Holmwood Sector Plan

City of
Saskatoon
Planning & Development

Holmwood Sector Plan

Consolidation

Approved by City of Saskatoon City Council on April 16th, 2012

(approved under the name: East Sector Plan)

Prepared by:

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Amendments

Amendment No. 1 – Approved by City Council on September 25, 2017

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Attachments

The following attachment files are available on the City of Saskatoon website:
https://www.saskatoon.ca/business-development/planning/long-range-plans/sector-plans

1. East Sector Feasibility Study, 2006
2. East Sector Summer Natural Area Screening Study, 2011
3. Holmwood East Natural Area Screening Study, 2015

Background

1 Introduction

1.1 Purpose of this Plan

The Holmwood Sector Plan has three main purposes:

a) This plan implements the City of Saskatoon's (City) vision in the City of Saskatoon Bylaw No. 8769 (Official Community Plan) to develop a Suburban Development Area (SDA). Sector plans define the structure of SDAs, or portions thereof. (For the purposes of this plan, "Sector" and "SDA" are used interchangeably.)
b) This plan establishes a layout for the preparation of future and more detailed Concept Plans to ensure growth proceeds in a balanced, compact, contiguous manner; and
c) This plan identifies key land uses, transportation and servicing components that will need to be addressed in detail during the Concept Plan process.

1.2 Plan Amendments and Timeframe

The Sector Plan is a large-scale plan which provides a framework for urban development over several decades. Given its scale and long-range timeframe, the Sector Plan is anticipated to undergo periodic amendments to address issues that may have been unforeseen at the time the plan was created and to accommodate changing development patterns. For this reason, the Holmwood Sector Plan should be considered a "living document". Provision is made in this document for amendments to be listed ahead of the table of contents.

2 Context

2.1 Location

The Holmwood Sector is located east of Rosewood, Briarwood, College Park East, Arbor Creek, Willowgrove, Evergreen, and the Canadian Pacific Railway (CPR) rail line; south of Agra (Fleury) Road; and west and north of Saskatoon Freeway. The land area of the Holmwood Sector is approximately 28 square kilometres (km^2) (7,000 acres), of which 18 km^2 (4,407 acres) is considered developable. The Holmwood Sector boundary is illustrated on Map 1.

The Holmwood Sector currently has land sufficient for up to six future neighbourhoods and approximately 80,000 people within its boundaries. The Holmwood Sector ensures the city continues to balance east and west growth, which maintains the downtown in the center of the community.

2.1.1 Boundary Alteration

As part of the City's June 2000 Future Growth of Saskatoon Study, the Holmwood Sector was identified as a desirable location for residential growth. On August 1 2010, the City boundary was altered to

include the majority of the Holmwood Sector. When the construction of Zimmerman Road and/or the extension of Taylor Street East is required, the City will propose to alter its boundaries again to bring the balance of the Holmwood Sector, located between City limits and the Sector boundary, into the city.

2.2 Existing Policy

2.2.1 Official Community Plan Bylaw No. 8769

Sector Plans are required by the Official Community Plan. Clause 3.2.2f states:

> "Long range planning for neighbourhoods and related community facilities shall be organized within the context of Suburban Development Areas. Suburban Development Areas contain approximately 8 to 10 neighbourhoods and the housing and community facilities necessary to accommodate about 50,000 people to 80,000 people as well as significant employment…"

2.2.2 Wetland Policy

The City of Saskatoon Wetland Policy requires that an inventory of wetland resources is maintained. The inventory includes both classification and functional assessment of wetlands and wetland complexes. Wetland complexes are defined in the policy as "– a combination of individual wetlands and surrounding riparian areas that have complementary functions and have greater significance when viewed together compared to individual significance".

If not previously existing as part of the Wetlands Inventory, or if conditions may have changed significantly from a previous assessment, a functional assessment should be conducted as part of Natural Area Screening during the Area Sector Plan or Area Concept Plan (ACP) process. Conditions that can trigger a functional assessment include:

i. Primarily natural surroundings/limited adjacent cultivation;
ii. Existence as part of a wetland complex; and
iii. Previous identification or known presence of rare or endangered species or suitable habitat.

A wetland mitigation plan is required by the City as a part of ACP that have the potential to impact significant wetlands. The wetland mitigation plan must demonstrate a reasonable balance between impacts resulting from the proposed development and measures taken to mitigate those impacts. Unavoidable impacts will require compensation. Possible compensation to offset impacts to wetlands might include:

i. Permanent preservation of wetlands;
ii. Restoration or enhancement of wetlands;
iii. Replacement of wetland function through the development of constructed wetlands or the re-establishment/restoration of historical wetlands;
iv. Development of sensitive recreational, educational and/or interpretive infrastructure adjacent to retained wetlands and associated riparian areas; and

v. Development, within the Concept Plan area, of sediment forebays, bioswales, rain gardens and other storm water management features that may provide for pre-treatment of runoff and/or reduce the need for traditional storm water management infrastructure.

2.2.3 Park Development Guidelines

The City of Saskatoon plans for the provision of parks according to a hierarchy based on the neighbourhood as the central core and expands to larger units and special uses. Neighbourhood parks include a centrally located Core Park along with smaller parks distributed throughout the neighbourhood. Special Use Park categories are intended to provide city-wide recreation and unique programming opportunities. These include district and multi-district parks.

While smaller parks are developed as the phase they are in develops, the City of Saskatoon requires 20 percent residential development prior to development of the Neighbourhood Core Park. The development of the Neighbourhood Core Park, in advance of the 20 percent guideline, will require negotiation between the developer and the City. If this occurs the developer will pay the costs to advance construction of the park.

3 Existing Features

3.1 Land Uses

The Holmwood Sector Plan is Saskatoon's newest SDA for future urban expansion; therefore, the majority of the lands remain unserviced and undeveloped at this point in time.

Existing features of the Holmwood Sector include:

a) Brighton Neighbourhood (under development).
b) Agricultural Lands – currently approximately 80 percent of the land in the Sector is being used for agricultural purposes.
c) Farmsteads – 15 residential farmsteads are located in the Sector.
d) Commercial and Industrial Lands – currently there are 7 commercial/industrial uses located in the Sector.
e) University of Saskatchewan (University) Research Lands – The University owns approximately 647 hectares (1600 acres) of land in the Holmwood Sector, north of College Drive (Highway 5). Within this, the College of Agriculture and Bioresources operates the Kernen Crop Research farm, and the Institute of Space and Atmospheric Studies operates the SuperDARN radar station.
f) Canadian Pacific Railway – The Canadian Pacific Railway track defines the southwest boundary of the Holmwood Sector.
g) Water Bodies – there are four significant water bodies located in the area with a number of dispersed seasonal water-holding prairie pot-holes, also referred to as wetlands.

h) Heritage Site – one site, located on LSD 4 and 5 10-37-4-W3M, was identified as needing further review regarding heritage resources.

3.2 Ownership

Ownership in the Holmwood Sector is comprised of public (City), institutional (University of Saskatchewan) and private land holdings. The majority of the land holdings in the Holmwood Sector are owned by groups with land development interests.

3.3 Utilities

Throughout the Holmwood Sector, there are utilities servicing farmsteads and other land uses (see Map 2). Existing utility locations should be considered as part of the areas' design parameters. They can be relocated, however this would require negotiations and agreement between the developer and the service provider. If an agreement for relocation is established, additional costs associated with the relocation would the responsibility of the developer.

SaskPower has overhead electricity lines running parallel to four road rights-of-way and along one section line: there is a 25kv line running north/south along Range Road 3045; a 14-4kv line running north/south adjacent to Range Road 3044; a 14-4kv line running north/south along Range Road 3043; two 25kv lines run east/west along College Drive and a 138kv line runs north/south along the section line.

If these lines remain as overhead lines, provisions should be made to incorporate these utilities into road rights-of-way or open space connections. As part of the Concept Plan process, sufficient rights-of-way will be required for these overhead lines or negotiations between the developer and service provider regarding the relocation of these lines will need to occur.

TransGas has a transmission line that runs through the Holmwood Sector, from north to south, linking to SaskEnergy's Town Border Station #4 which is located along College Drive (Highway 5). Town Border Station #4 feeds SaskEnergy's district regulator stations on Saskatoon's east side. This station (or a relocated station) would have the capacity to feed two to three additional regulator stations in the Holmwood Sector. The developer and the City will work with SaskEnergy to identify suitable lands to place district regulator stations within the Sector as necessary.

SaskTel has existing overhead facilities in the Sector along with a cellular tower located south of the 8th Street East extension. If relocation of these is desired, negotiations between the developer and the service provider will need to occur prior to development commencing in the area. If relocation occurs, consideration should be given to relocating this facility onto a proposed building roof-top so it is more discreet. If relocation is not feasible, this site should be landscaped and screened at the developer's expense to visually blend into the surrounding neighbourhood from ground level. SaskTel has identified a location for a future cellular tower facility near College Drive and Range Road 3044. As part of the Concept Plan process, land holdings should be secured or agreements should be decided upon to integrate this facility with the surrounding land uses.

4 Physical Characteristics

4.1 Existing Roads and Infrastructure

A network of roadways serving existing City and rural properties and businesses is in place in the Holmwood Sector. These include three north-south grid roads with 1.6km (1 mile) spacing, McOrmond Drive, Blackley/Zimmerman Road and Llewellyn/Winmill Roads and three east-west roadways comprising 8th Street East, College Drive/Highway 5, and Highway 41.

In addition, the Canadian Pacific Railway (CPR) right of way bounds the western border of the sector between Highway 16 and 8th Street east.

4.2 Topography

Surface elevations gradually increase from west to east and northeast to College Drive. North of College Drive, the surface elevations drop to north and northeast in the Sector. The highest elevation point is south of College Drive and east of Range Road 3040. Lands within the Sector have surface elevations ranging around 510 metres above sea level (asl) and gradually increasing to 520 metres asl closer to Saskatoon Freeway. The overall variation in surface elevation is approximately 10 metres. This topography facilitates reduced land development costs for earth moving and servicing; however, it also poses problems due to the increased susceptibility to flooding of flat terrain.

4.3 Soil

According to the Canada Land Inventory the most desirable soil classes for crop production are Class 1 and Class 2. The majority of the soil in the Holmwood Sector is classified as Class 3. Class 3 soil has moderately severe limitations that restrict the range of crops or require special conservation practices. There is a portion of the Sector that has Class 2 soils. This area is the only remaining Class 2 soils area adjacent to the city. The next closest Class 2 soils area is located three kilometres south of the city along the South Saskatchewan River. Approximately 52 percent of the Class 2 soils in the Holmwood Sector are owned by the University and are being used for plant research. The *Future Growth Study*, 1999 considered all soil classifications and concluded that the Holmwood Sector was desirable for future urban growth.

4.4 Natural Areas Screening

As part of a Sector Plan, the Official Community Plan requires a general screening for significant natural areas and archaeological sites. As part of a Concept Plan, site-specific natural areas screening may be required to identify and protect these resources. As part of development, developers are encouraged to do their due diligence to maintain these natural areas and incorporate them seamlessly into the neighbourhood to form part of the open space system. A reduction of the gross developable area may be required based on the findings of the natural areas screening process.

