR provided in Brighton (10.0%)	33.42	82.58

Figure 13: Brighton Open Space System



Neighbourhood Core Park

The Neighbourhood Core Park is located in the centre of the neighbourhood, adjacent to parcels provided for possible elementary school sites and the possible community centre, and is approximately 25 acres in area (not including the school sites). The Core Park will accommodate active and passive recreation, and may include such features as pathways, seating/viewing areas, playground equipment, rink, toboggan hill, paddling pool/spray park, and/or sports fields. Decisions regarding the type of active recreation facilities provided will be decided at a later date with input from the community. The park will be graded to accommodate active recreation activities. Adjacent to the Neighbourhood Core Park, the Multi-District Park will contain an amphitheater/viewing area of the wetlands, as can be seen in the example photo below.



Example of an amphitheater/viewing area, to be located within the Multi-District Park, next to the Neighbourhood Core Park.

Figure 14: Brighton Neighbourhood Core Park



Neighbourhood Pocket Parks

Brighton includes six Neighbourhood pocket parks (total of ~10 acres), typical of providing one park per 400 m walking radius, or one park every 124 acres. These parks are spaced strategically throughout the neighbourhood to provide, safe, convenient access to park space and recreation activities. The pocket parks are large enough to serve multiple purposes - programming includes mini-soccer fields, playground equipment, and/or passive recreational activities.

The area and placement of these pocket parks is consistent with the City of Saskatoon Park Development Guidelines.



Figure 15: Brighton Pocket Park System



Neighbourhood Linear Parks

The 16 acre linear park system is considered exceptional in this neighbourhood as it is designed to internally link all other park typologies (Neighbourhood Core parks, Pocket parks, the Village Centre, the constructed wetland complex, and designated elementary schools) on a recurrent grid, as well as provide linkages to external areas including: Arbor Creek to the north, College Park East and Hyde Park to the west, and future Holmwood Sector Plan developments to the east and south, containing future business, retail, recreation, and residential areas. The linear park system will contain pathways to provide safe and convenient pedestrian and bicyclist movements throughout the neighbourhood as they will adhere to the Crime Prevention Through Environmental Design (CPTED) principles. The pedestrian and bicycle network is shown on Figure 32 – Active Transportation Plan (see Page 78).

Traffic calming measures at key intersections, including but not limited to curb bump-outs (see photo to the right), raised/stamped asphalt, and fencing to direct pedestrians to intersections, will be initiated where mid-block crossings occur, providing a safe and continuous experience for pedestrians and bicyclists.

In areas where the parks may be used to accommodate drainage during major storm events, the trails/pathways and recreation facilities will be designed to be located above the 1-in-5-year storm event high water line. Brighton linear parks are designed

to convey stormwater, not store it, which reduces the steep side slopes of a traditional linear park.

The linear park system will vary in width, and will have many access points from the community, to prevent a “tunnel effect” from occurring and to promote a more visible, safer pathway system. In addition, more than typical linear park is provided in this neighbourhood to encourage walkability in keeping with promoting healthier lifestyles. Most linear parks will be graded similar to the adjacent streets and lots, allowing flatter areas for informal free play for area residents.



Traffic calming measures in the Brighton NCP: Curb bumpouts.

Figure 16: Brighton Neighbourhood Linear Park System



District Park and Multi-District Park

District Park Municipal Reserve allocation has been accounted for in this neighbourhood and is proposed to be approximately 12 hectares/30 acres in size. The District Park lands are important in this neighbourhood as they serve the general public in and around the wetlands, and help provide connectivity through the neighbourhood.

The Multi-District Park sits adjacent to the Neighbourhood Core Park and Joint-Use School Site, and will contain a structured amphitheater/viewing area of the wetlands to be enjoyed by residents of all adjacent communities.



Figure 17: Brighton District Park and Multi-District Park System



5.16 Constructed Wetlands Complex/Stormwater Facility

Stantec Consulting, in association with Holmwood Sector Stormwater Master Plan, conducted a wetland assessment for the subject lands as part of a pilot project for the City of Saskatoon. This study was completed highlighting how wetlands and natural low areas can be integrated and promoted within an urban context and aimed to create a balance among the goals of development. Please see the Appendix for the wetland assessment and Stormwater Master Plan.

As the growth of municipalities continues to encroach on our natural environment, it is important to create stormwater master plans and development plans that incorporate natural wetlands. The intent of incorporated wetlands is to build and/or rebuild communities that provide the following benefits:

- Overland runoff mitigation
- Soil stabilization
- Groundwater recharge and discharge
- Increase in runoff water quality
- Wildlife habitat
- Aesthetics
- Open space





Incorporating wetlands into a development offers a community the opportunity to conserve vital ecosystems and create considerable curb appeal and aesthetics. Within the urban landscape, the primary use in the public realm of constructed wetlands is passive recreational uses such as jogging, biking, and hiking. While recreation may be a primary use, the incorporation of wetlands serves to promote active lifestyles and educational opportunities through the use of walkways, bridges, and interpretive signage offering information on native species and wildlife of the area.

There is a long history of urban storm water management systems and open space systems being coordinated to achieve function, recreation, and aesthetics. In Saskatoon's newest neighbourhood of Brighton, the storm water system and the municipal reserve system are designed to work in harmony to achieve these goals.



By constructing an enhanced wetland complex and allowing other areas to naturalize, many new opportunities are created for residents to enjoy the park system throughout Brighton. An important goal of this development is to bring people closer to nature and engage the public in the various functions that both wetlands and stormwater management facilities can provide.

This can be achieved through integrated pathways, lookout points, educational panels, and attentive park design.

Examples can also include, passive recreation (e.g., birdwatching) and natural education (e.g., on aquatic science). Ponds, wetlands, channels, and other water bodies are known to increase identity with the park system. The establishment of dryland / non-irrigated grass areas is being implemented more and more by the City of Saskatoon (e.g., in Lakewood Park, Donna Birkmaier Park and Hyde Park). The dryland grass areas and naturalized tree and shrub planting would complement the natural or naturalized pond and wetland areas, ecologically by increasing biodiversity, for passive recreation by introducing new areas to explore, and visually by enriching the view from adjacent residential areas.

Figure 18: *Constructed Wetlands Complex/Stormwater Facility Cross-Section*

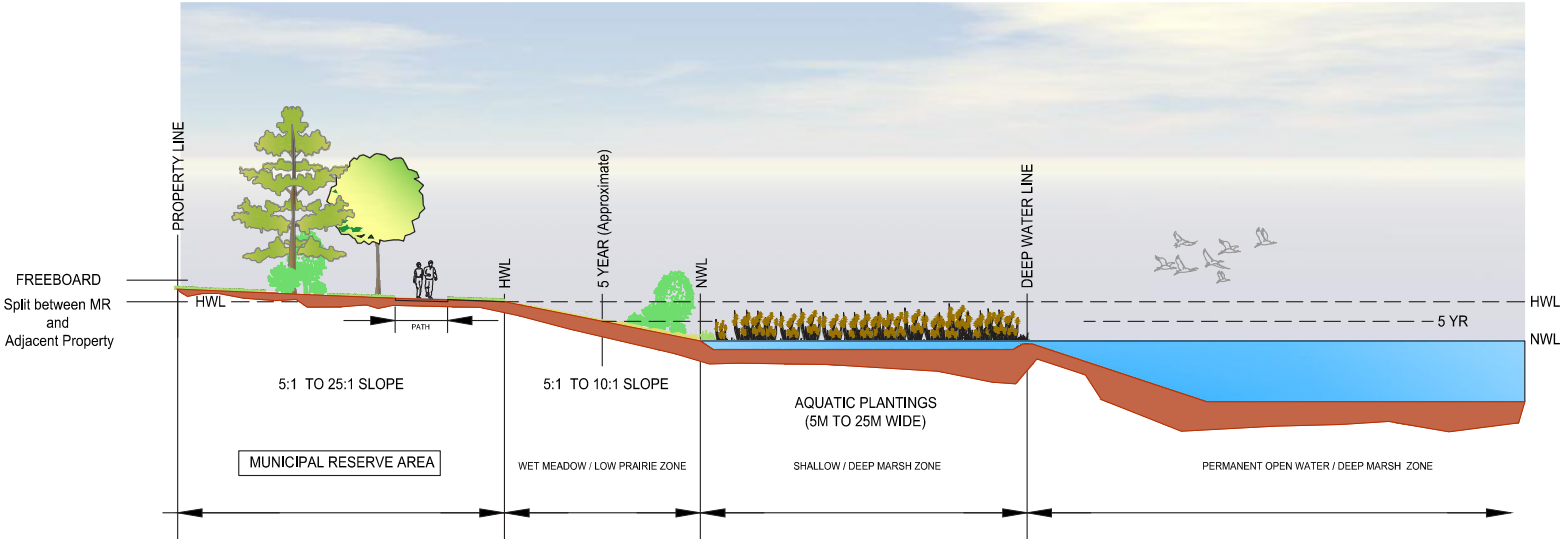


Figure 19: Constructed Wetlands Complex/Stormwater Facility Plan



5.17 Elementary Schools

Two possible elementary schools are located in the centre of the neighbourhood adjacent to the Neighbourhood Core Park. The school sites are approximately four (4) acres each in size, and together will accommodate integrated space for community uses. In the event that a school is not built on one or both of the two sites, they will be developed as a form of residential housing that fits with the overall concept plan.

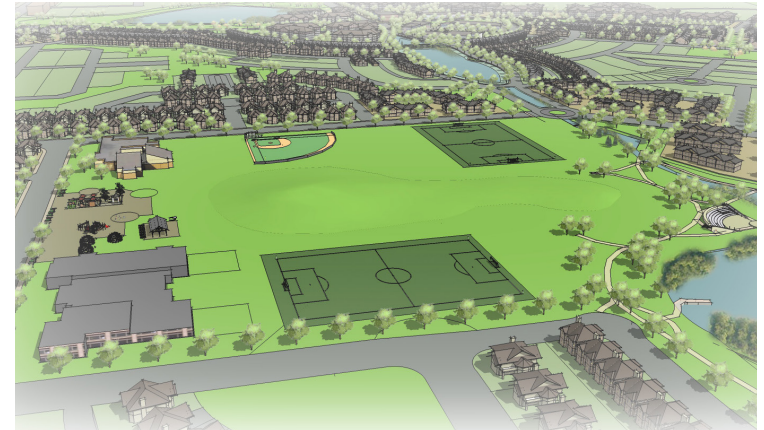
If schools are constructed in the Brighton NCP, community programming needs will be incorporated into the designs of the schools. Community centres are typically developed as part of the school construction.

If a decision is made not to construct the school sites, the City will use proceeds from the community centre levy to construct a stand-alone community centre. Further discussions between City Administration, developers, the Saskatchewan Ministry of Education, and the school boards are ongoing to finalize the details of the community centre space within the potential Brighton school site.