In addition, a fall vegetation and wildlife survey (2010) and a summer natural area screening study (NAS) was completed. The 2010 survey was on 53 quarter sections in the Holmwood Sector. The 2011 NAS study, was on thirty-one quarter sections in the Sector (see Attachment 1).

4.4.1 Vegetation and Wildlife

All of the land within the Holmwood Sector, with the exception of the Kernen Prairie (an area of natural prairie located on the University's lands) and water bodies, is cultivated, or developed as residential, commercial, or industrial uses. According to the Saskatchewan Conservation Data Centre (CDC) database, there are four locations identified as having rare plants and no locations of rare or endangered animals in the Sector.

Three of the four locations with rare plants are contained within the Kernen Prairie site. The fourth location is located at NW 21-36-4-W3M (see Map 2).

The four locations with rare plants identified by the CDC are:

1) NW 8-37-4-W3M - Smooth Wild Rose
2) NE and NW 8-37-4-W3M - Crowfoot
3) SW 8-37-4-W3M - Blunt-leave Yellow-cress
4) NW 21-36-4-W3M - Engelmann's Spike-rush

The natural area screening study (Attachment 2) recognizes that urban development will have a detrimental effect on plant and wildlife habitat; however it also concludes that the Holmwood Sector has already been significantly shaped by human activities through agriculture and other land uses as well as intentional introduction of alien species (e.g. hedgerows). Acknowledging that urban development in the Sector is likely, the study recommends the preservation of a number of key wetlands, linked to form a suitable habitat corridor. Though development will inevitably displace some species, the establishment of a corridor of habitat rather than isolated patches will ensure that greater biodiversity is retained in the area. Consideration of the establishment of habitat corridors linking significant wetlands should be given during the Concept Plan process, as addressed in Section 10.13 Ecological Network.

4.4.2 Historical Resources

The majority of the lands in the Holmwood Sector have been cultivated for many years; therefore, any current historical findings may be few. In 1983, for its ten year growth plan, the City conducted an archaeological investigation on 18 hectares (44.48 acres) of NE-19-36-4-W3M. One archaeological site was identified. A portion of a white chert projectile point was recovered from the surface of the surveyed area. Subsurface shovel tests were excavated, but no intact occupation layer or any additional artifacts were identified. The Ministry of Tourism, Parks, Culture and Sport has now identified this area as not heritage sensitive.

According to the Ministry of Tourism, Parks, Culture and Sport, the SW-10-37-4-W3M has never been assessed by a professional archaeologist and its scientific significance cannot yet be determined. The Holmwood Sector includes approximately 2.83 hectares (7 acres) of this quarter section. Prior to development on SW-10-37-4-W3M a Historical Resources Impact Assessment (HRIA) must be carried out by a qualified consultant under an approved investigation permit issued by the Ministry of Tourism, Parks, Culture and Sport.

A search of the Saskatchewan Homestead Index revealed a number of quarter sections within the Sector having notification of patent to homesteaders for the use of lands. One specific homestead site that was identified on the Township Map was the Thomas Copland property located in the southeast corner of SE-5-37-4-W3M (see Map 2).

In conversations with the City's Municipal Heritage Advisory Committee, the Saskatoon Heritage Society, and the Ministry of Tourism, Parks, Culture and Sport, the remaining areas within the Holmwood Sector are of low heritage sensitivity. As the area develops, if historical materials are identified, they must be reported to the Ministry of Tourism, Parks, Culture and Sport and further assessment and/or mitigation may be required.

No paleontological materials have been identified in the Holmwood Sector. As the Sector is well removed from the known deposits of paleontological materials, the sensitivity of the area is considered low.

4.4.3 Wetlands

Wetlands are land depressions where the water table is at, near, or just above the surface, and where the depressions are saturated with water long enough to promote wet-altered soils and water tolerant vegetation. In 2009 and 2015, the City engaged consultants to identify the wetlands in its future growth areas, including the Holmwood Sector, and classify the importance of these wetlands using the Steward and Kantrud (1971) classification system.

In the Holmwood Sector, there are four main low-lying areas that collect year-round surface water, as well as numerous scattered wetlands. Some of the more ephemeral wetlands have been cultivated during dry years. The highest concentration of wetlands is in Sections 20, 21, 29 and 30-36-4-W3M. Other sections in the Holmwood Sector contain wetlands; however, the locations are more dispersed. During dry seasons, some of the wetlands in the Holmwood Sector have smaller areas under water.

Development in the Holmwood Sector could result in a significant loss of wetlands and have an associated effect on stormwater and flood management. Negative effects include loss of habitat and increased susceptibility to problems related to stormwater and groundwater including basement flooding and contaminated runoff.

4.5 Kernen Crop Research Farm and SuperDARN Radar Station

The Kernen Crop Research Farm was gifted to the University's Plant Sciences Department in 1977 by former graduate of the department, Fred W. Kernen. The farm on Sections 5 and 8-37-4 W3M totals 518 hectares (1280 acres) of which 130 hectares (320 acres) remains as uncultivated natural prairie.

Under the terms of a long-standing agreement between the City and the University, the City will not pass bylaws that restrict the University's education, research or related activities on its lands. Accordingly, careful planning is done with the University as part of the Sector Plan and Concept Plan processes, and the City Administration and the University have regular discussions about University activities, land holdings, and future plans.

The University's Institute of Space and Atmospheric Studies also has a 6.8 hectare (17 acre) parcel within the Kernen Crop Research farm lands where the Super Dual Auroral Radar Network (SuperDARN) is located. The SuperDARN is an international radar network for studying the upper atmosphere and ionosphere. This data is used to research and track weather patterns in space. Such things as traffic flow, dense development and structures constructed with metal would interfere with the operation of the radar. In turn, the station could affect the operation of consumer electronics such as televisions and computers. A separation distance of 1.6 kilometres at an array of 52 degrees to the northeast is recommended between the station and urban development.

At this time, the University does not intend to relocate the SuperDARN. As described in later sections of this Sector Plan, Neighbourhood Development Area 6 adjacent to the SuperDARN is the final phase of the build-out of the Holmwood Sector. A separation distance from the SuperDARN that exceeds the recommended distance has been provided for this neighbourhood. The parameters identified on the plan have been reviewed and approved by the University. No further mitigation is required at this time; however the City Administration will maintain an open dialogue with the University to address any future issues with the Kernen Crop Research farm and the SuperDARN, including opportunities to relocate the SuperDARN.

4.6 Ground Water

A conceptual water table analysis has been completed for the portion of the Holmwood Sector south of College Drive and west of Zimmerman road (see Map 2). For all lands with water tables less than two metres below the surface, further study is required and appropriate solutions must be designed to accommodate maximum expected groundwater levels.

As part of the Concept Plan process, the developer must engage a qualified consultant to complete a Hydro-geotechnical Analysis (Phase I and/or II) for the neighbourhood. The Hydro-geotechnical Analysis should provide an analysis of soil and groundwater conditions and identify potential underground aquifers, high water tables, and site drainage issues.

Plan

5 Sector Vision

The Vision for the Holmwood Sector is to develop interconnected, human scale neighbourhoods featuring a variety of housing forms and a mixture of land uses, along with a high-quality employment area and vibrant mixed-use Suburban Centre. The Sector will promote transportation options including walking, bicycling and transit, while still accommodating the private automobile. New neighbourhoods in the Sector will be "one with nature" and illustrate a conservation theme of preserving and integrating existing natural features into open spaces. This will be done while keeping in mind the City's broader responsibility of providing opportunities for growth in an efficient and sustainable manner.

5.1 Vision Plan

A Vision Plan (based on the Land Use Plan – see Section 6.1 Land Use Plan) was developed for the Holmwood Sector to articulate examples of features that are consistent with the Vision. The Vision Plan encompasses four major themes of: Preserving and Integrating Nature, Transportation Options, Complete Communities and Streets, and Regional Employment and Retail. The Vision Plan is not intended to be prescriptive, but to show possibilities of what types of development and features could occur.

The Vision Plan does not replace the need for the submission of Concept Plans; however, it does provide direction and innovations that should be considered in the design of the development areas in the Holmwood Sector.

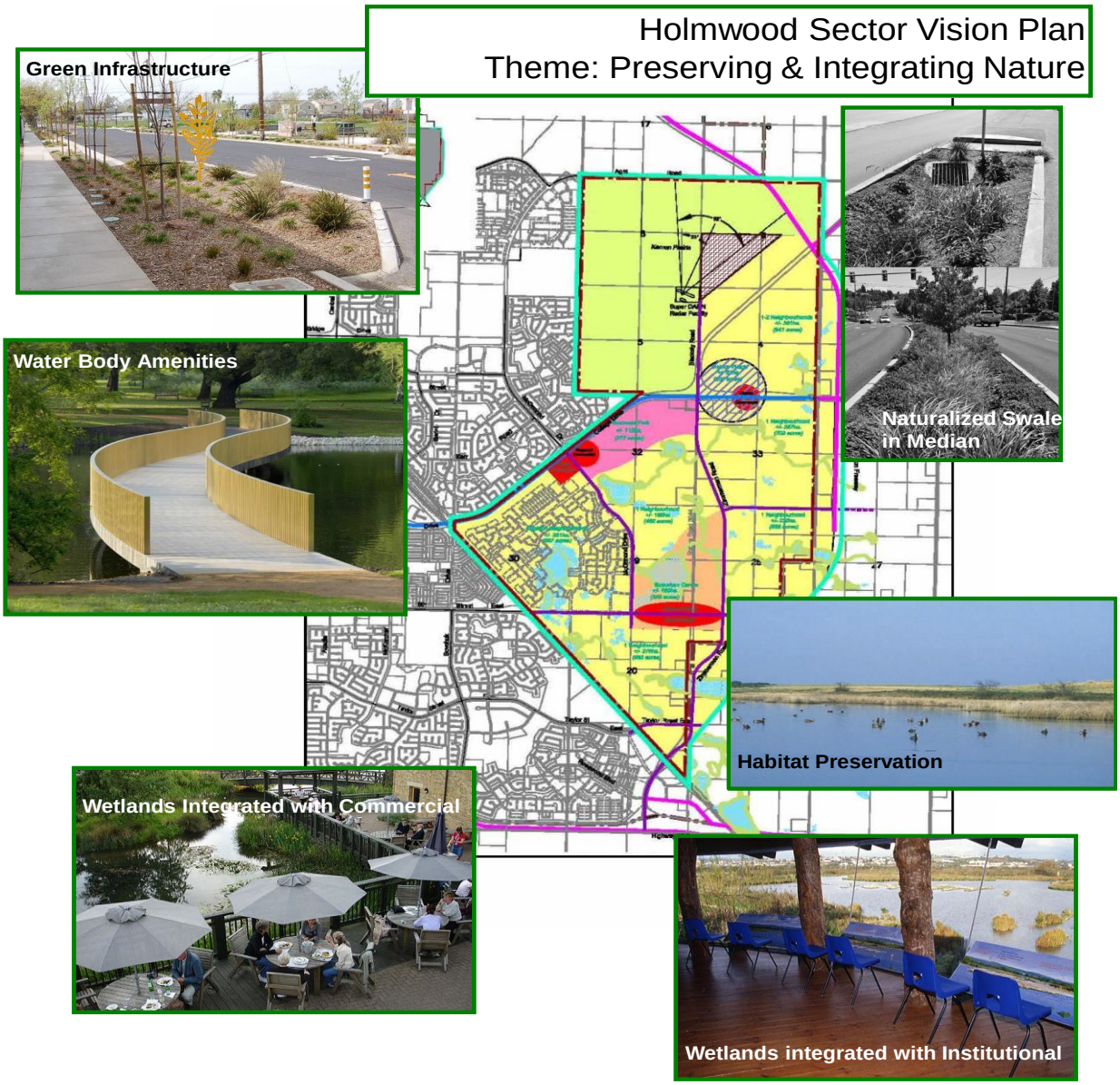


Figure 1: Holmwood Sector Vision Plan - Theme: Preserving & Integrating Nature

Figure 2: Holmwood Sector Vision Plan - Theme: Transportation Options

Figure 3: Holmwood Sector Vision Plan - Theme: Complete Communities & Streets

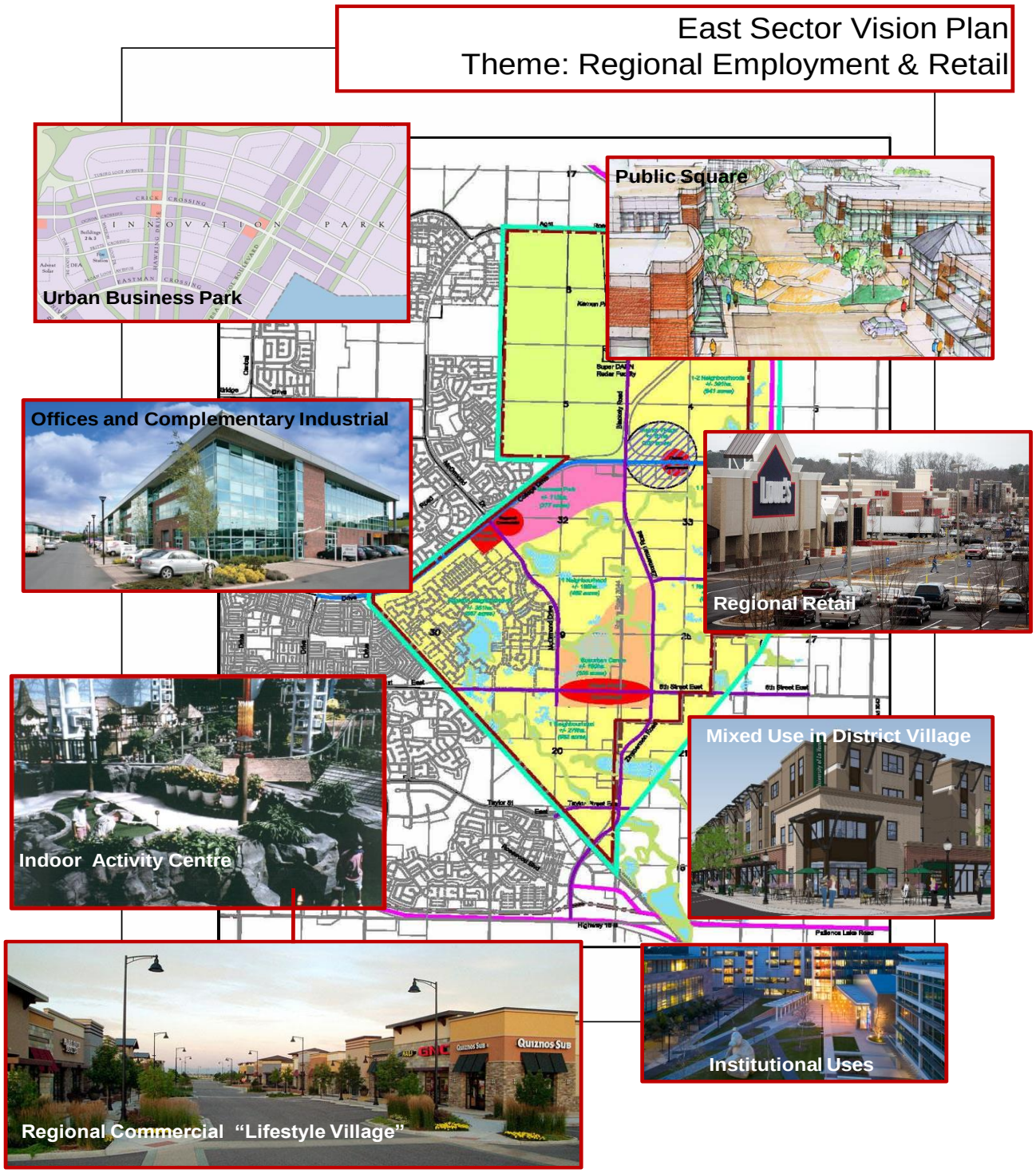


Figure 4: Holmwood Sector Vision Plan - Theme: Regional Employment & Retail

6 Plan Overview and General Requirements

6.1 Land Use Plan

The Land Use Plan for the Holmwood Sector is shown in Map 3. This Plan is the broad framework over which the Vision will be achieved. It identifies:

- six neighbourhood development areas,
- a Suburban Centre with a Suburban Centre Commercial corridor,
- a Business Park with regional commercial nodes,
- one District Village,
- streets that act as linear focal points for activity, connecting adjacent development areas and offer transportation options,
- agricultural lands, and
- existing natural areas.

Neighbourhood Development Areas and Suburban Centres are given numbers to distinguish them, but this numbering does not necessarily indicate development sequence.

It is important to note that the Land Use Plan is meant to be interpreted flexibly, rather than rigidly requiring the strict separation of uses. It is the objective of this Plan that arterial roadways and the adjacent land uses and built form serve to knit bordering areas together rather than acting as a boundary between areas. The perimeters of land use areas should allow for a gradual transition from one type of use to another. ACPs for individual neighbourhoods and the Suburban Centre identify how they connect and transition to adjacent areas.

6.2 Population Density, Dwelling Units and Employment

Table 1: below shows the population, density, and employment projections for the Holmwood Sector at build-out. The table is divided into distinct land uses. Based on the type of land use, the total estimated number of dwelling units, population, and employment for each land use were calculated.

At full build-out of the Holmwood Sector, the total estimated number of dwelling units is 34, 300, the total estimated population is 80, 000 people, and the total estimated employment is 10, 800.

Suburban neighbourhoods over the past number of years have ranged from 15 to 20 units per hectare (6 to 8 units per acre) for residential neighbourhoods, which equates to a population density of approximately 50 residents per hectare (20 residents per acre). Given the vision of developing neighbourhoods that include a mixture of uses, the density targets for the Holmwood Sector were set using residents plus jobs per hectare as a measure. An estimated 50 residents plus jobs per hectare was used for primarily residential neighbourhoods, and an estimate of 65 residents plus jobs per hectare was used for the Suburban Centre. A higher density for the Suburban Centre will provide the population needed to support an efficient transit system. The Business Park was targeted to accommodate 45

residents plus jobs per hectare, though it is assumed that most, if not all, of this value will be attributed to jobs.

Dwelling unit densities are also of interest, and were calculated based on Saskatoon household size data for existing neighbourhoods and suburban centres as well as assumptions about the proportion of the residents plus jobs per hectare value that is expected to be residents. On this basis, the Holmwood Sector is projected to have neighbourhoods with an average net density of approximately 18.5 units per hectare (7.5 units per acre). The Suburban Centre is expected to have a net density of 29.9 units per hectare (12.1 units per acre) and Neighbourhood 2 is expected to have a density of 25 units per hectare (10 units per acre). The overall net density for land deemed "developable" (i.e. factoring out Saskatoon Freeway, College Drive, University lands, wetlands, and urban holding area) within the Holmwood Sector is 18.5 units per hectare (7.5 units per acre).

As much as possible, the Suburban Centre and Business Park will be phased concurrently with the residential development but parcels of land will be serviced as demand warrants.

Table 1: Area, Density, Population and Employment

	Hectares[1] (net)	Acres[1]	Residents / jobs[2] per ha	People per unit[3]	Units[4]	Units per ha (approx.)	Units per ac (approx.)	Population (estimate)	Employment[5] (estimate)
Brighton Neighbourhood Area	334.2	825.7	50.0	2.4	6432.0	18.5	7.4	15505	2197
Neighbourhood Development Area 2	170.0	420.1	65.0	2.4	4200.8	25.0	10.0	10208	850
Neighbourhood Development Area 3	254.3	628.4	50.0	2.4	4712.9	18.5	7.5	11452	1272
Neighbourhood Development Area 4	212.7	525.6	50.0	2.4	3941.9	18.5	7.5	9579	1064
Neighbourhood Development Area 5	271.8	671.6	50.0	2.4	5037.2	18.5	7.5	12240	1359
Neighbourhood Development Area 6	381.0	941.5	50.0	2.4	7061.0	18.5	7.5	17158	1905
Neighbourhood Total	**1624.0**	**4013.0**	**-**	**2.4**	**31385.9**	**18.5**	**-**	**76143**	**8646**
Suburban Centre 1	36.0	89.0	65.0	1.6	1076.4	29.9	12.1	1755	585
Suburban Centre 2	96.4	238.2	65.0	1.6	2882.3	29.9	12.1	4698	1567
Suburban Centre Total	**132.4**	**327.2**	**-**	**1.6**	**3958.7**	**29.9**	**12.1**	**6453**	**2152**
HOLMWOOD SECTOR SUBTOTAL	**1756.4**	**4340.2**	**-**	**-**	**35344.6**	**-**	**-**	**82596**	**10798**
Business Park	112.0	276.8	45.0	0.0	0.0	0.0	0.0	0	5040
Business Park Total	**112.0**	**276.8**	**-**	**0.0**	**0.0**	**0.0**	**0.0**	**0**	**5040**

NOTES:

1) "Net" area (hectares and acres) refers to all the area within each Neighbourhood Development Area (as shown on Map 3) including all roadways except College Drive (185 ac) and Saskatoon Freeway (85 ac), and excluding proposed urban holding areas (160 ac) and University lands (1600 ac). The net area also excludes Environmental Reserve dedications (237 ac) as per the sample calculations in Table 3 Environmental Reserve Analysis. If wetlands are developed, the MR requirement will increase for the applicable area.
2) Residents/jobs per hectare is a target value, based on data from similar neighbourhoods/suburban centres in Saskatoon and the vision for this Sector.

3) People per unit values are based on average household sizes from Saskatoon neighbourhoods of similar types.
4) Unit counts are determined based on assumptions about what proportion of the estimated people plus jobs count will be residents (i.e. people). For neighbourhoods this was assumed to be 90% which is consistent with the Saskatoon average of 89%. For the Suburban Centre, this proportion was assumed to be 60%.
5) Employment was estimated based on residents/jobs per hectare data from similar neighbourhoods/suburban centres. This data shows Neighbourhood Development Areas daily users (those residing or employed there) to be split 90% residents / 10% jobs, Suburban Centres to be split 75% residents / 25% jobs, and Business Parks to be 100% jobs.
6) Brighton information supplied by the Brighton ACP.