Joint Use Site/Agreement

The school sites will abide by the Joint Use Agreement put forward by the City of Saskatoon. This agreement will guide the planning, assembly, design, development, and maintenance of the Joint Use Sites for school, park, and community amenity purposes. The following 2 figures represent alternative configurations of the Joint Use Site in the central portion of the Brighton NCP.

Figure 20: Elementary School Joint Use Site Rendering



City of Saskatoon Official Community Plan (OCP)

Policy 11.1.2 D) of the City of Saskatoon Official Community Plan states that elementary schools shall be located as close as possible to the centre of the areas they will ultimately serve, shall not be located on arterial streets and, where possible, shall be located at street intersections. Additionally, the policy states that elementary schools generally be located within 700 metres of walking distance from single-family dwellings and other forms of housing oriented towards households with children.

The elementary school sites in Brighton fulfill all components of Policy 11.1.2 D) of the OCP, and the design and positioning of the school site is consistent with other new community developments in Saskatoon such as Stonebridge, Willowgrove, and Rosewood.

The central position of the two school sites in Brighton allows for greater accessibility from the Joint Use Site to transit, open space amenities, commercial retail, and pathway systems throughout community.

Figure 21: Preferred Elementary School Joint Use Site Location



5.18 Neighbourhood Statistics

Section 5.1.2 b of the City of Saskatoon Official Community Plan (Bylaw 8769) states that, “an overall density objective of at least seven dwelling units per gross acre shall be encouraged in the review of neighbourhood concept plans and other major proposals for residential development, recognizing that infrastructure considerations, market forces, and other factors may call for alternative density.” Currently, the Brighton NCP will have a minimum density of 7.4 dwelling units per gross acre, and exceeds the density policies set forth by the Saskatoon Official Community Plan.

The Brighton NCP contains a large area that will be dedicated towards a constructed wetland/stormwater management facility. Brighton will also contain a component of the Sector-wide multi-district park allocation. As a result, the net density numbers for Brighton fall just short of the 7.5 upa density projection found in the Holmwood Sector Plan. In areas where the wetlands/stormwater management facilities are not prevalent, higher density numbers will be achieved to ensure that the goals of the Sector, as a whole, will be met.

The employment and development statistics for the Brighton NCP are shown in Table 3.

Table 3: Brighton NCP Development Statistics

LAND USE	Hectares	Acres	%	Frontage (m)	Units/acre	Units by frontage	People per Unit	Population	Elementary Student Population 0.48 SU and 0.19 MU	Employment
RETAIL (475 sqft/emp)	12.31	30.42	3.7%							697
MIXED USE 1 - RESIDENTIAL/RETAIL/INSTITUTIONAL (475 sqft/emp)	14.98	37.01	8.8%		25	925	1.3	1,203	176	848
MIXED USE 2 - OFFICE/RETAIL (350 sqft/emp)	8.48	20.95	2.4%							652
RESIDENTIAL										
Single Unit Detached Dwellings	98.51	243.41	29.5%	25,384	8	2,115	2.8	5,923	1,015	
Single Unit Detached Dwellings with Lanes	19.97	49.34	6.0%	5,660	11	629	2.8	1,761	302	
Low Density <i>Street</i> Townhousing	12.39	30.61	3.7%	3,521	15	526	2.2	1,156	100	
Low Density <i>Group</i> Townhousing	31.75	78.45	9.5%		20	1,569	2.8	4,393	298	
Medium Density Multi Unit Dwellings	6.76	16.70	2.0%		40	668	1.6	1,069	127	
TOTAL RESIDENTIAL	169.38	418.52	65.6%			6,432		15,505	2,018	
PARKS										
Neighbourhood Pocket Parks (6)	4.02	9.93	1.2%							
Neighbourhood Core Park (1)	10.03	24.78	3.0%							
Multi District Park (1)	1.00	2.47	0.3%							
District Park (7)	12.03	29.72	3.6%							
Linear Parks (8)	6.34	15.67	1.9%							
TOTAL PARKS	33.42	82.58	10.0%							
<i>*Neighbourhood Parks Dedication</i>	20.38	50.36								
<i>*Distict/Multi-District-allocated to linear parks</i>	13.03	32.20								
SCHOOLS										
	3.23	7.98	1.0%	536						
ROADS										
McOrmond Drive - half	7.60	18.78	2.3%							
Arterial Road	2.70	6.67	0.8%							
Collector Roads	18.0	44.44	5.4%							
Local Roads	47.66	117.76	14.3%							
Lanes	3.58	8.84	1.1%							
TOTAL ROADS	79.52	196.48	23.8%							
BUFFER & BERMS	12.85	31.75	3.8%							
ROAD WIDENING - 8th Street	0.97	2.40	0.3%							
INTERCHANGE - McOrmond/College Drive	1.74	4.30	0.5%							
GRAND TOTAL										
	350.83	866.87								
Drainage Parcels	<u>16.65</u>	<u>41.14</u>								
Neighbourhood area (GDA)	334.18	825.73								2197 FTE
Neighbourhood Density *										
units per gross acre			7.4							
persons per gross hectare			44.2							
Population			15,505							
Neighbourhood Dwelling Type Split						44% Single Units/56% Multi Units				

6.0 SUSTAINABLE NEIGHBOURHOOD DESIGN ELEMENTS

A sustainable neighbourhood can be achieved by addressing two levels of development: the neighbourhood layout and the built environment. The concept planning stage primarily addresses the neighbourhood layout.

6.1 The Neighbourhood Layout

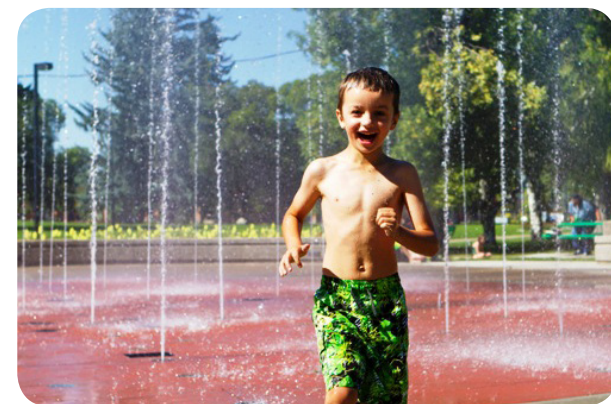
The Brighton NCP includes a number of elements and design features intended to enhance the sustainability of the neighbourhood from a lifestyle perspective.

The Village Centre design is intended to enhance pedestrian accessibility and reduce motor vehicle dependence by providing nearby opportunities for residents to engage in some of their commercial, social, and recreation activities within the neighbourhood, rather than requiring a vehicle to pursue these activities outside the neighbourhood.

The range of housing forms within the neighbourhood is intended to facilitate a sustainable neighbourhood life-cycle whereby basic housing requirements of all residents are met at different stages in their lives, including varying income levels and household size.

The range of housing choices with higher densities along collectors intended for transit routes and within the Village Centre area, result in a neighbourhood with a higher, overall population density than previously developed Saskatoon neighbourhoods, and as such, aligns with City-wide strategy to encourage more sustainable and compact development, reducing the City's urban footprint.

Core neighbourhood facilities (Core Park, schools, commercial) have been located in centralized and higher density areas in order to provide convenient access to the majority of neighbourhood residents via the linear park system, and local and collector roads. The neighbourhood has also been designed to promote pedestrian and vehicular access to future neighbourhood and suburban developments to the south and east, as well as to pedestrian access to existing neighbourhoods to the north and west.



The linear park system offers the following advantages:

- offers an attractive alternative to vehicular use;
- increases green space for a healthier, vibrant neighbourhood;
- links externally to existing neighbourhoods and future neighbourhoods;
- minimizes pedestrian/vehicular conflicts with few road crossing, thus encouraging a safer, free-flowing pedestrian environment; and
- provides additional opportunities to implement Low Impact Development (LID).

Major education and recreation amenities are centralized within the neighbourhood in order to allow a reasonable walking distance of all residents.



6.2 Low Impact Development Techniques

Traditional stormwater management design captures runoff from impervious surfaces and directs it away into temporary storage or into the underground infrastructure. Ideally new developments manage stormwater to reproduce the pre-development hydrology, thereby reducing runoff and pollutant loads. Stormwater management measures such as Low Impact Development (LID) and stormwater source controls are intended to capture the frequent, small rainfall events at the source to mimic the natural water balance. These measures can be applied at different levels of planning – as broadly as watershed planning or as site-specific as planning for individual properties.

The U.S. Environmental Protection Agency (EPA) in 2010 defined LID as “an approach to land development that works with nature to manage stormwater as close to its source as possible”. LID practices are designed to reduce impervious area by limiting detrimental land uses and preserving natural features, thereby reducing runoff quantity. Applied at the planning stage, these practices include:

- Reducing road widths (enables additional green space and bordering trees can create an arching canopy that intersects rainfall),
- Reducing building footprints by allowing taller buildings to achieve desired floor space (preserves more natural vegetation and allows more space for source control measures),

- Reducing the amount of space dedicated to parking (reduces impervious area),
- Limiting the amount of surface parking and replacing it with underground parking (allows more preservation of natural area and parkades can have green roofs),
- Building compact communities (preserves natural areas and reduces transportation needs),
- Preserving significant natural features (lessens changes to the natural water balance).



Bioswale example.

6.3 Source Control Best Management Practices

Source control Best Management Practices (BMPs) are measures that can be used to provide both quantity and quality control of stormwater from urban developments. The Holmwood Sector Plan (2011) describes Best Management Practice (BMP) techniques that can be implemented to control the quantity/rate and improve the quality of stormwater discharges to receiving watercourses. Within the last couple of years, source control measures have been described to include specific measures that retain runoff on site so as to reduce runoff volumes to the receiving natural watercourses. These Low Impact Development (LID) techniques can be used in the context of an overall strategy of a development to reduce environmental impacts through community or development design.

For the purpose of this report, the source control BMPs described as follows will be considered for use where practically possible.

Residential Developments

- All roof drainage from single-unit homes and garages to be directed onto on-site landscaped areas prior to it being allowed to drain onto driveways, streets or lanes or municipal reserves;
- A minimum of 300 mm (1 foot) of topsoil provided for landscaped areas if available on site;
- Roof and parking lot drainage within private sites (multi-unit to be directed to landscape areas and bioretention areas before the excess water is captured into the storm sewer system;
- Where practical, bioswales and bioretention areas can be incorporated in open space corridors;
- Under the City's permission, overland drainage can spill to park areas rather than directly to street or storm sewer system.
- Rain-capture barrels may be provided to residents for the reuse of rainwater.



Bioswale example.



Rain-capture barrel example.

Business Park and Commercial Developments

- Encourage pervious site coverage, which can take the form of bioretention areas or landscaped areas;
- The remaining impervious surfaces will first drain to landscaped areas before the excess water is directed to the storm sewer system.
- A minimum of 300 mm (1 foot) of topsoil to be incorporated into landscaped areas if available on site;
- Rainwater from the building roofs may be retained in cisterns or storage tanks (rainwater harvesting) and reused for non-potable purposes or irrigation of landscaped areas;
- Water is allowed to pond on flat roofs for loss by evaporation. Depending on the amount of building coverage and depth of ponding, roof evaporation can reduce annual runoff volume from a commercial or industrial site.
- A reduction in the amount of impervious surface coverage that is allowed to drain directly to the storm sewer system;



Business Park and Commercial Development examples.

Reuse for Irrigation

One of the most effective methods available to retain stormwater on-site is to “harvest” rainwater and reuse it to supplement municipal water supplies for a variety of purposes. Rainwater harvesting is the process by which runoff is collected from a roof area or other impermeable surfaces before diverted into a storm sewer system. Rainwater harvesting is a benefit in land development, as it reduces the demand on potable water sources and relieves pressure on sewer infrastructure.

Rainwater harvesting can be used for irrigation, ground water recharge, mitigating soil erosion, and can act as a method of overland flood control. A critical issue in rainwater harvesting is to ensure the effective use of the harvested rainwater and to ensure that the proportion of rainwater harvest maintains the natural hydrological balance of the watershed.

Rainwater harvesting is becoming a very popular concept for urban municipalities such as the City of Calgary where the stormwater from storm ponds is used for irrigation purposes. The largest known application of stormwater for this purpose is the City of Calgary’s Inland Athletic Sports Park in the north-west part of the City. This project involves the irrigation of 18 acres of sports fields using stormwater runoff from an adjacent commercial development. Several new master drainage plans have recently been approved by the City of Calgary which incorporates stormwater reuse for irrigation purposes as a cost saving operation and a means of retaining stormwater on site.

It is proposed that stormwater collected by the Holmwood Sector stormwater management facilities (SWMFs) could be used for irrigation some of the public open spaces. In order to minimize the cost of the required infrastructure and dual line assignments within the public roadways, the park areas and SWMFs should be located with close proximity of each other. Other design considerations include determining the capital and operating cost of storage basins, pumping systems and providing a backup source during periods of drought to ensure an adequate supply of water. Replenishment of water used for irrigation will also serve to improve the water quality within the storage basin itself. Although water conservation methods should still be practiced, the use of stormwater for irrigation in public open spaces should be explored in more detail to ensure maximum benefit is achieved.

6.4 The Built Environment

The developer will explore methods to promote the construction of environmentally sustainable buildings. There are three ways this goal may be achieved:

1. utilization of registered programs already in place whereby existing agencies manage and certify buildings based on tangible sustainable building practices. Some examples include: Energy Star qualified homes; R-2000 certified homes; LEED rating for multi-unit, institutional, commercial, and mixed-use buildings; and LEED rating for single unit homes - LEED for Homes in Canada is a rating system that has recently been developed;
2. non-registered sustainable building practices that homeowners may choose to adopt. Some examples include: building systems that take advantage of passive and active solar gain; alternative energy systems, e.g. district heating, cogeneration, geothermal; permeable paving materials for driveways, walkways, and patios; xeriscaping for public and private spaces; water use reduction strategies; grey water usage; and rainwater recapture systems;
3. Environmentally sustainable design principles may be demonstrated through a sustainable parade of homes.





Traffic calming measures: Roundabouts.



"Eyes on the street" will be provided by Village Centre retail businesses through higher-density residential housing.

Safe Growth and CPTED Principles

Neighbourhood safety and the principles of Crime Prevention Through Environmental Design (CPTED) have been a major consideration throughout the evolution of the neighbourhood design.

A summary of some of the safety considerations incorporated into the neighbourhood layout are as follows:

- Street/frontage adjacent to a multi-use trail.
- Park spaces offer multiple entry/exit points and provide significant sight lines to enhance visibility and natural surveillance, as well as decrease the presence of movement predictors.
- Higher density residential housing in the Village Centre will ensure a larger population to provide "eyes on the street" for the retail businesses there.
- Roundabouts will calm traffic and provide a location for the placement of artwork, enhancing the community culture and create a sense of place for the neighbourhood.
- Pedestrian crossings of the Canadian Pacific Railway right-of-way and College Drive will implement safety in lighting, and proper construction design will be required and addressed.
- Street lighting will be provided along all streets and along pathways in parks in order to enhance visibility.

- As required by the City of Saskatoon Park Development Guidelines, the Neighbourhood Core Park and Neighbourhood Pocket Parks are designed to 100% visibility of the site interior from the surrounding streets.
- Corner cuts at the back of lots at park entry points are provided to enhance visibility.
- All street corners with sidewalks will have wheelchair accessible ramps, and all multi-use trails will be graded to ensure accessibility.
- Vegetation within all parks will be designed to avoid areas of entrapment.
- The modified, fused-grid design of roads and integrated Neighbourhood Pocket Parks encourage the use by local residents and strengthen neighbourhood cohesion.
- The proposed school sites and Neighbourhood Core Park are visible from surrounding residential development and adjacent streets.
- The Neighbourhood Core Park will include recreation facilities that will be used by students of the proposed adjacent elementary schools during the day and by organized sports' programs in the evening.
- A fence will be constructed in all rear or side yards that back onto any parks or drainage areas to encourage use of the space by local residents. Fences will be permeable so as to allow visibility from rear yards into open space areas.



Street corners in Brighton NCP will be wheelchair accessible.



Permeable fences will be built on rear yards backing onto open space areas, to promote visibility and community safety.

- The constructed wetland complex will provide an opportunity to create a unique image and identity in the central and southern portion of the neighbourhood. The constructed wetlands will provide seating areas and walking trails for the residents to enjoy and learn about the wetland ecosystem through a series of informational placards placed around the wetland system.
- At full build-out, the neighbourhood will have a relatively high density in comparison to existing Saskatoon neighbourhoods and should increase local community capacity to support schools, businesses, and organized activities.
- The neighbourhood design has minimized areas of potential pedestrian and vehicle conflict. As a result, mid-block crossings have been reduced in number, located in the west end of the neighbourhood, crossing local roads only (please see Figure 32 on page 78). Traffic calming measures will be implemented at this location during roadway design and construction and at other strategic intersections.



Information placards will be placed around the wetland area to promote an educational learning experience about the surrounding physical environment.



Mid-block crossings will promote a safer pedestrian environment.

7.0 TRANSPORTATION

7.1 Roadway Network

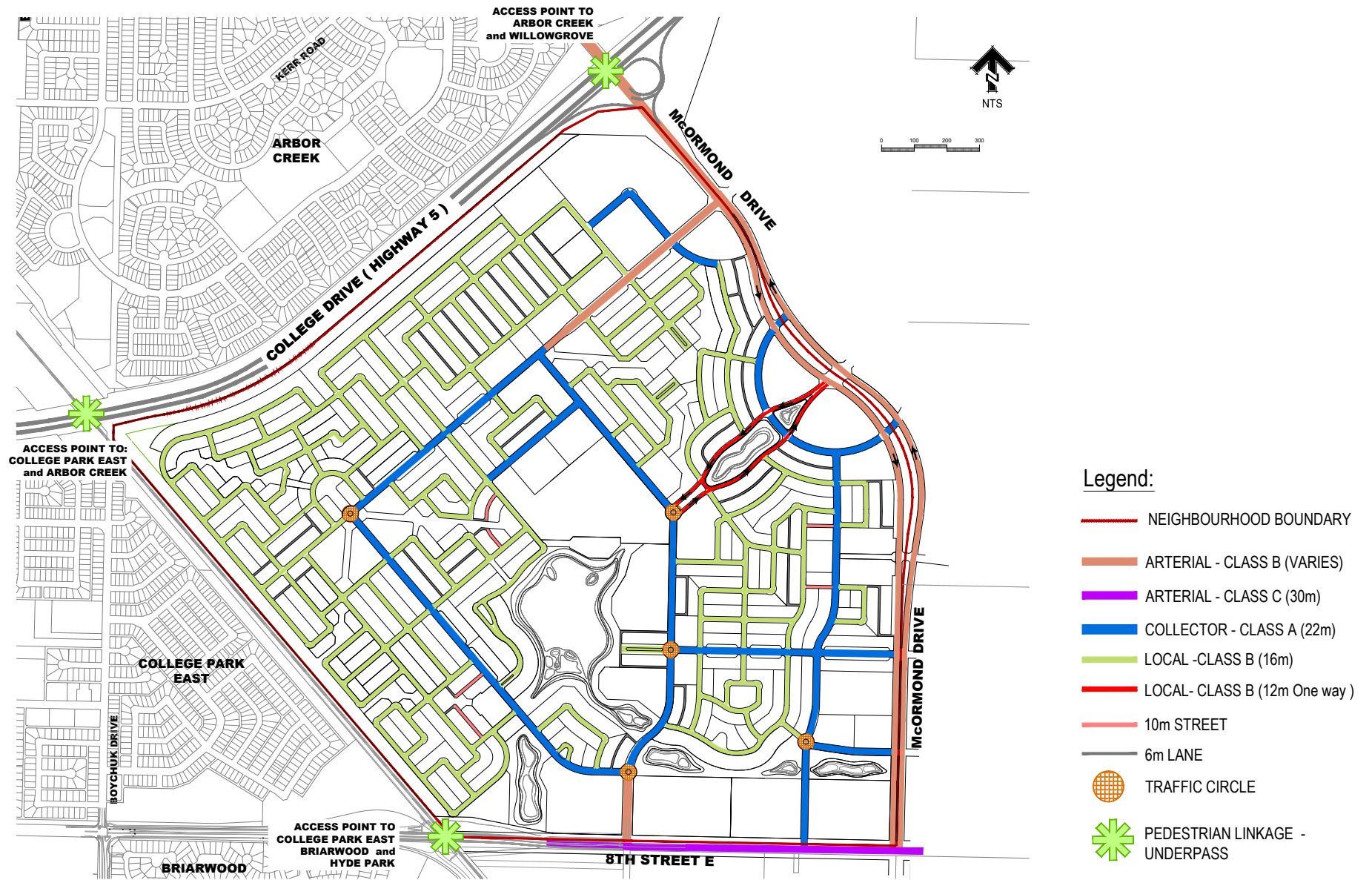
The roadways within Brighton will connect to the City's existing and proposed road network at locations along McOrmond Drive and 8th Street E. As shown in Figure 22, the neighborhood is bound to the north by College Drive (Highway 5), to the east by the proposed re-alignment of McOrmond Drive, to the south by 8th Street E., and to the west by the Canadian Pacific (CP) rail line. The neighborhood will be serviced by College Drive, McOrmond Drive, and 8th Street E. - the latter two forming part of the City of Saskatoon's arterial roadway network. College Drive forms part of the Provincial Highway (City of Saskatoon Freeway/Expressway) network and serves as the primary connection to downtown Saskatoon.