6.3 Growth Plan to Half a Million

A truly sustainable sector takes a holistic approach that benefits the residents, the natural environment and the city. The City's Growth Plan to Half a Million (Growth Plan) advances the City's Sustainable Growth and Moving Around Strategic Plan Goals by guiding future development to create a city that is vibrant, attractive and sustainable for future generations. The Growth Plan identified the Holmwood Suburban Centre as a significant growth area. In order to align with the principles of the Growth Plan, the Suburban Centre is expected to be a mixed-use, walkable, dynamic suburban centre built around Bus Rapid Transit (BRT) connecting to the City-Wide transit system.

Additionally, the following key strategies will guide Holmwood Sector development to ensure it aligns with the Growth Plan:

- Implementation of a corridor planning process for 8th Street, incorporating transit oriented development principles through a greater range of land uses, building densities, pedestrian and cycling facilities to support the BRT system;
- Development along "Main Streets[1]" and support for Transit Oriented Development (Dense, compact development that is street-orientated, supporting a high level of transit service that could later be developed as rapid transit corridors)
- Provision of significant employment opportunities in a suburban context;
- The establishment of Suburban Centres as the "focal point" of suburban growth areas; and,
- The redefinition of suburban neighbourhoods as places that are easier to get around, and that are well connected to the surrounding neighbourhoods and the rest of the city.

Arterial roadways and other major streets should be areas of focus, rather than being considered the boundaries between areas, and enhance connectivity between and within neighbourhoods. Arterial

[1] "Main Streets are streets that connect neighbourhoods while providing residents with access to their daily needs. Main Streets are designed to prioritize pedestrians, bicycles, and transit. In some cases short-term parking and loading for local shops and restaurants might be provided. These streets will support a pedestrian environment with dense mixed-use buildings with ground floor commercial uses surrounding the corridor." (Complete Streets Policy and Design Guide, draft).

roadways should have dense residential, commercial and mixed uses providing direct, street-oriented frontage onto the roadway, where feasible, and incorporate public spaces.

6.4 Saskatoon North Partnership for Growth (P4G) Regional Plan

The Saskatoon North Partnership for Growth (P4G) includes the partnering municipalities of the Cities of Martensville, Saskatoon, Warman, the Rural Municipality of Corman Park, and the Town of Osler. The five partnering municipalities have developed and adopted a long term view and plan for land use and servicing that is regional in scope.

The Regional Plan establishes a coordinated approach to matters related to physical, social, or economic circumstances of the Saskatoon region that may affect the development of the region as a whole. When Concept Plans are prepared for development areas in the Holmwood Sector, particular care must be taken to ensure a coordinated approach to ensure land use and servicing strategies align with the Regional Plan.

6.5 Safe Growth

The Official Community Plan requires Sector Plans and Concept Plans to comply with the principles of Crime Prevention Through Environmental Design (CPTED), to ensure safe environment and high quality of life. When Concept Plans are prepared for development areas in the Holmwood Sector, particular care must be taken to ensure natural surveillance and appropriate use of buffer strips, connectivity between neighbourhoods and with the rest of the city, and clear way-finding within the area.

7 Neighbourhood Development

Neighbourhood development areas are intended to accommodate the majority of residential development in the Holmwood Sector. As shown on Map 3, the Holmwood Sector accommodates up to seven future residential neighbourhoods within these development areas. Each neighbourhood or sub-neighbourhood, depending on the design of the neighbourhood development area, should be developed with its own unique character and conservation theme and range between 210-270 hectares (520 - 670 acres).

This approach creates a strong sense of community and ensures the area is walkable. Neighbourhoods should be developed to feature numerous, significant focal points such as commercial/mixed-use nodes or corridors, neighbourhood parks, and community centres and/or school sites, further enhancing walkability and distribution of amenity. This is particularly important if a proposed neighbourhood's area exceeds 300 hectares (740 acres), which may be necessary to secure a large enough population to support elementary schools. Where constraints require neighbourhood sizes to exceed 350 hectares (870 acres) and/or populations in excess of 15,000 consideration should be given to the provision of two elementary school sites and two core parks.

Holmwood Neighbourhood 2 is a unique neighbourhood, as it is smaller than other neighbourhoods in the Sector (at approximately 170 ha (420 ac)), and it sits directly between two employment areas (the

Business Park to the north, and the Suburban Centre to the south). This means it will require a higher density of development to support schools (10 u.p.a.), and this also provides an opportunity for a unique, higher density residential development to create seamless transitions between residential and employment areas. Planning these three areas concurrently, with particular detail as to how land uses transition from one land use to another will be essential.

7.1 Residential

A broad range of housing choices is required throughout the Holmwood Sector. This range of housing will encourage a mix of densities, income levels and forms providing a "lifelong" Sector where residents can age in place.

The six residential neighbourhood development areas of the Holmwood Sector will accommodate housing forms of predominantly low to medium density. Housing types could include: single-unit detached, duplex, semi-detached, street and group townhouses, and apartments. Multi-unit residential developments, places of worship, and residential care homes in the residential neighbourhoods should be situated next to arterial roads, along neighbourhood collector roads, around neighbourhood centres, or near the core parks.

7.1.1 Affordable Housing

Developers in the Holmwood Sector will be asked to provide a range of housing choices, including affordable housing. The City's long term target is 500 attainable housing units per year, distributed throughout the community. From year to year the target may fluctuate, so as demand is warranted, a select number of parcels may be identified for affordable housing, purpose built rental housing or entry level housing within each phase of a developing neighbourhood.

7.1.2 Residential Care Homes

According to the Official Community Plan, supportive housing forms, including residential care homes, are to be facilitated in all areas of the city. Therefore, developers in the Holmwood Sector will be asked, during the Concept Plan process, to identify sites to be used for the purpose of care homes. These sites should be distributed geographically throughout a development area and provision should be made for such uses within each phase of neighbourhood or suburban centre development.

7.2 Commercial and Mixed-Use Areas

Mixed-use development will be located along all arterial roadways where feasible. Mixed-use development is intended to accommodate a mix of residential and non-residential land uses to serve the personal and commercial needs of those living in and visiting the area. The design of these mixed-use areas should represent a human-scale, pedestrian-friendly environment. Mixed-use areas could include, but are not limited to, any combination of banks, multi-unit residential, medical, office, convenience stores, restaurants, retail, and studios, or any other approved neighbourhood scale uses in addition to residential uses.

Single-use commercial development is appropriate in similar situations and at similar locations to mixed-use development. However, it is important that single-use commercial is well integrated with surrounding neighbourhood uses in terms of scale, form and character.

Commercial and mixed-use development may occur at focal points within neighbourhoods to provide amenity within walking distance of a large proportion of the neighbourhood. However, the primary focus for this type of development should be along arterial roadways.

It is projected that, at full build-out, the mixed use neighbourhoods will provide employment for approximately 10,000 people, factoring in that a portion of this will be home-based business.

8 Business Park with Regional Commercial

To assist in achieving the objectives of the City's Energy and Greenhouse Gas Management Plan, one of the objectives of the Holmwood Sector is to provide more opportunities for those that live east of the South Saskatchewan River to work closer to home. In Saskatoon, the majority of the employment areas are located west of the South Saskatchewan River. This has created a significant demand on local infrastructure such as roads and bridges, moving people to and from work each day. To alleviate some of this pressure and to reduce commute times for those living east of the South Saskatchewan River, the Holmwood Sector will provide a new employment area, consisting of a Business Park that includes approximately 11 hectares (27 acres) for regional commercial. The estimated net developable area of the Business Park is 112 hectares (277 acres). At an employment intensity of 45 jobs per hectare, the projected employment for this area is approximately 5,000.

The Business Park is strategically positioned along College Drive to allow for enhanced visibility, and for easy access and egress from major access points at McOrmond Drive and at Zimmerman Road. The vision for the Business Park consists of:

- small lot industrial development and commercial development,
- clean light industrial and professional offices,
- mixed-use office and residential or retail and residential developments, and
- regional commercial nodes.

Having the regional and district commercial areas anchoring the Business Park provides companies with nearby amenities for customers and employees, while making the Business Park more attractive and vibrant. To build on this vision, the Concept Plan for thedevelopment of the Business Park will be required to be included in the Concept Plan for the Suburban Centre.

The goal for the Business Park is not to draw away from Saskatoon's downtown but to attract new small-scale businesses and those businesses that already have locations outside the downtown to relocate or build new, creating a cluster of "like" companies east of the South Saskatchewan River. Suggested uses could include medical facilities, technology/ agriculture/ engineering offices, warehousing, shipping and receiving, storage, clean manufacturing and some small-scale retail and

restaurant uses. In addition to integrating some of the above, the Regional Retail area of the Business Park will facilitate uses such as entertainment centres, hotels, restaurants and pubs, service stations and large format retail stores. By allowing for a mix of uses to locate in the Business Park, and by linking the Suburban Centre to the Business Park with a higher density residential neighbourhood, the use of the area should be maximized and it should not become empty after office hours.

The Municipal Reserve dedication from the Business Park should be determined during the Concept Plan process based on input from Recreation and Community Development. Municipal Reserve dedication may be made up of land, cash-in-lieu or a combination of the two based on identified needs.

Developers should institute architectural controls on development in the Business Park to ensure a high quality urban environment, and to ensure that the area integrates well with the Suburban Centre and Neighbourhood Development Areas. These controls should be determined at the Concept Plan stage. Suggested requirements include:

- In areas where blank walls along streets cannot be avoided, the developer should provide vegetation options such as "green walls" or vines to make the wall more aesthetically pleasing at ground level.
- Buildings should be street-oriented. The majority of the surface parking should be located to the side or preferably the rear of the buildings or internal to the site.
- In the transition areas between the Business Park, neighbourhood development areas and the Suburban Centre and neighbourhood development areas, areas of mixed use including high- to medium-density housing should provide the step-down transition into low-intensity uses such as single-unit housing.

9 District Village

The vision for the District Village is for mixed-use, medium-density nodes that feature residential uses, district parks and commercial and institutional services and amenities to support the needs of approximately two to six neighbourhoods. The commercial component – District Village Commercial – features vibrant street oriented retail shopping destinations at grade level, while medium to high density residential could be built above. District Villages are intended to provide a level of service and a range of commercial uses above that found at the neighbourhood level, but less than that found in the Suburban Centre area. Possible uses include retail stores, restaurants, service stations, small shopping centres, medical clinics, and related health services. High schools, recreation facilities, fire halls and similar community uses and civic facilities may be suitable in District Villages, subject to needs assessment.

The District Village is 81 ha (200 ac) with approximately 11 ha (27 ac) of retail area which is projected to provide approximately 800 jobs, based on an employment intensity of 40 jobs per hectare.

10 Suburban Centre

The vision for the Suburban Centre is for a vibrant urban core built around a bus rapid transit station. The Suburban Centre is expected to be a walkable area that fosters a mix of land uses and features appropriate services and amenities to support the needs and wants of a Sector with a population of approximately 80,000. It is estimated that the Suburban Centre will provide employment for just over 1,500 people.