McOrmond Drive has recently been approved by the City of Saskatoon as the east connecting roadway to the North Commuter Parkway connecting to Marquis Drive on the west side of the South Saskatchewan River. The north commuter bridge is planned as a six lane commuter bridge and will provide additional access to existing employment areas within the City. McOrmond Drive will also connect with Zimmerman Road / Taylor Street in the south and connect to southeast Saskatoon and Highway 16.

Six (6) neighborhood entrance points will be provided along McOrmond Drive with an additional two (2) entrances off of 8th Street E. The City of Saskatoon is currently planning an interchange at the intersection of College Drive and McOrmond Drive. McOrmond Drive south of this location is proposed to be relocated to the east with the existing intersection of McOrmond Drive and 8th Street E. proposed to be moved approximately one half mile due east as shown in the Concept Plan. The proposed re-alignment of McOrmond Drive will consist primarily of a four-lane divided, Class B arterial roadway with a 50m right-of-way (ROW). The Complete Street guidelines will be applied south of this intersection through the central portion of the neighborhood will widen to accommodate a larger central median.

The neighborhood roadways have been set up using a fused-grid pattern with the majority of roadways oriented parallel and perpendicular to College Drive and the CP rail line. Within the neighborhood there is a system of Class A collector roadways with 22m ROW's providing the backbone of the proposed roadway system. These collector roadways service the network of local roadways which are Class B local roadways with 16m ROW's.

Figure 22: Brighton Roadway Hierarchy Plan



7.2 Road Classifications

Complete Streets

The Complete Street concept refers to streets that are planned to accommodate the needs of all users including cyclists, pedestrians, motorists, and transit users. The street environment is designed in a manner that allows wider sidewalks and common areas to facilitate commercial/mixed-use areas and street facing residential areas of increased density and prominence.

McOrmond Drive has been designed to embrace the Complete Street concept and to foster a sense of inclusion between neighbourhoods. The following cross sections illustrate this concept:

Section A

Cross section A is typical of McOrmond Drive between College Drive and the first entrance to the neighbourhood and the commercial/employment area to the east. This roadway will feature six lanes for traffic which will accommodate transit and private vehicle uses. A 3.0m multi-use trail located on the west side of the roadway will provide pedestrian and cyclist access to communities north of College Drive, including Arbor Creek and Willowgrove.

Section B

Cross section B will introduce lay-by lanes at specific locations where residential and/or commercial uses will front McOrmond Drive. These lay-bys will consist of a dedicated bike lane, a one-way traffic lane and a parallel parking lane. A treed boulevard is proposed to buffer these

uses from a wide pedestrian walkway. The lay-by lanes will be separated from the through traffic lanes again by a treed boulevard. While remaining inclusive and visually appealing, these boulevards will provide the required separation to allow the various uses to operate efficiently. Where lay-bys are not present, dedicated cyclist lanes will continue along the edge of the roadway. Transit and private vehicles will be accommodated by four lanes of traffic.

Section C

Cross Section C is typical of cross section B noted above, however, the median proposed is 5.0 m.

Figure 23: Cross Section A (50.0m ROW)

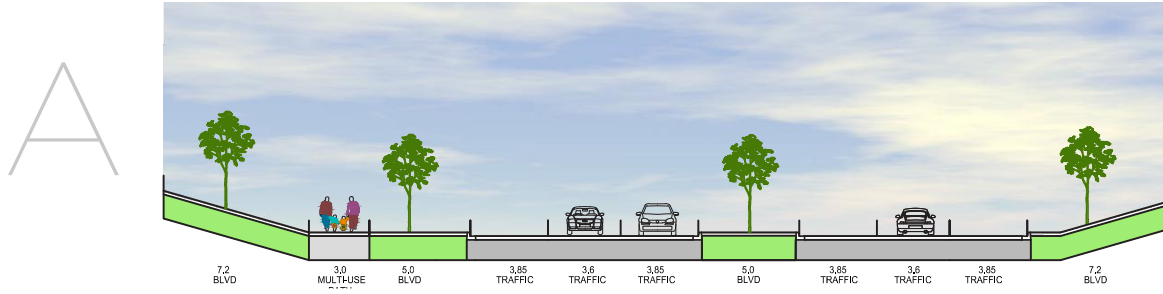


Figure 24: Cross Section B (ROW varies)

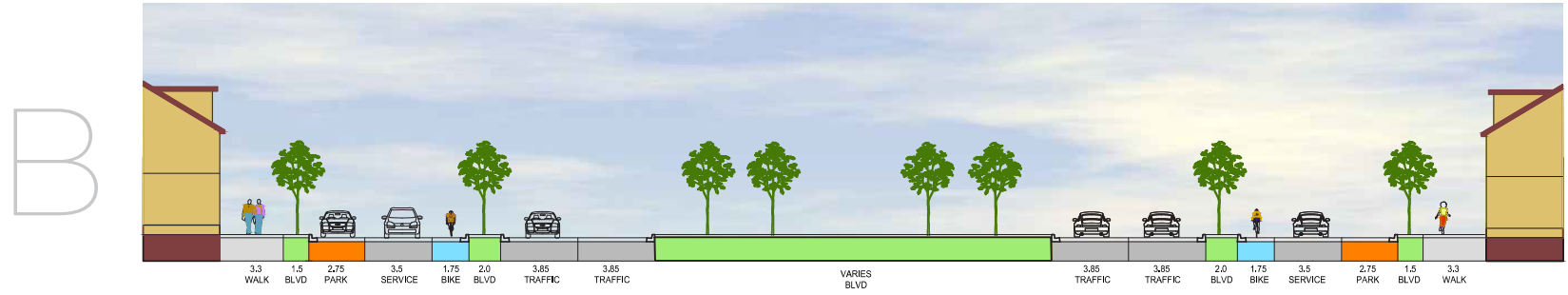
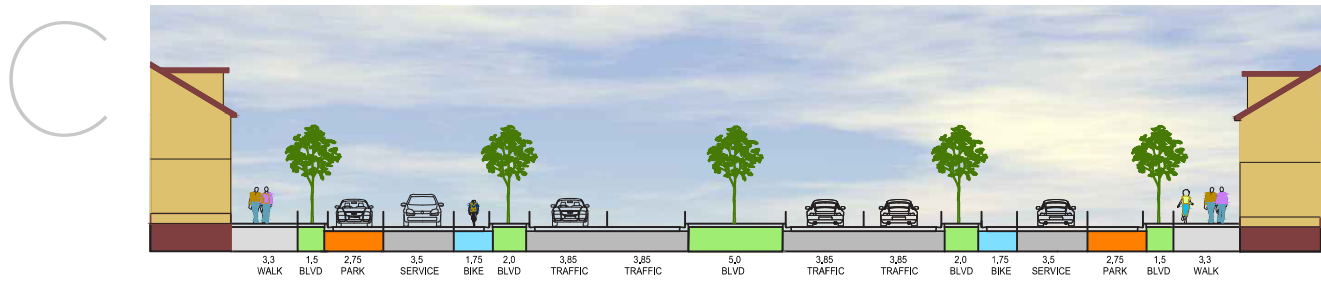


Figure 25: Cross Section C (50.0 ROW)



Collector Lay-by Streets

Select collector roadways within the neighbourhood will feature lay-by lanes. Lay-by lanes are a common feature in other neighborhoods around Saskatoon, namely Briarwood and Arbor Creek, and provide protected areas for parking and pedestrians along busy collector roadways. These lay-bys will allow street-oriented development to efficiently coincide with efficient travel along these roadways.



Figure 26: Lay-by Cross Section D (37.0m ROW)

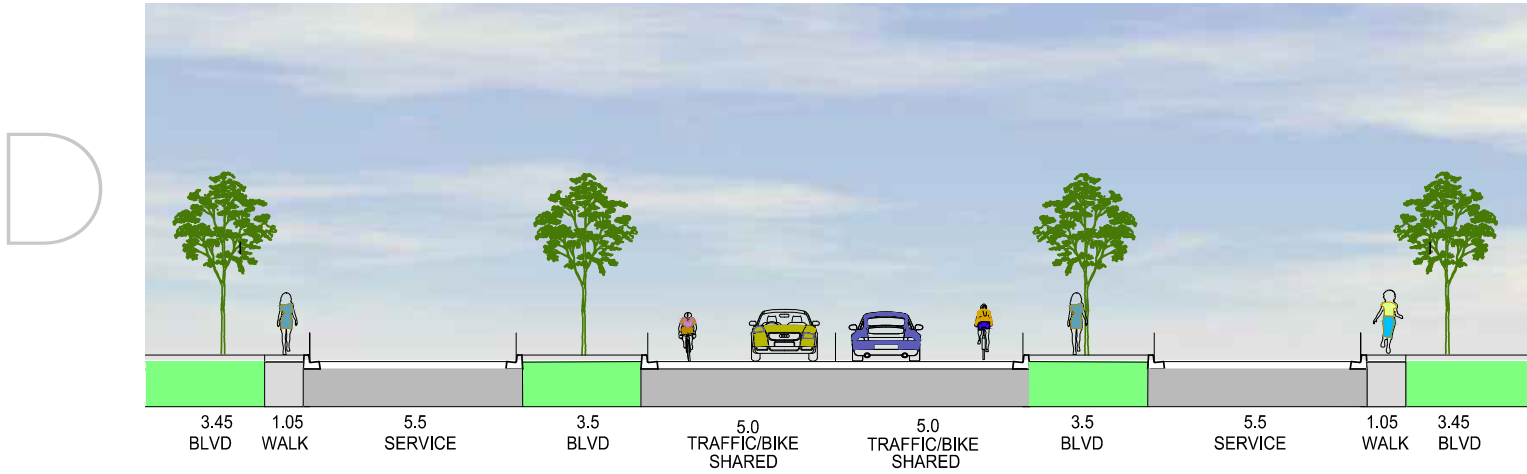
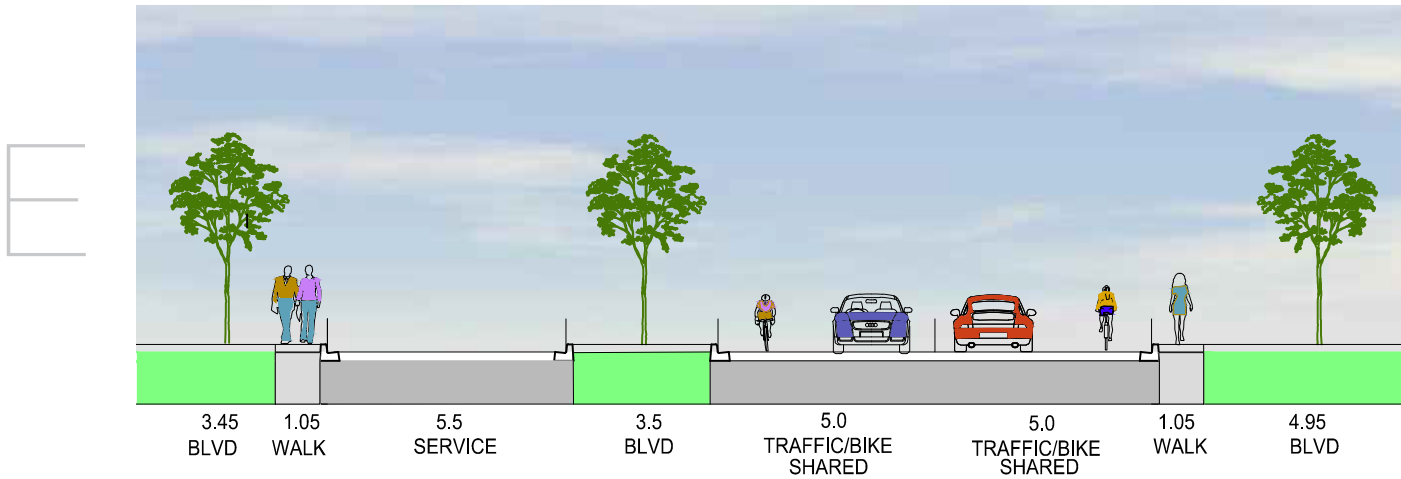


Figure 27: Lay-by Cross Section E (29.5m ROW)



8th Street E.

8th Street E. will be upgraded east of the CP rail line to a Class C arterial roadway up to the proposed intersection with McOrmond Drive. 8th Street E. will ultimately be designed as a six lane roadway and will function as a major transit corridor.

Figure 28: 8th Street E. Cross Section F

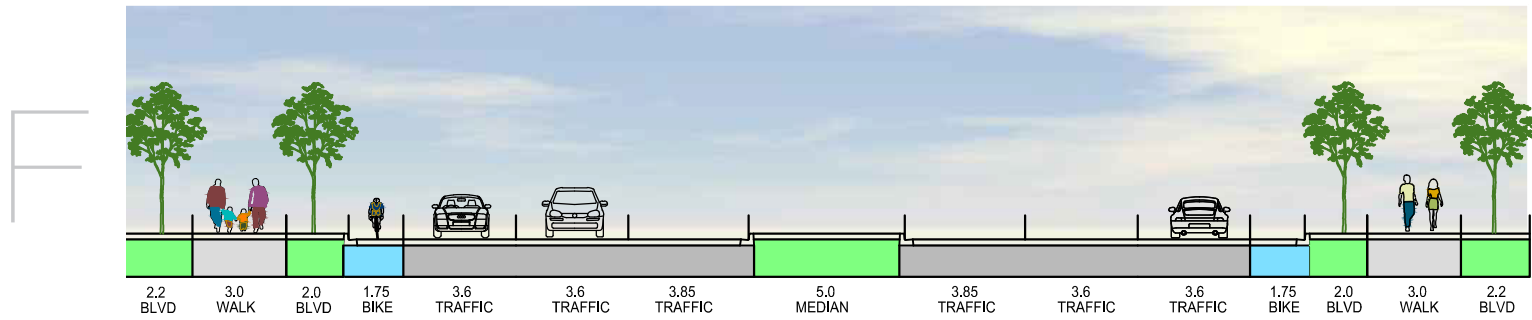


Figure 29: 8th Street E. Cross Section G

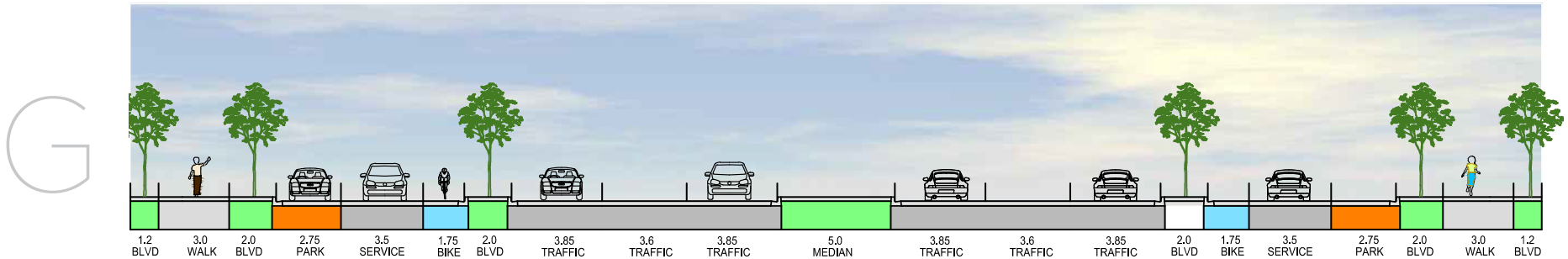
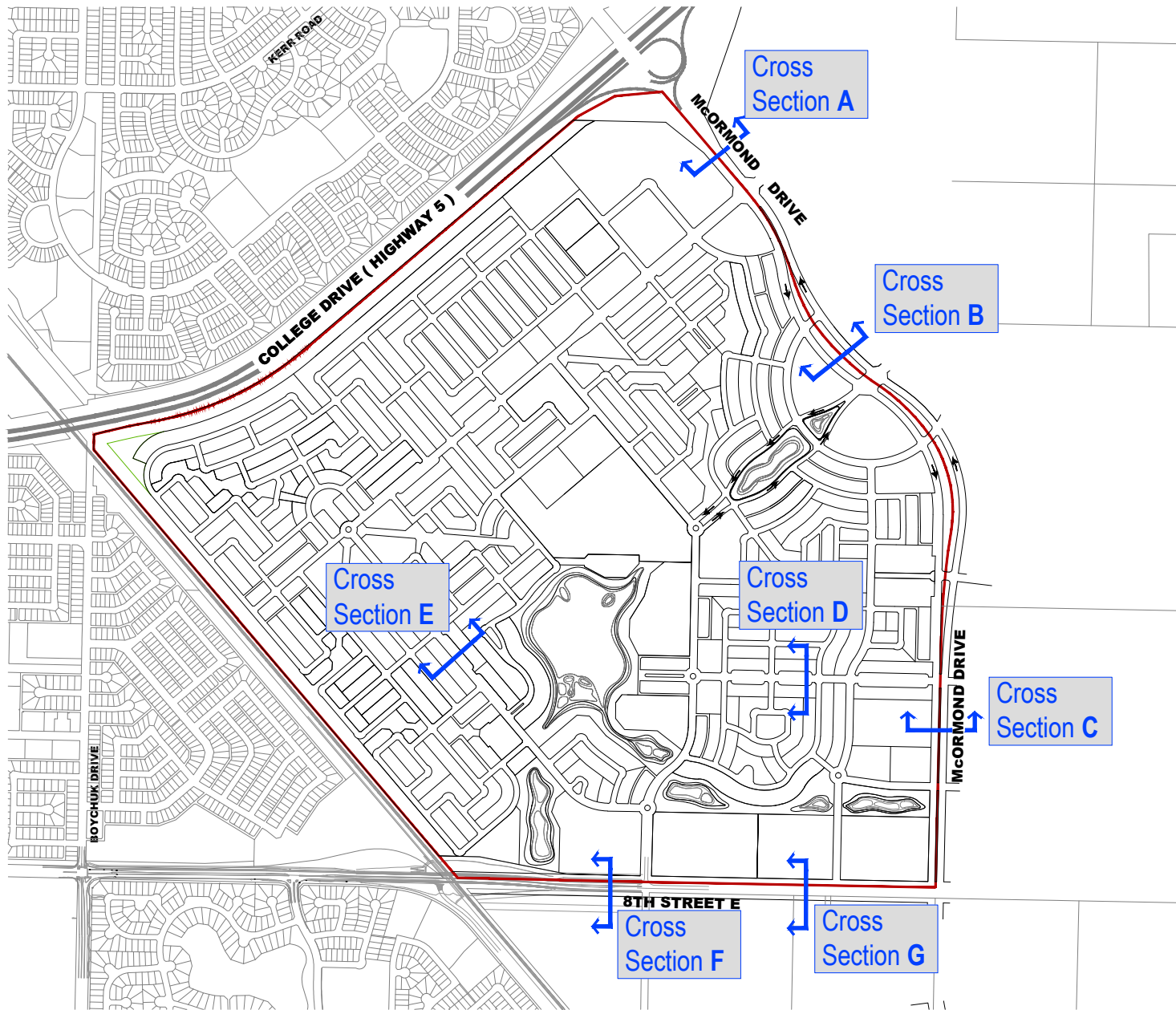


Figure 30: Cross Section Location Map



Highways and Interchanges

The College Drive and McOrmond Drive interchange is currently being designed and is planned to be constructed concurrent with development. This interchange will provide the major connection to the neighbourhood and will be designed with a multi-use trail connection to neighbourhoods north of College Drive.

The 8th Street E. fly over will be constructed concurrent to the development and its ultimate design will feature six lanes of traffic. This fly over will feature pedestrian connections to neighbourhoods west of the CP rail line.



7.3 Traffic Impact Study (TIS)

A Traffic Impact Study (TIS) has been completed and can be found in the Appendix of this report. The results of the TIS show that with a full build-out of Brighton, the existing and proposed road network is capable of handling the additional traffic generated by the development. However, once the Regional Centre Retail and Suburban Centre Retail are developed on the east side of McOrmond Drive, a number of intersection locations will start to experience longer delays as the levels of service are expected to be reduced. To address these impacts, further entrance locations should be provided to the east of these developments to the future Zimmerman Road. Select intersections along McOrmond Drive are also proposed to include such features as dual left turning lanes and channelized right turning lanes to accommodate the higher volumes of traffic.