The Suburban Centre should transition seamlessly into the surrounding Neighbourhood Development Areas and nearby Business Park. Wetlands are highly prominent in the Suburban Centre and should be sensitively incorporated into any Suburban Centre Concept Plan. A naturalized wetland area integrated into a range of commercial, institutional and residential uses will be a defining focal point for the area.

Similar to the Business Park, the Suburban Centre Commercial is encouraged to have architectural controls to ensure the businesses and residential developments that choose to locate in the area adhere to the overall vision of the surrounding communities. Suggested requirements within the Business Park would also apply to the Suburban Centre Commercial area.

10.1 Commercial and Institutional

An Urban Arterial Commercial area is located along 8th Street East to establish this portion of 8th Street East as a commercial destination, and to provide the residents in the Holmwood Sector with shopping centre services.

The Suburban Centre is a preferred location for sector-wide institutions and amenities such as high schools and other major educational institutions, District and Multi-District Parks, recreation facilities, health care facilities, and regional places of worship.

The portions of the Suburban Centre Commercial area that are adjacent to 8th Street East and McOrmond Drive should provide commercial services that are street-oriented, while maintaining important vistas to the central water body behind. The water body should be designed to encroach into the commercial setting combining nature with hard landscaped retail plazas. With different land uses arrayed around the central water body, an open space trail network could provide the best access to this destination focal point for the Sector. Local residents, including seniors, could move from home to leisure facilities to commercial or employment to transit terminals all within the trail network. A single Concept Plan submission will be required prior to development of the Suburban Centre which will include the design for the Suburban Centre Commercial area, the Business Park and Neighbourhood Development Area 2.

10.2 Residential

The core Suburban Centre area is intended for multi-unit medium-density and high-density residential development. These multi-unit parcels will benefit from frequent and convenient transit services, proximity to district park spaces and civic facilities, and proximity to commercial and mixed-use centres. Further, careful attention to the massing of the buildings will provide an attractive transition between the Suburban Centre and Neighbourhood Development Areas.

10.3 Mixed-use

As noted above and as shown on the Land Use Plan (see Map 3), mixed-use, street-oriented areas are encouraged along McOrmond Drive and 8th Street East. The intent behind this is to provide opportunities within the Holmwood Sector for a fine-grained mix of residential, retail, office, institutional and other services. These areas will provide variety, vitality and character to the street edge and entry points into the neighbourhoods. They will promote unique spaces, support transit, and animate sidewalks with a variety of uses, making streets active for more seasons and hours of the day. Mixed-use, street-oriented developments encourage a streetscape that is pedestrian-friendly.

11 Schools and Community Services

As part of the ACP process, the developer must meet with Saskatoon Public Schools and Greater Saskatoon Catholic Schools to determine if elementary schools are warranted. If schools are warranted, the size and configuration of the school parcel(s) and the appropriate location(s) based on the size and layout of the neighbourhood should be included in the ACP(s). While shared sites can ensure an efficient use of space, care must also be given to ensure the appropriate distribution of neighbourhood amenities. In some cases, particularly in larger Neighbourhood Development Areas, it may be desirable to provide some separation between elementary school sites, improving walkability for a wider area and mitigating traffic concerns associated with co-locating two schools on a shared site and roadway. In larger Neighbourhood Development Areas it may be desirable to provide up to four elementary schools (two public and two separate).

The Holmwood Sector makes provision for up to four high schools (two public and two separate) distributed over two locations. Appropriate locations for high school sites are the Suburban Centre and the District Village. It is recommended that high school sites be located in proximity (within 450m) of a transit route. The need for high school sites and their specific location should be determined through the concept plan process for each Neighbourhood Development Area as applicable and through consultation with the school boards and Ministry of Education.

A civic facility, which may include a leisure centre and public library, should be located in the Suburban Centre next to a multi-district park. These facilities should provide adequate leisure and educational services to the surrounding neighbourhoods, while being a destination attraction for the Sector. Programs at these civic facilities could meet a variety of sport, culture and recreation activities that meet the needs of the community. There is an opportunity to provide nature appreciation programs because of the proximity to the adjacent wetland.

Other community services and facilities such as fire halls, recycle depots and transit terminals should be located in the Suburban Centre and District Village, where possible. The locations of these services and facilities will be determined during the process of preparing the Concept Plan for the Suburban Centre and District Village.

12 Transportation

12.1 "Complete Streets"

"Complete Streets" refers to streets that are designed in a way that is sensitive to the adjacent land use and built form context to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. In conjunction with appropriate adjacent land use, they help build strong, livable and vibrant communities.

Implementing a complete streets approach in the Holmwood Sector means that streets within the Sector will be focused on making it safe, practical and appealing for all methods of transportation to travel along and across the roadways, whether local, collector or arterial. Efficient vehicular movement is a significant consideration, but one of several important factors.

There is no single solution to create complete streets. However, there are a number of considerations that are relevant to the creation of complete streets in the Holmwood Sector. The final arterial road cross section(s) should be determined at the Concept Plan stage.

The Growth Plan recommends the following design aspects for complete streets:

- Enhance safety for all modes: Appropriate facilities designed as separated or shared space enhance the safety and comfort of everyone. As much as possible, dedicated on-road cycling facilities (lanes) should be provided to facilitate safe cycling and to improve the relationship between cyclists and motorists.
- Expands transportation choice: Visibility of attractive and comfortable pedestrian, cycling and transit facilities will serve to create greater awareness of transportation choices that are available in the Holmwood Sector.
- Support universal accessibility: The design of sidewalks, crossings and connections with private properties should be designed to enable accessibility for all users.
- Enhance economic development prospects: Complete streets are complementary to the surrounding land uses. They serve not only to provide space for people to move around within and between communities, they also serve to provide access for people to live, work, shop and play. They can also support the development and creation of a vibrant public realm. The provision of complete streets can complement land uses and support the economic activity by providing an extension of businesses into the street space with patios, parklets or simply with better access.
- Develop a sense of place: Rather than simply moving people, complete streets should be designed as comfortable and desirable places to linger, socialize and recreate

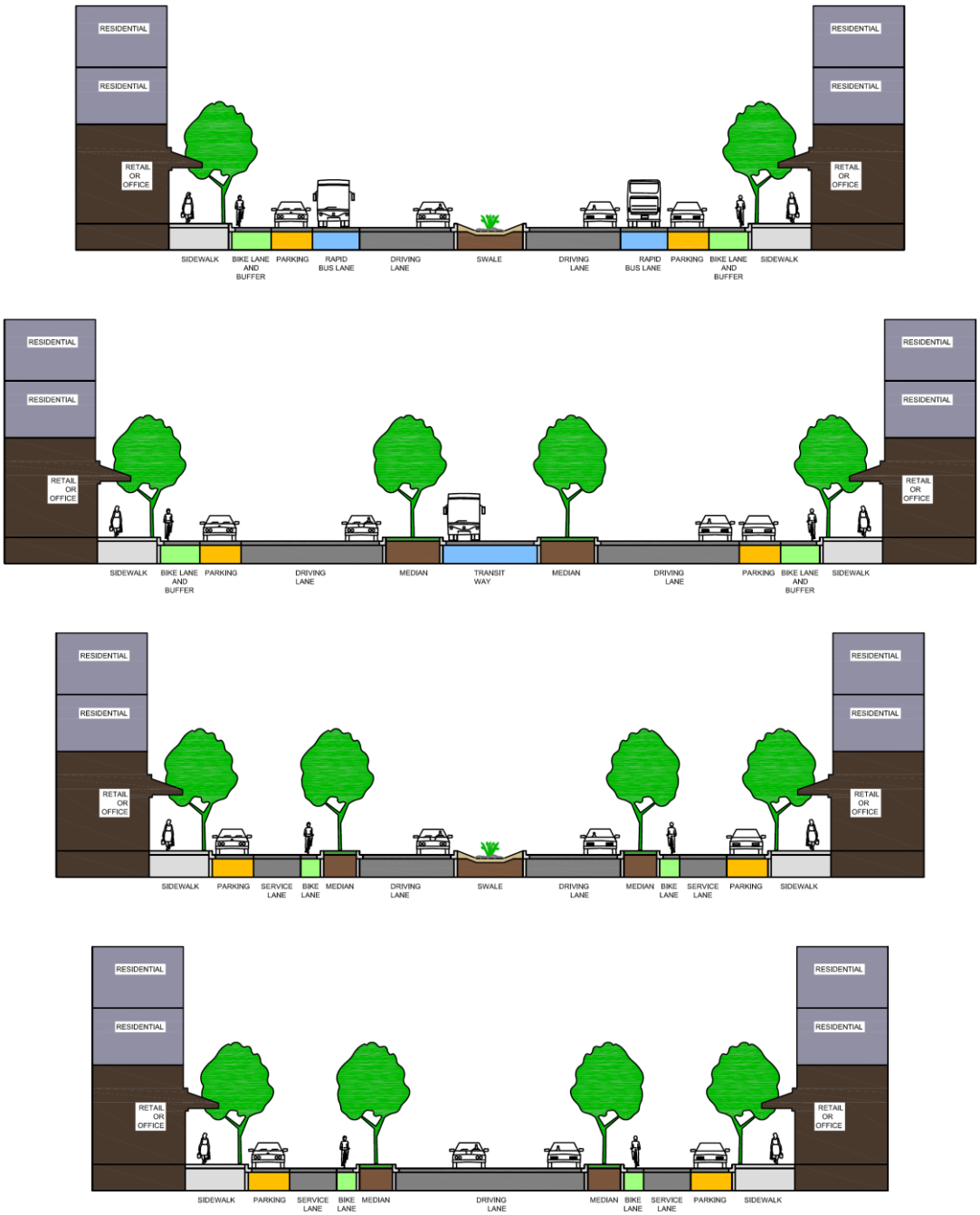


Figure 5: Examples of multi-modal arterial road rights-of-way with mixed land uses and medium density

12.2 Active Transportation Network

Saskatoon's Active Transportation Plan was approved in June, 2016. It outlines a city-wide active transportation network that links sectors and neighbourhoods throughout the city. In addition to on-street bike lanes and neighbourhood sidewalks, the multi-use trail network shown should be extended though the Holmwood Sector as each neighbourhood builds out, linking neighbourhood amenities,

schools, parks and natural features, and creating a network of active transportation facilities for residents to use for recreation or travel. The locations and design of the multi-use trail network within the Holmwood Sector will be determined during the ACP process and should be consistent with the standards and recommendations of the Active Transportation Plan (ATP).

Currently there are no multi-use trail network connections into the Holmwood Sector from existing neighbourhoods. However, as shown on Map 5, there are opportunities to connect the Holmwood Sector to adjacent neighbourhoods via the multi-use trail network, identified in the ATP and depicted on Map 5.

Two non-motorized multi-use trail crossings across the CPR tracks are proposed. These are described below in Section 12.12.1.3 Non-motorized Vehicle Crossings. These two multi-use trail linkages would provide east/west connectivity to existing neighbourhoods such as College Park East, Briarwood, Lakewood Suburban Centre and Rosewood.

A proposed multi-use trail along McOrmond Drive requires shared-use pathways when constructing the interchange at McOrmond Drive and College Drive. These shared-use pathways would provide non-motorized travel from the Holmwood Sector to the amenities in the University Heights SDA.

As part of the Active Transportation Plan, a AAA level cycling facility is proposed along College Drive.