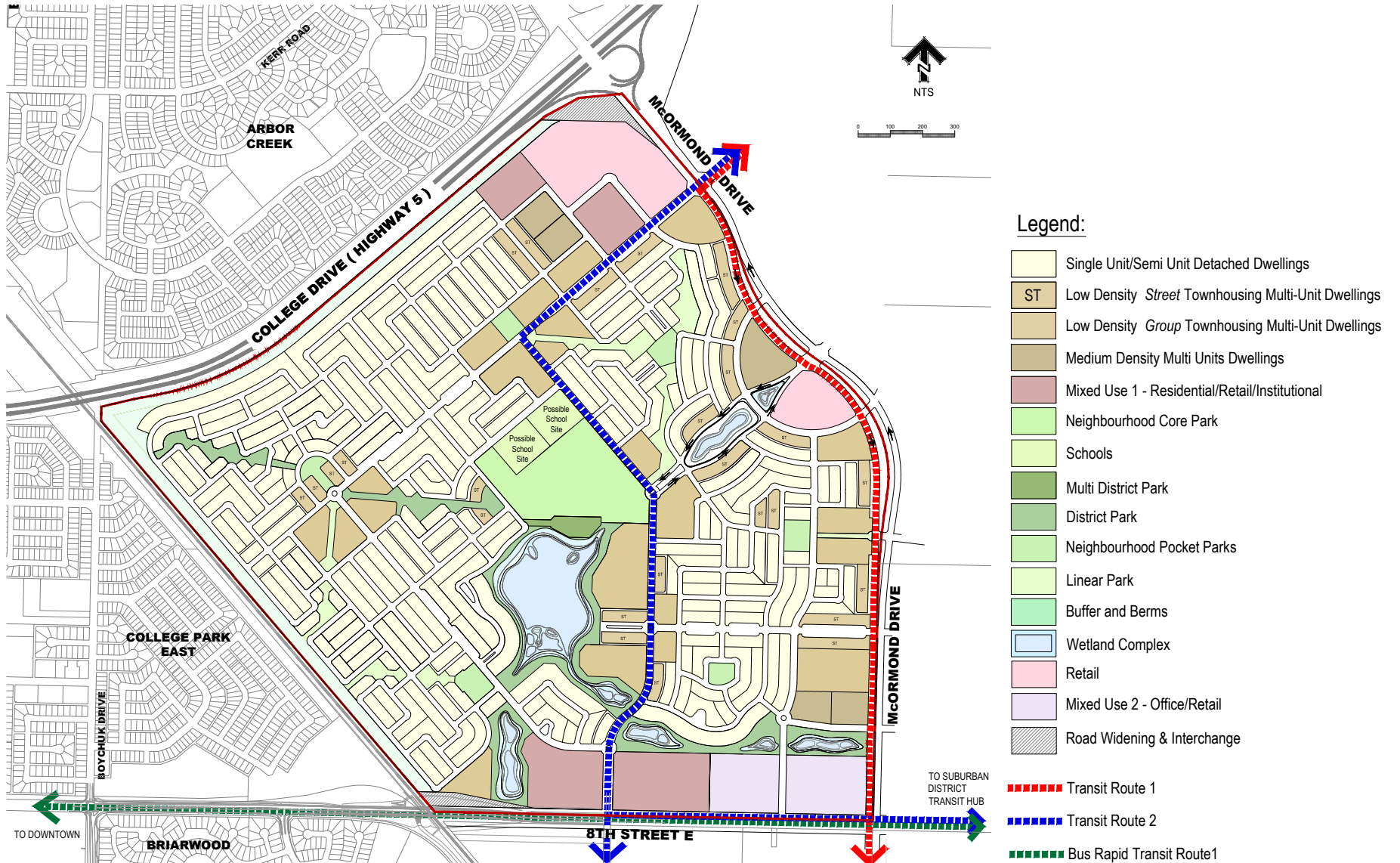
7.4 Transit Routes

The Brighton NCP will contain a well-connected street layout which provides for direct pedestrian, bicycle and vehicular access to key destinations and to transit services (see Figures 31 and 32). As per the City of Saskatoon Official Community Plan Policy 5.1.2 f, medium and high-density land uses fall within the recommended distance of 250m of transit services. These higher density land uses around the transit routes will promote efficient transit services and encourage ridership. In addition, Brighton will contain numerous pathways to further facilitate connectivity for non-vehicular modes of transportation to transit routes. These pathways include a shared-use on-road cycling lane, a paved off-road multi-use trail, numerous walkways, as well as park paths.

Transit Route 1 (as seen in Figure 28) will run along McOrmond Drive, and will provide connections to Transit Route 2 along 8th Street E. Transit Route 2 will follow the collector loop through the NCP, will serve as the major transit route in the area, and will provide connections from McOrmond Drive to 8th Street E.



Figure 31: Brighton Transit Route Plan



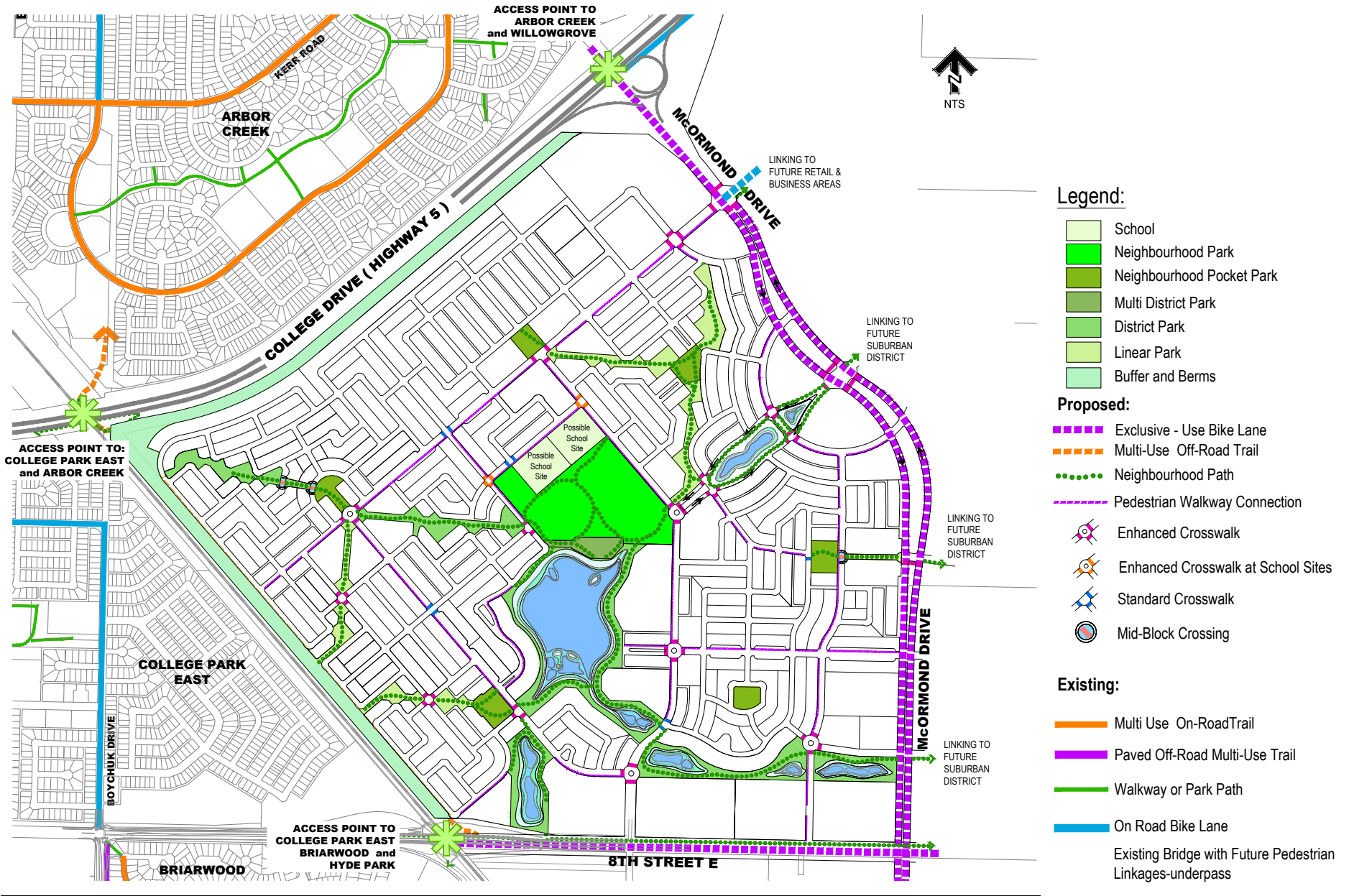
7.5 Active Transportation Plan

The Brighton NCP will contain a well-connected street layout which provides for direct pedestrian, bicycle and vehicular access to key destinations (as seen in Figure 32). In addition, Brighton will contain numerous pathways to further facilitate connectivity for non-vehicular modes of transportation. These pathways include a shared-use on-road cycling lane, a paved off-road multi-use trail, numerous walkways, as well as park paths. The Brighton NCP incorporates various measures to ensure a high degree of pedestrian connectivity, including:

- Pedestrian access points (2) across College Drive: one at the CPR railway to College Park East and Arbor Creek; and one at McOrmond Drive to Willowgrove and Arbor Creek;
 - Pedestrian access point across 8th Street E. at the CPR railway to College Park East, Briarwood and Holmwood Phase 2;
 - Six (6) pedestrian access points to McOrmond Drive, with connections to the future Holmwood Commercial/Employment District and the Suburban Centre to the east;
 - Extensive linear parks with pathways providing convenient and safe walking and cycling opportunities, with connections to other categories of parks (e.g., Neighbourhood Core, Pocket Parks), schools, wetlands, transit, and to sidewalks on adjacent local and collector roads;
 - Implementation of “Complete Street” principles on McOrmond Drive and 8th Street East, such as separated bike lanes and widened sidewalks;
 - Marked crossings are placed at applicable locations to ensure pedestrian connectivity is maintained.
 - Mid-block crossings are restricted to 3 locations, with traffic calming measures such as bump-outs and special surfacing to
- direct movement and enhance pedestrian safety;
 - Enhanced pedestrian crossings at strategic locations to again incorporate traffic calming measures;
 - Pedestrian sidewalks will be provided on all streets.

The measures outlined above will provide strong pedestrian and cyclist connectivity both within Brighton as well as to existing and future adjoining neighbourhoods.

Figure 32: Active Transportation Plan



8.0 SERVICING

As part of the development process, both the City of Saskatoon and the developer require investigation of design parameters and potential obstacles to servicing the proposed area. In this case, servicing refers to municipal infrastructure systems (water distribution, sanitary wastewater collection, and stormwater management), and does not include shallow utilities (phone, power, natural gas, etc.) although these will require investigation as the development process moves forward.

8.1 Sanitary Sewer

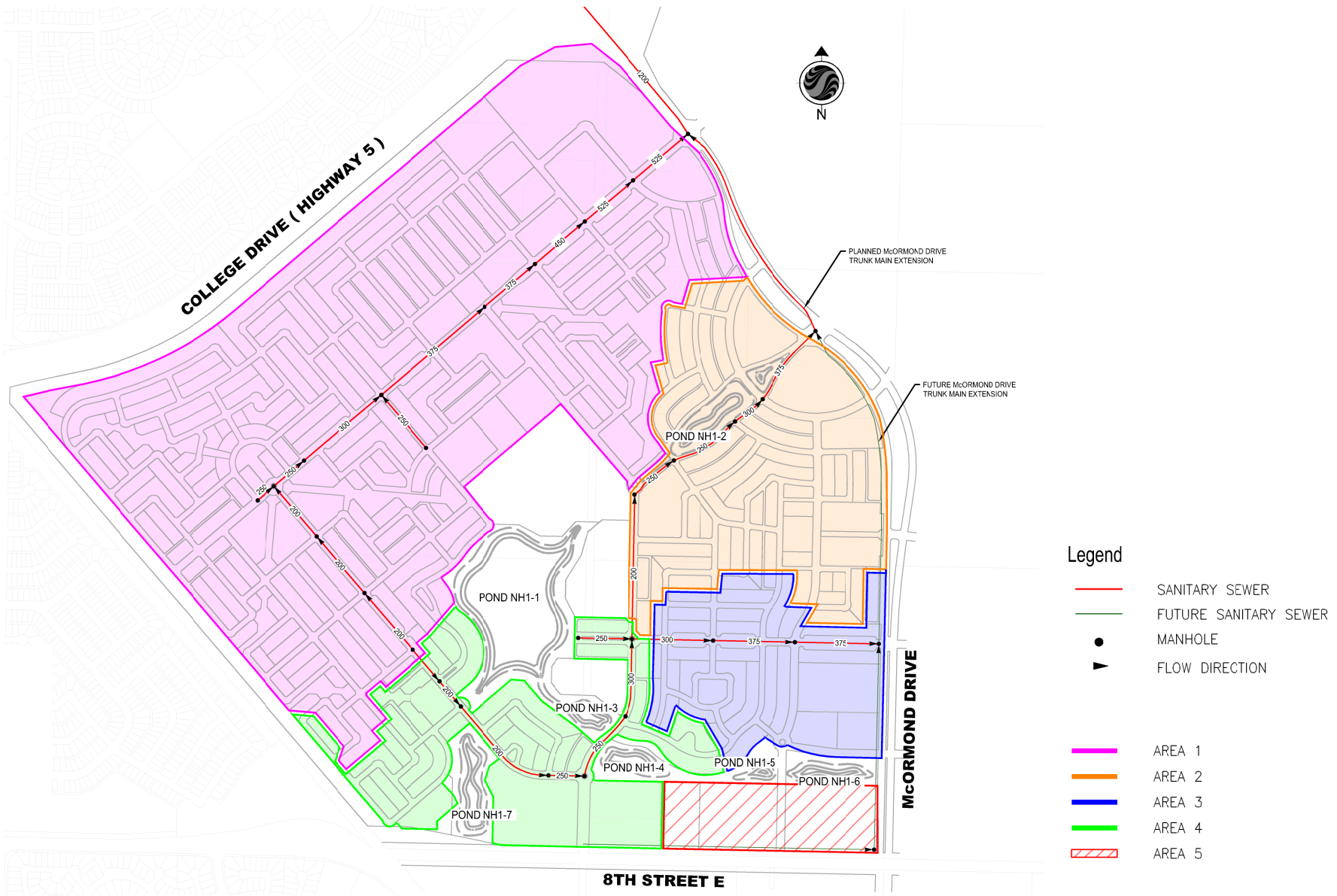
The proposed Brighton NCP can be serviced via a gravity sanitary sewer system to the sanitary sewer trunk currently under construction. The sanitary sewer concept was based upon land uses and densities provided by Brown Associates and includes a total residential population of approximately 15,500 consistent with this report and will include “equivalent” population values for commercial/retail/office land uses located within the neighbourhood. As stated in the land use table within this report, the gross population density proposed for Brighton is 44.2 people/ha, which falls in line with information received from the City of Saskatoon that indicates that 45 persons/ha, with the possibility of 48 persons/ha, is allowable. The sanitary sewer design was completed using the Current City of Saskatoon New Neighbourhood Design Manual, however, potential changes in design methodology may be forthcoming allowing for increased density if desired.

Based on the existing topography and the proposed grades for the neighbourhood, the proposed development was divided into four catchment areas with independent connections to the McOrmond Drive trunk sewer. Catchment 1 will serve the northern portions of the neighbourhood and will connect to the McOrmond Trunk at the first collector intersection. This trunk is proposed to be 525 mm in diameter and will serve approximately 52% of the development. Catchments 2 and 3 are located in the east central region of the neighbourhood and are proposed at 375 mm and will collectively service 28% of the development.

Catchment 4 is located in the southwest portion of the site and will require the extension of the new 8th Street E. trunk from McOrmond Drive. This connection is proposed at 375mm and will service 13% of the development. The future 8th Street E. sanitary sewer extension will service development fronting 8th Street E. and will be extended south into future neighbourhoods.

Please refer to Figure 33 for the Sanitary Sewer and Catchment Area Plan.

Figure 33: Sanitary Sewer and Catchment Area Plan



8.2 Water Supply

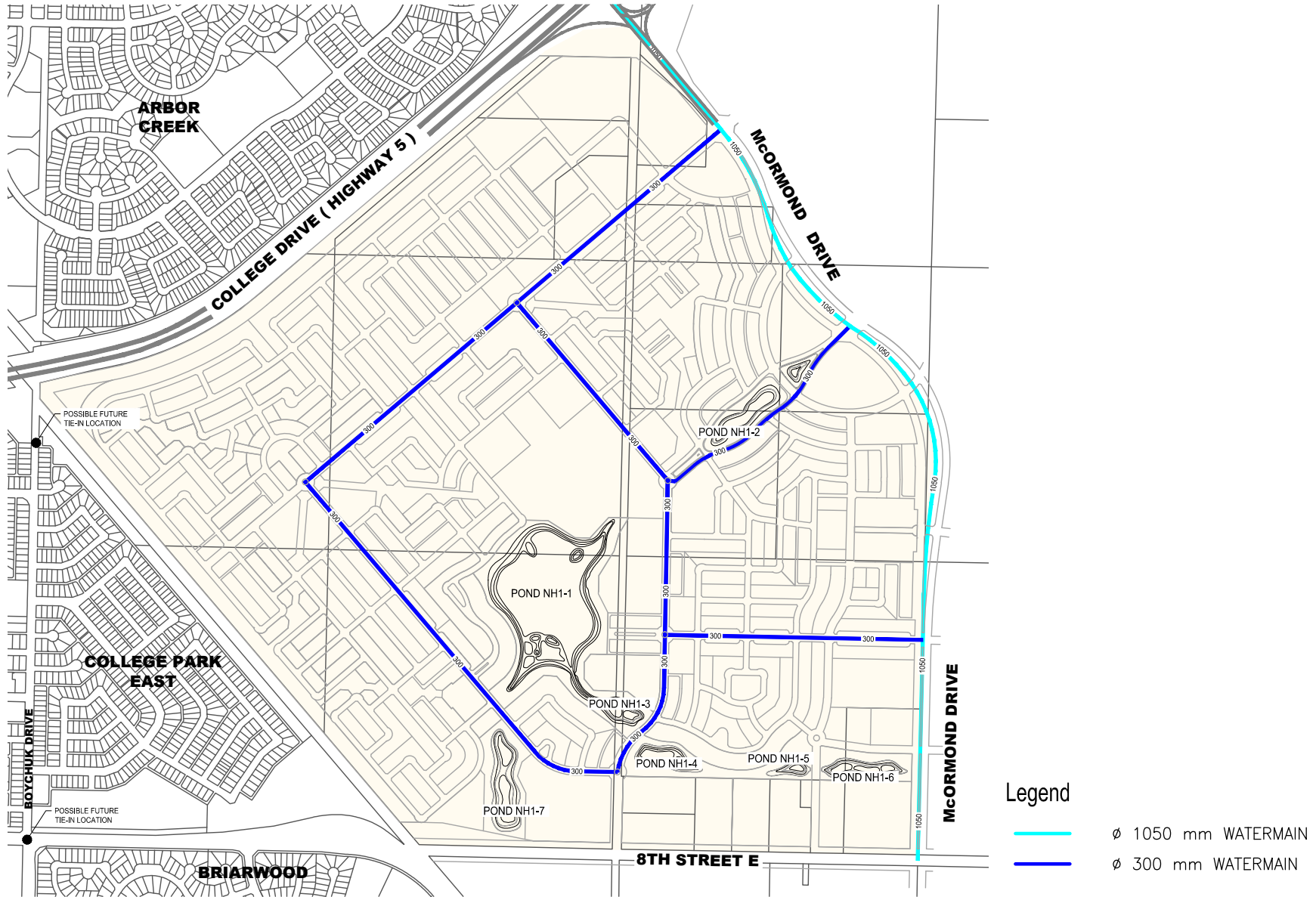
The proposed Brighton neighbourhood will be primarily serviced by a 1050 mm primary water main extended from McOrmond Drive across College Drive in the Sector adjacent to Brighton. Other future connections to Brighton will include a second primary water main extended from Taylor Street - potentially 8th Street and Moncton Place water mains for redundancy. These additional connections serve for maintenance purposes and emergency back-up for unanticipated breaches in the system.

The system was evaluated based on a permanent population of 15,500 and was evaluated using City of Saskatoon Standards for capacity, pressure, velocity under both consumption and fire flow conditions.

A proposed primary network of 300 mm diameter PVC piping following the collector roadway system within the neighbourhood is recommended to provide proper distribution and fire flow protection to the neighbourhood. A smaller network of water mains (250 mm - 150 mm) will provide local distribution within the neighbourhood. All piping systems will be looped to allow for proper water age and higher pressures to reduce impacted areas if maintenance is required.

Please refer to Figure 34 for the Water Servicing Plan.