12.2.1 Pedestrian Walkability

How people move around by foot will be a high priority in the design of all developments in the Holmwood Sector.

As part of each Concept Plan, a Pedestrian Plan must be provided with the required Traffic Impact Study (TIS) to illustrate where sidewalks will be located and proposed movements of people within and between development areas. The Pedestrian Plan must identify routes people will use to move around the Sector, getting to and from work, retail locations, leisure facilities and schools by foot. The goal of the design should be a walking timeframe of a maximum of five to ten minutes to significant neighbourhood amenities.

Sidewalks along McOrmond Drive and 8th Street East should be at least 2.5 meters in width to provide a pleasant walking experience along these major roads, and to allow for street furniture such as bus stops, benches, bike racks and extensions to retail store patios. For areas with higher estimated pedestrian volumes, such as along transit and BRT routes, sidewalk widths should range between four and six metres.

12.2.2 Barrier-free

The Holmwood Sector is intended to be barrier-free, and the neighbourhood designs and infrastructure will provide accessibility to all persons, regardless of their physical abilities.

12.2.3 Bicycling

All streets in the Holmwood Sector must be useable by bicycle. On-street bicycle lanes or off-street multi-use pathways/trails will be provided on collector and arterial streets in compliance with the City of Saskatoon's Active Transportation Plan.

As shown on Map 5, the City's Bicycle Network will be extended into the Holmwood Sector to provide an alternative mode of travel to major inner city destinations. Appropriate cycling facilities will be determined through consultation with the Active Transportation Coordinator as the Sector builds out.

12.3 Transit

The design of the Holmwood Sector, including the location and design of arterial roadways and the location, type and density of development, is intended to support frequent, high-quality transit service which in turn encourages the use of transit. Desirable high-frequency and rapid transit corridors within the Holmwood Sector are the arterial road network, and 8th Street East.

As part of the Concept Plan process, existing transit services and routes may need to be re-routed or new routes may need to be created to service the Holmwood Sector. These routes should use the arterial and collector road networks to access transit stop locations in neighbourhoods.

A "transit village" and provision for BRT facilities must be established within the Suburban Centre Commercial and mixed-use area. This would enable the Suburban Centre to be the end point of an 8th Street East rapid transit corridor. A "transit village" concept is feasible in this location due to the density and clustering of land uses, which would improve the efficiency of the transit system.

As outlined in the Growth Plan to Half a Million, BRT plans should be considered as Saskatoon grows and the Holmwood Sector builds out. BRT is a model that consists of bus routes from greenfield developments to inner city destinations where buses run more frequently (e.g. every five to ten minutes during morning and evening commuter rush times) and utilize transit priority measures on arterial roadways. In some cases, buses may have dedicated or priority lanes. In order to improve these corridors' viability as significant transit routes, additional emphasis should be placed on their development as relatively high-density and mixed-use areas.

12.4 Automobile Transportation

During the early stages of development, primary access to the Holmwood Sector will be provided by College Drive and 8th Street East.

According to the City's 2009 Traffic Characteristic Report, the Average Annual Daily Traffic (AADT) volumes for the two nearest traffic count stations next to the Holmwood Sector are 4645 AADT on 8th Street East (east of Boychuk Drive) and 22868 AADT on McOrmond Drive (between Kerr Road and College Drive). AADT volumes increase in the developed areas of the city to the west.

Further detailed traffic analysis will be required to identify all city-wide traffic impacts generated by the Holmwood Sector, and work is being done to address the impacts that have been identified to date.

When a Concept Plan is being prepared, a Traffic Impact Assesment (TIA) is also required. TIAs address traffic at a neighbourhood level or development level of detail, including the multi-modal (pedestrian, bicycle and vehicular) impacts new development will have on the existing infrastructure, which improves safety within neighbourhoods.

12.5 Roads

As shown on Map 6, five main roads lead into and shape the Holmwood Sector: McOrmond Drive, Zimmerman Road, College Drive, 8th Street East, and Taylor Street East. These will be classified as either arterial roadways or expressways. The Sector Plan calls for:

- extending and realigning McOrmond Drive south terminating just south of 8th Street East,
- extending 8th Street East from Boychuk Drive to Saskatoon Freeway, and
- extending Taylor Street East from Rosewood Gate North into the sector.

The Sector Plan also calls for:

- realigning Zimmerman Road approximately 400 m east of its current alignment to bisect 8th Street East and then terminate at Highway 16,
- retaining Blackley Road in approximately its current alignment, which will continue to link to Zimmerman Road as it intersects College Drive, and
- constructing new roadways to retain/increase connectivity with areas outside the Sector including the RM of Corman Park.

12.6 Highways

Highway 5 and Highway 41 are located in the Holmwood Sector. The portion of Highway 5 west of Saskatoon Freeway was brought into City limits in 2010 and has become part of College Drive. College Drive, east to Saskatoon Freeway, will be upgraded to an urban expressway standard, and Highway 5 will continue east of Saskatoon Freeway.

Similar to Highway 5, a portion of Highway 41 was brought into City limits in 2010. The portion of Highway 41 within City Limits will be removed when future street networks replace it, or when Saskatoon Freeway is built. Access to Saskatoon Freeway in this area will be decided through future discussions between the City and the Ministry of Highways.

12.7 Transportation Improvement Recommendations

In order to achieve the recommended transportation network shown on Map 6, and to address cumulative traffic impacts, a number of road improvements will require further analysis as the Holmwood Sector develops. These road improvements are described below, and are grouped according to short, medium and long term recommendations. These recommendations will be re-evaluated regularly (for example, during the Concept Plan process when TIAs are reviewed); additional recommendations may be determined upon further study and growth of the Holmwood Sector.

12.7.1 Short Term Recommendations

Short term recommendations include changes to the existing transportation network and construction of new infrastructure to better accommodate traffic of all modes for Phase 1 of the Holmwood Sector.

The following are necessary during the course of the Phase 1 build-out:

- Interchange at College Drive and McOrmond Drive,
- Overpass at 8th Street East and CPR tracks,
- Extension of McOrmond Drive into the Holmwood Sector,
- Extension of 8th Street East to McOrmond Drive,
- Street lighting along College Drive,
- Construction of multi-use pathway in conjunction with AAA cycling structure along College Drive to McOrmond Drive,
- Non-motorized, grade-separated (green bridge preferred) crossing the CPR line connecting College Park East with the Holmwood Sector in the NW corner of the Brighton neighbourhood ,
- Extension of multi-use trail along McOrmond Drive from Kerr Road to the Holmwood Sector, and
- Extension of multi-use trail along 8th Street East from Boychuk Drive to the Holmwood Sector
- Construction of a non-motorized trail under the College Drive overpass at the CPR tracks or suitable alternative is required.

The following will require monitoring and evaluation for possible improvements during the course of Phase 1 build-out:

- Performance of intersection at College Drive and Central Avenue; potential improvements include enhanced signal timing.

12.7.2 Medium Term Recommendations

Medium term recommendations include changes to the transportation network that will be needed in order to support the development of Phase 2 of the Sector. The timing for the construction of these improvements is tied to the growth of the Sector.

- Construction of Zimmerman Road from College Drive to 8th Street East,
- Extension of multi-use pathway in conjunction with AAA cycling facility along College Drive to Zimmerman Road, and
- Provide AAA cycling facility along arterial roadways,
- Construction of a non-motorized rail crossing near Donna L. Birkmaier Park,
- Construction of a multi-use trail from Donna L. Birkmaier Park north along the former highway (proposed for closure) along the east side of the CPR right-of-way to the proposed College Drive non-motorized trail at the CPR tracks,
- A multi-use trail should be developed along the power line corridor connecting from the proposed College Drive non-motorized trail to Kenderdine Road.

12.7.3 Long Term Recommendations

Long term recommendations include changes to the transportation network that will be needed to support full build-out of the Holmwood Sector and complete Phases 3, 4 and 5. Similar to the changes recommended in the medium term timeframe, the timing for these recommendations is tied to the growth of the Sector.

- Interchange at College Drive and Zimmerman Road,
- Construction of Zimmerman Road from 8th Street East to Highway 16,
- Construction of 8th Street East to Saskatoon Freeway,
- Extension of Taylor Street East to Zimmerman Road including enhanced rail crossing at Taylor Street East and the CPR tracks, including rail crossing arms and pedestrian control,
- Construction of Blackley Road from College Drive to Agra Road (Zimmerman Road extension),
- Provide non-motorized crossing over the CPR tracks connecting Donna L. Birkmaier Park with the Holmwood Sector, and
- Interchange at Central Avenue and Attridge Drive.

12.8 Interchanges

There are two interchanges proposed within the Holmwood Sector: McOrmond Drive and College Drive, and Zimmerman Road and College Drive. The interchange at McOrmond Drive and College Drive is currently under construction. The timing for the Zimmerman Road and College Drive interchange will be determined based on Sector growth and demand.

In addition to the interchanges within the Sector, a number of interchanges will be required as part of the development of Saskatoon Freeway. Interchanges will be required where Saskatoon Freeway intersects 8th Street East and College Drive. Access to/from the Saskatoon Freeway in the northeast area of the Sector will be discussed as the Sector builds out. The need and timing for these interchanges is not connected to the development of the Holmwood Sector; rather, it is dependent on the timeline for the development of Saskatoon Freeway.

12.9 Saskatoon Freeway

Saskatoon Freeway, which is provincial infrastructure, will be a high-speed corridor to move provincial highway traffic around Saskatoon. The Saskatoon Freeway alignment, which has been endorsed by the City and the Rural Municipality (RM) of Corman Park, and approved by the Ministry of Highways and Infrastructure, is shown on Map 6.

Once the Saskatoon Freeway location has been surveyed the Sector boundary will be amended to align with the Saskatoon Freeway right-of-way. The lands between the current Sector boundary and the Saskatoon Freeway will be brought into the Sector and land uses consistent with the Saskatoon North Partnership for Growth (P4G) Regional Plan will be identified.

The Province has not indicated any precise timing or budget for the construction of Saskatoon Freeway.

12.10 Rail Line

The southwest edge of the Holmwood Sector is defined by the alignment of the CPR line. This rail line is a part of the CPR mainline that runs from Winnipeg to Edmonton. CPR has advised that there are approximately eight trains per day using this line to access the CPR Sutherland rail yard and switching station. In the future, capacity on this line could increase to twelve trains per day. At this time, CPR has made no indication that it intends to relocate its Sutherland yards operation. As the Holmwood Sector builds out and if CPR was to relocate its operations, a study should be conducted to determine the potential future use of the rail line and rail yards.

12.11 Rail Line Setbacks

For all developments abutting the CPR right-of-way, the RAC/FCM Proximity Guidelines and Best Practices should be complied with unless the Noise and Vibration report determines a greater setback distance. The Proximity Guidelines and Best Practices report suggests a 4.5m sound attenuation berm or sound attenuation fence. If a residence abuts the CPR right-of-way, the rear of the home should be set back a minimum of 30 m from the rail line right-of-way.