Figure 34: Water Servicing Plan



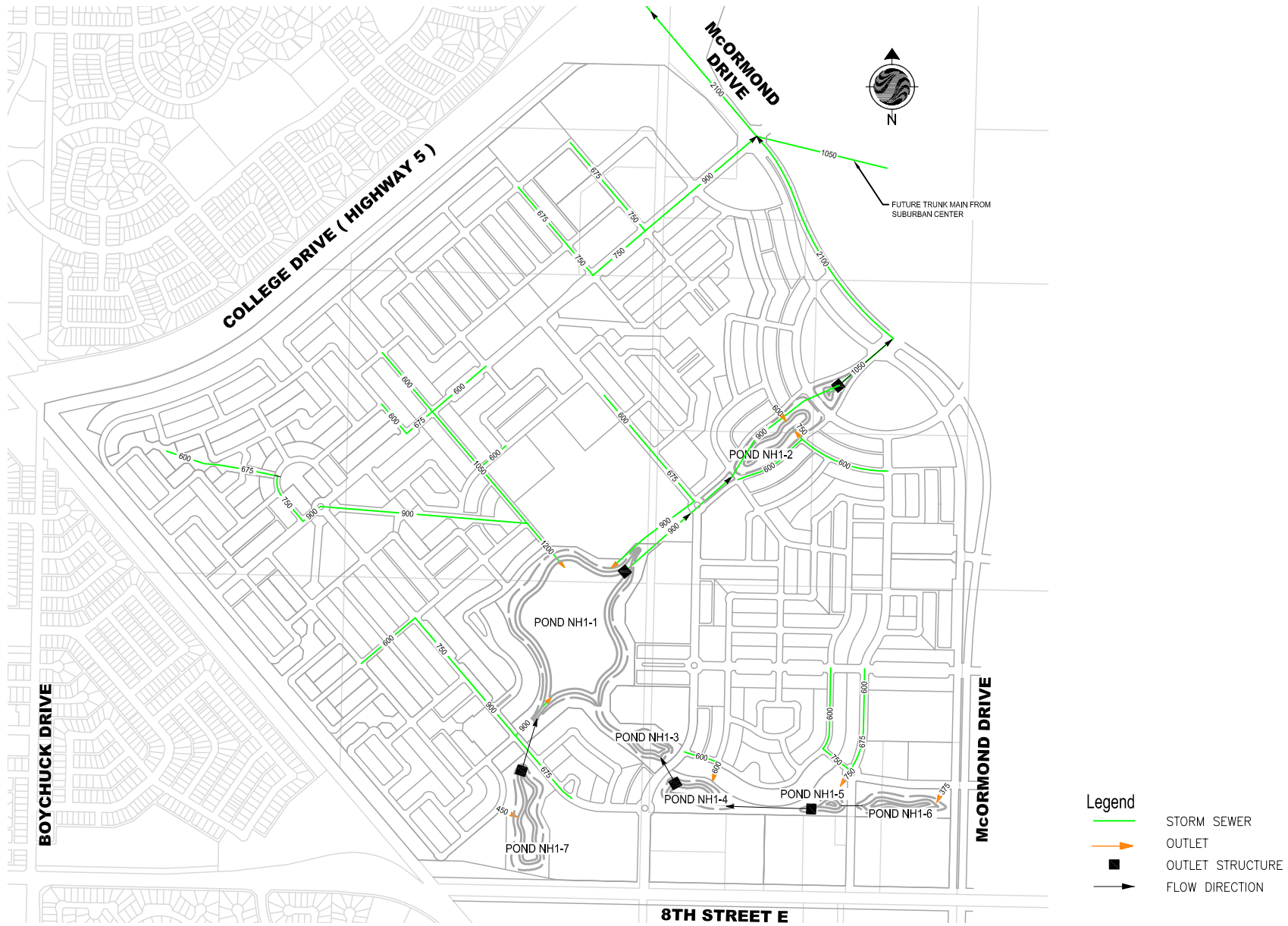
8.3 Stormwater Drainage and Sediment Control

The City of Saskatoon is currently constructing a 2100 mm storm sewer trunk to service Brighton and the extents of the Holmwood Sector. This trunk has been designed for a peak design flow of 9.5 m³/s during the 1:100 year storm event and is planned to connect the various stormwater management facilities within the Sector. The stormwater management system developed for Brighton includes the minor storm water system, the major overland flow drainage system, and several wetlands that will act as stormwater management facilities during extreme storm events. The storm water concept has been developed to integrate the existing natural features and wetland locations and has been designed as part of a larger system including runoff from future neighbourhoods. The major overland flow system consists of various catchments that direct flows to the constructed wetlands where runoff will be temporarily stored. The constructed wetland complex will include forebays at inlet locations to provide stormwater quality pre-treatment prior to stormwater entering the wetlands. Minor system piping (with the exception of the first development phase) will be directed to the constructed wetlands and will be conveyed to the McOrmond Drive Trunk via a series of control structures.

Low Impact Development (LID) and stormwater source control practices, such as rain gardens and bioswales, will be proposed within Brighton to reduce the runoff produced by the built environment. Although the stormwater system described above has been designed with the current City of Saskatoon standards, it is the intent that the LID suggested be monitored, and their effectiveness influence sizing of future stormwater piping systems.

Please refer to Figure 35 for the Stormwater Servicing Plan.

Figure 35: Stormwater Servicing Plan



8.4 Shallow Buried Utilities

Shallow buried utilities include electricity, natural gas, street lighting, telephone, cable, and fibre optic distribution lines. Within the development site, the respective service providers include SaskPower, SaskEnergy, Saskatoon Light and Power, Sasktel (as seen in Figure 36), and Shaw Cable respectively. These services will be extended into the neighbourhood and will be located within the required easements which will be registered prior to sale of lots and the transfer of titles.

8.5 Solid Waste

Solid waste collection for single unit residential homes within the neighbourhood will be done from the front street including lots with rear lane access with selected units receiving rear lane pick-up. Multi-unit and commercial sites with the exception of street townhouse sites will be required to maintain their own solid waste collection bins located on site. Street townhouse sites will be served with individual collection bins located on the rear lane.

8.6 Fire & Protective Services

It was determined by Fire and Protective Services that much of the future Holmwood Sector neighbourhoods will be beyond the 4 minute travel time benchmark from existing stations. However, limited coverage does exist for the north boundary adjacent to McOrmond Drive and College Drive and the south boundary adjacent to 8th Street. First response to Brighton will be by the existing Station No. 9 (870 Attridge Drive). Other existing stations within the vicinity of Brighton include Station No. 5 (Central Avenue), Station No. 6 (Taylor Street and Acadia Drive) and Station No. 8 (Slimmon Road).

The developer has worked with Fire and Protective Services to determine appropriate location options for a proposed future fire station to serve the future neighbourhoods, employment districts, and suburban centres of the Holmwood Sector. During spatial analysis of the proposed neighbourhood and sector plans which include an assessment of projected travel times based on the proposed road network it was determined that a new fire station will be required but construction of this facility will proceed with future growth. The future fire station is proposed to be located within the future business district / suburban centre with preference given to locations abutting arterial roadways. As development is planned and progresses beyond Brighton, the developer will work with Fire & Protective Services to identify the appropriate location for the proposed fire station.

8.7 Snow Storage

Localized snow storage in the neighbourhood for road clearing purposes will be provided along each side of the road right-of-way and on boulevards and medians on collector roadways and arterial roadways. Snow clearing of pathways and long term snow dump sites that serve Brighton will be the responsibility of the City of Saskatoon.

Figure 36: Future SaskTel Tower Locations



Solid waste collection on a single-family residential street in Saskatoon.



Snow removal and storage on a residential street in Saskatoon.

9.0 PLAN IMPLEMENTATION

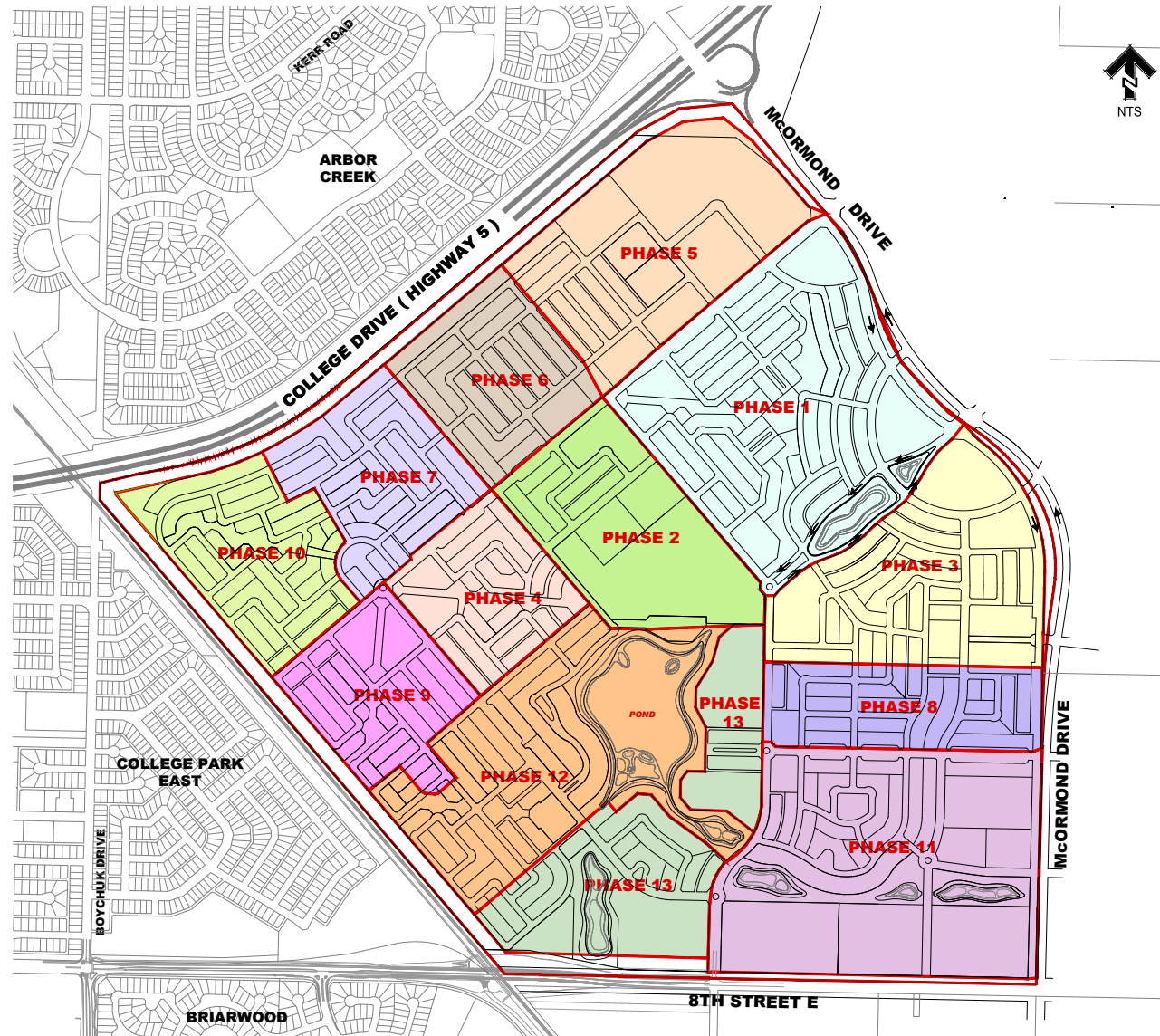
9.1 Neighbourhood Development Phasing Strategy

The phasing strategy for this neighbourhood is planned to commence in the east portion of the NCP, and proceed west as development occurs and infrastructure servicing is extended.

9.2 The Approval Process

The Brighton NCP was prepared in order to obtain the support of City Administration and City Council for the ownership group to develop the first residential neighbourhood in the Holmwood Suburban Development Area, starting in 2014. An approved NCP meeting the requirements of The Planning and Development Act, 2007, is required by the City of Saskatoon Official Community Plan prior to proceeding with neighbourhood development.

Figure 37: Development Phasing Plan*



* Phasing is subject to change.

Brighton
IN HOLMWOOD
NEIGHBOURHOOD CONCEPT PLAN