In addition, Section 3.4 Noise Mitigation, for homes along rail line corridors and highways, noise design techniques should be incorporated into neighbourhood architectural controls, reducing noise within the home and in the rear yard living space. Suggested examples for noise reduction solutions include:

- triple pane glass windows,
- thicker (more insulated) exterior walls, and
- deck height below the sound wall or berm to reduce noise and enhance aesthetics.

12.12 Rail Crossings

Rail line crossings are required to provide connections to the Holmwood Sector. As part of the Holmwood Sector Plan, four motorized crossings (two grade-separated and two at-grade) and two non-motorized crossings are required (see Map 5). Further discussions with the CPR are required to implement this aspect of the Holmwood Sector Plan.

12.12.1.1 Motorized Vehicle Crossings

The first crossing for motorized vehicles is an enhancement to the existing rail line crossing at 8th Street East. Currently this rail crossing has flashing rail crossing signals. An overpass wide enough for two shared-use pathways and four vehicle lanes is proposed at this location to allow for unrestricted traffic flow along 8th Street East. The exact timing for construction of the 8th Street East overpass has not been confirmed.

The second crossing for motorized vehicles is a new rail line crossing at Taylor Street. This crossing is proposed as an at-grade crossing with flashing rail crossing signals and gates. The third is an enhancement to the existing rail crossing at Zimmerman Road. Currently this rail crossing has flashing rail crossing signals. A grade separated crossing wide enough for two shared-use pathways and four vehicle lanes is required at this location to allow for unrestricted traffic flow along Zimmerman Road.

12.12.1.2 Train Whistle Blowing at Crossings

Canadian Rail Operating Rules require trains approaching at-grade crossings to sound and hold their whistle before they reach the crossing and while they are in the crossing. These rules would apply to the proposed new Taylor Street East rail crossing; however, prior to residential development in the southern portion of the Holmwood Sector, appropriate safeguards should be put in place to restrict vehicle and pedestrian access to the rail right-of-way (i.e. centre median and pedestrian crossing gates). An application could then be made to Transport Canada for a whistle cessation, requesting the railway corridor abutting the residential neighbourhoods to be a "whistle free" zone. This would allow for a higher quality of life for those living next to the rail crossing.

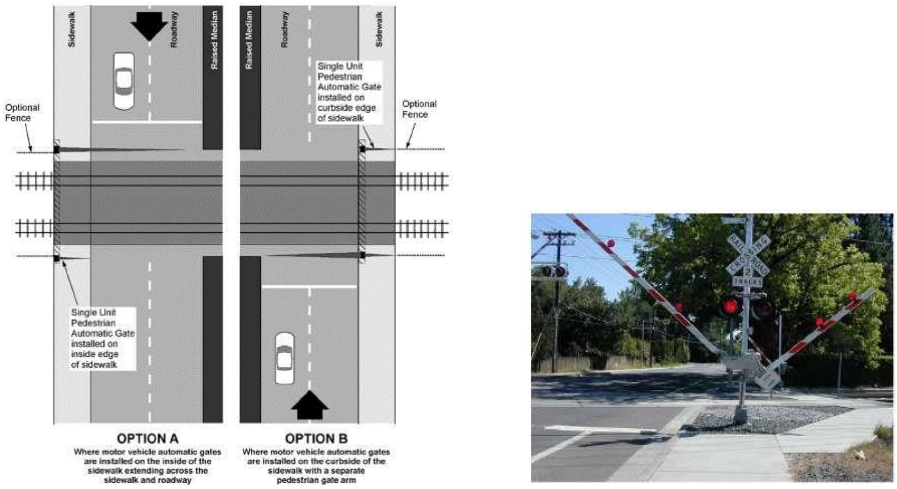


Figure 6: Rail Crossing Safeguard Examples (Washington DC: Transit Cooperative Research Report, Transportation Research Board, 1996)

12.12.1.3 Non-motorized Vehicle Crossings

The first rail crossing for non-motorized vehicles is proposed to be located north of 8th Street East, connecting the Brock Crescent lane access to the Holmwood Sector. A non-motorized, grade-separated crossing is important in this location so that the City's Active Transportation Network can be extended and children living in Phase 1 of the Holmwood Sector can have a direct route to the existing elementary schools and Sidney L. Buckwold Park located in College Park East.

The second grade-separated rail crossing for non-motorized vehicles is proposed south of 8th Street East, connecting Donna L. Birkmaier Park with the Holmwood Sector. By linking the proposed trail network of the Holmwood Sector with the trail network of Donna L. Birkmaier Park, there is an opportunity to develop a passive recreational corridor connecting to the trail network along the South Saskatchewan River valley.

While overpass or underpass solutions may be suitable at both of these crossings, landscaped pedestrian overpasses or "green bridges" are preferred. The Evergreen Neighbourhood features a green bridge crossing McOrmond Drive that may serve as a suitable model. Figures 7 and 8 show examples of suitable rail crossings for non-motorized vehicles

Figure 7: Green Bridge Overpass Example (Mile End Park, London, UK)

Figure 8: Trail Underpass Example

12.13 Noise and Vibration

For each residential neighbourhood abutting the CPR line, College Drive or Saskatoon Freeway, the developer must engage a qualified consultant to complete a Noise and Vibration report as part of the ACP process. This report will determine appropriate setbacks from these corridors, but dwellings should never be situated within 30 metres of the CPR property line. For residential developments adjacent to existing and proposed roadways, exterior noise levels should not normally exceed a decibel level of 65 dBA Ldn.

12.14 Site Contamination

As part of the Concept Plan process, the developer must engage a qualified consultant to complete an Environmental Site Assessment (Phase I and/or II). The Environmental Site Assessment should determine potential and existing environmental contamination liabilities in the neighbourhood; more specifically around existing farmsteads and commercial and industrial lands. If contamination is present, the land owner is responsible for remediating the site, preparing the lands for its future land use.

12.15 Ecological Network

Protection of significant natural areas (such as wetlands) is important to ensure that current residents and future generations can benefit from the presence of these important natural features within the city. The conceptual ecological network is based on the findings of the natural areas screening studies.

The ecological network consists of interconnected significant natural areas such as significant habitats, wetlands and associated low-lying areas. Where development occurs adjacent to significant natural areas in the Sector, an appropriate interface between them is critical.

The Holmwood Sector Plan calls for the preservation and integration of wetlands in a natural state as a component of an ecological network within an urban environment, where possible. This will enable their use as an alternative and/or supplement to traditional stormwater management facilities while preserving ecologically significant habitats and providing recreation and leisure opportunities.

Concept plans will need to include a more refined ecological network that demonstrates general adherence to the conceptual plan shown here. Developers will be expected to make the best possible use of available land types including Environmental Reserve, Municipal Utility Parcels, Buffers, and Municipal Reserve in the consolidation of an ecological network while ensuring all other needs of the plan area are met.

As part of the Concept Plan process, the City Administration would require the developer to engage a qualified consultant during the growing season to confirm the location and extent of the wetland resources. The consultant should confirm wetland class and determine an appropriate buffer distance around each wetland, which will allow for the integration of these natural areas into an urban environment. Prior to development, the developer must temporarily fence the buffer perimeter while construction occurs in the area.

Development adjacent to natural areas should, where possible:

a) Provide an aesthetically pleasing user experience,
b) Permit appropriate public access,
c) Facilitate user accessibility and circulation,
d) Ensure compatible land use, building scale and design,
e) Respect the ecological value and integrity of the resource, and
f) Feature ecological protection that in some cases may include the use of a buffer area.

13 Parks and Recreation Facilities

13.1.1 Neighbourhood Parks

Neighbourhood parks are intended to serve the needs of residents at the neighbourhood scale. These can be in the form of core parks, pocket parks, linear parks and village squares. The locations of these parks should be consistent with the Park Development Guidelines (Administrative Policy A10-17) and be depicted in the ACP.

13.1.2 District Parks

District Parks are intended to serve active and passive recreational needs of residents of four to five neighbourhoods. These parks include sport facilities to accommodate inter-neighbourhood sports leagues for youth and adults as well as space for active and passive recreation.

Sport facilities might include (but not limited to):

- Soccer pitches,
- Cricket pitches,
- Field hockey pitches,
- Ball diamonds,
- Frisbee golf courses,
- Track and field complexes,
- BMX bike facilities,
- Skateboard facilities, and
- Off-leash dog parks.

13.1.3 Multi-District Parks

Multi-District Parks are intended to serve active and passive recreational needs during all seasons of the year that may not otherwise be served by neighbourhood and district parks (e.g. cultural facilities, multi-purpose leisure centre). These activities could be associated with a suburban recreation complex. Sport complexes include multiple sports fields in order to accommodate inter-neighbourhood sports leagues for youth and adults at a larger scale.

Sport complexes might include (but are not limited to):

- Soccer pitches,
- Cricket pitches,
- Field hockey pitches,
- Ball diamonds,
- Frisbee golf courses,
- Track and field complexes,
- BMX bike facilities, and
- Skateboard facilities.

Future District and Multi-District Parks will be constructed as the Holmwood Sector develops and park space is warranted.

13.1.4 Recreation Facilities

Recreation facilities are intended to serve the active and passive recreation needs of multiple sectors during all seasons of the year. Recreation facilities include indoor multi-purpose leisure centres and might be incorporated with high schools and outdoor sport complexes. It is projected that a recreation facility will be needed to serve the Holmwood Sector at full build-out.

14 Dedicated Lands

Dedicated lands are tools provided under the *Planning and Development Act, 2007* and are the means through which the City is able to accumulate the land required to meet the needs for parks, utility space, ecological network and recreational facilities and to ensure that development does not occur on lands that are subject to such things as flooding, slumpage, and instability.

14.1 Municipal Reserve

When land is subdivided, *The Planning and Development Act, 2007* requires part of it to be set aside as Municipal Reserve for public recreation or similar purposes, or for money to be paid in lieu of land. The Municipal Reserve dedication requirement is ten percent of gross land area for residential land and five percent of gross land area for non-residential land. The City may take money in lieu of land in areas where the dedication of land is not desirable.

The specific standards laid out in Section 3.4 of the Park Development Guidelines - Administrative Policy A10-017 is for the distribution of parks to be dedicated as follows: Neighbourhood Park (61 %), District Park (36 %), and Multi-District Park (3 %).

The Neighbourhood Park allocation must be dedicated within the neighbourhood. However, because District and Multi-District Parks serve the needs of more than one neighbourhood the space required for these parks tend to be allocated more heavily in some areas and less so in others. When this occurs a neighbourhood may have either a surplus or deficit of dedicated Municipal Reserve. When a neighbourhood has a deficit of dedicated Municipal Reserve the developer(s) are required to pay money-in-lieu to offset the costs incurred by neighbourhoods which have an over-dedication (surplus).

14.1.1 Municipal Reserve Dedication

Table 2 provides a breakdown on the total amount of Municipal Reserve required in the Holmwood Sector. The locations of future District Parks and Multi-District Parks will be determined through discussions between Long Range Planning and Recreation and Community Development.

Table 2: Municipal Reserve Analysis

	Area (net[1]) (hectares)	MR Dedication[2] (%)	Total MR Required (hectares)	N'hood Parks (hectares)	District and Multi-district Park provided within neighbourhood[3]	
					District (hectares)	Multi-District (hectares)
Neighbourhood Area 1 (Brighton)	334.2	**10.00%**	33.40	20.40	12.00	1.00
Neighbourhood Area 2	170	**10.00%**	17.00	10.37	6.12	0.51
Neighbourhood Area 3	254.3	**10.00%**	25.43	15.51	9.15	0.80
Neighbourhood Area 4	212.7	**10.00%**	21.27	12.97	7.66	0.90
Neighbourhood Area 5	271.8	**10.00%**	27.18	16.58	9.78	0.70
Neighbourhood Area 6	381	**10.00%**	38.10	23.24	13.72	0.90
Neighbourhood Total	**1624**		**162.38**	**99.0778**	**58.4328**	**4.81**
Neighbourhood Total (acres)	4012.99	0.00	401.25	244.83	144.39	11.89
Suburban Centre 1	36.0	**10.00%**	3.60	2.20	1.30	0.11
Suburban Centre 2	96.4	**10.00%**	9.64	5.88	3.47	0.29
Suburban Centre Total	**132.40**		**13.24**	**8.08**	**4.77**	**0.40**
Suburban Centre Total (acres)	327.17		32.72	19.96	11.78	0.98
Business Park	112.00	**5.00%**	5.60			
Business Park Total	**112.00**		**5.60**			
Business Park Total (acres)	276.76		27.70	0.00	0.00	0.00
Holmwood Sector Total	**1868.40**		**181.22**	**107.15**	**63.20**	**5.21**
Holmwood Sector Total (acres)	4616.91		447.80	264.78	156.17	12.87

NOTES:
"Net" area (hectares) refers to all the area within each Neighbourhood Development Area (as shown on Map 3) including all roadways except College Drive (185 ac) and Saskatoon Freeway (85 ac), and excluding proposed urban holding areas (160 ac) and University lands (1600 ac). The net area also excludes Environmental Reserve dedications (558 ac) as per the sample calculations in Table 3: Environmental Reserve Analysis

1) If wetlands are developed, the Municipal Reserve (MR) requirement will increase for the applicable area.
2) MR dedication is set according to legislation at 5% for non-residential development and 10% for residential development. For simplicity, the MR for the Suburban Centre (which will be mixed use) was set at 10%, though the actual dedication requirement will likely be between 5% and 10%. These MR calculations should be used as a guide with more accurate MR dedication values determined during the Concept Plan process.

14.2 Environmental Reserve

As noted in Section 4.4 Natural Areas Screening, developers are encouraged to protect natural features including the ecological network and enhance these features by incorporating them into the layout of

the neighbourhood open space. For example, wetlands left in a natural state can be aesthetically pleasing and can add value to surrounding development. They can also provide education and exploration opportunities while sustaining wildlife habitats and reducing carbon dioxide in the atmosphere. Further, such wetlands perform a natural stormwater retention function, reducing the need for expensive engineered stormwater management solutions.

Significant wetlands should be dedicated as Environmental Reserve. When land is dedicated as Environmental Reserve, it is subtracted from the gross developable area of the neighbourhood. Municipal Reserve is then calculated based on the remaining lands.

Table 3 provides a sample calculation of this approach, which assumes that all existing Class 4 and 5 wetlands, plus a 30m buffer surrounding them, will be classified as Environmental Reserve. All further calculations (for Municipal Reserve dedication and population projection) will be based on the "net developable area" calculated below.

Table 3: Environmental Reserve Analysis

	Area (hectares)	Area (Acres)	Environmental Reserve[1] (hectares)	Environmental Reserve[1] (acres)	Net Developable Area (hectares)[2]	Net Developable Area (acres)[2]
Neighbourhood Development Area 1 (Brighton)	334.2	825.8	16.7	41.1	317.6	784.7
Neighbourhood Development Area 2	195	482	25.0	62	170.0	420
Neighbourhood Development Area 3	276	682	21.7	54	254.3	628
Neighbourhood Development Area 4	230	568	17.3	43	212.7	526
Neighbourhood Development Area 5	287	709	15.2	38	271.8	672
Neighbourhood Development Area 6	381	941	0.0	0	381.0	941
Neighbourhood Total	**1703.2**	**4208.7**	**95.9**	**236.9**	**1607.4**	**3971.8**
Suburban Centre 1	50.0	123.6	14.0	34.6	36.0	89.0
Suburban Centre 2	110.0	271.8	13.6	33.6	96.4	238.2
Suburban Centre Total	**160.0**	**395.4**		**0.0**	**160.0**	**395.4**
Business Park	112.0	276.8	0.0	0.0	112.0	276.8
Business Park Total	**112.0**	**276.8**	**0.0**	**0.0**	**112.0**	**276.8**
Holmwood Sector Total	**1975.2**	**4880.8**	**95.9**	**236.9**	**1879.4**	**4644.0**

NOTES:

1) Environmental Reserve is defined for illustrative purposes only. In this case it is defined as all existing Class 4 and 5 wetlands (Steward and Kantrud (1971)) within Holmwood Sector, plus a 30m buffer strip. Saskatoon Wetland Policy Study, 2009.
2) Net developable acres equals the total area minus Environmental Reserve.

14.3 Municipal Utility Parcels

Municipal utility parcels are parcels of land which are dedicated upon subdivision and which become the property of the municipality for the purpose of a public work or public utility. Utility parcels may be leased to utility providers. Examples include but are not limited to storm water retention ponds, electrical substations and cell tower sites. Land designated as Municipal utility parcel is subtracted from the gross developable area of the neighbourhood. Municipal Reserve is then calculated based on the remaining lands.

15 Servicing

15.1 Water Mains

The Holmwood Sector will be serviced initially by a primary water main extended from McOrmond Drive across College Drive into the Sector, then down 8th Street to the future new Holmwood reservoir. A second water main will be extended from Taylor Street East, then up Saskatoon Freeway to connect with the reservoir. As shown on Map 7, the water main alignment will loop around the Suburban Centre, providing services to each neighbourhood.

In future, the entire potable water to the sector will be provided by the Holmwood water reservoir (see section 13.2 below).

In order to reduce the volumes of water used by each household, the developers will be encouraged to promote the installation of water conservation methods into all new developments. Examples of this include:

- restrict the amount of sod coverage per lot,
- provide new homeowners with educational material about drought-tolerant plants,
- create water wells around trees and shrub beds,
- install irrigation rain barrels on all eavestroughs, and
- install water-efficient toilets and fixtures.

15.2 Water Reservoir

A future 4.85 hectare (12 acre) water reservoir site has been designated in the northwest corner of the Perimeter Highway and 8th Street East interchange of the sector boundary (southeast corner of Section 28-36-4-W3M). This water reservoir will be required to supply the increased demand for potable water from all the neighbourhoods in the Sector. The potable water to the reservoir will be supplied by a 1350mm fillmain from a future water treatment plant on the east side of the South Saskatchewan River. The timing for the reservoir will depend on growth of the Sector but must be built when 40 to 50 percent of the Sector is built out.

15.3 Sanitary Sewer

The sanitary sewer system proposed to service the Holmwood Sector will consist of two separate gravity sewer networks (see map 7). The west, central and south sanitary sewer network will tie into the Attridge Drive trunk sewer at the junction of McOrmond Drive and Attridge Drive whereas the north and northeast sanitary sewer network will drain north into the future north east sector sanitary sewer system. This sanitary sewer system will eventually drain to the future new waste water treatment plant. As the development proceeds in northeast and north phases of the sector, potential temporary lift stations and force mains may be required to pump the sewage to the existing sanitary system at McOrmond Drive and College Drive and to the proposed north sanitary river crossing north of Agra Road (see Map 7).

15.4 Storm Sewer

All neighbourhoods in the Holmwood Sector will have a conventional underground storm sewer design, as well as drainage ditches and storm water ponds, including wetlands where appropriate. Drainage ditches would replace the underground storm sewers in appropriate areas and would offer storm water pre-treatment before it drains to the forebays and ponds. Forebays, which are a type of settling pond, will be used in conjunction with natural wetlands to trap nutrients and sediments, while maintaining the value of the water body and protecting the organisms that live in these areas. (see Figure 9 and Map 7).

Stormwater best management practices should be followed when developing stormwater models for Concept Plan designs. Developers are encouraged to use low impact development strategies during neighbourhood design. Examples of this include:

- rainwater harvesting in parks;
- paving stone walkways,
- stormwater swales in medians,
- stormwater bump outs (see Figure 10), and
- stormwater park irrigation.

These techniques use "natural" drainage systems, allowing stormwater to replenish the soil and underground aquifer instead of being removed from the system through pipes.

Figure 9: Natural stormwater pond example

Figure 10: Stormwater bump out example

15.4.1 Natural and Engineered Water Bodies

Best practices in stormwater management are incorporating the use of natural wetlands, and associated forebays, to manage storm water runoff. This practice has begun to be implemented in Saskatoon and will become more prevalent throughout the development of the Holmwood Sector. As part of the Concept Plan process, the developer will be required to have a qualified environmental specialist work with a stormwater engineer to develop a stormwater model identifying the natural boundary of the wetland, the significance of the wetland, the best location for the forebay. The model would also have to determine if the wetland is deep enough to manage stormwater levels post–development, or if excavation and restoration would need to occur.

15.4.2 Stormwater Park Irrigation

Developers are encouraged to work with City Administration to find an alternative non potable irrigation water source for new park development.

15.4.3 Utilities

15.4.3.1 SaskPower

As part of the Concept Plan process, sufficient rights-of-way will be required for the existing overhead lines or negotiations between the developer and service provider regarding the relocation of these lines will need to occur. If these lines remain as overhead lines, provisions should be made to incorporate these utilities into road rights-of-way or open space connections. Negotiations to relocate the portion of the 138kv overhead lines north of 8th Street will be addressed as part of the Brighton neighbourhood development.

SaskPower has two existing substations which will be able to service the Holmwood Sector. No additional substation locations would be required at this time.

15.4.3.2 SaskEnergy

SaskEnergy requests that Town Border Station #4 located on NW-33-36-04 W3M adjacent to College Drive be incorporated into future development in the Sector. As part of the Concept Plan process, sufficient rights-of-way will be required for the existing pipelines or negotiations between the developer and service provider regarding the relocation of these pipelines will need to occur. If these pipelines remain, provisions should be made to incorporate these utilities into road rights-of-way or open space connections.

SaskEnergy will require 2-3 future District Regulator Stations within the Holmwood Sector. Suitable sites will be determined as development progresses based on immediate and future needs.

As development progresses developers will need to work closely with SaskEnergy to establish appropriate locations for future regulator stations, pipeline routing, and system isolation zones.

15.4.3.3 TransGas

There is an existing transmission line running north-south through sections 21, 26, 33, 4 and 9 connecting to Town Border station #4 located east of Zimmerman Road. If this line remains as a transmission line an appropriate easement will need to be provided. This line and station will need to be relocated at the developer's expense prior to development commencing west of Range Road 3044 or a suitable easement will need to be provided.

15.4.3.4 SaskTel

If relocation of any of the existing overhead lines or the cellular located south of the 8th Street extension is desired, negotiations between the developer and the service provider will need to occur prior to development commencing in the area. If relocation occurs, consideration should be given to relocating this facility onto a proposed building roof-top so it is more discreet. If relocation is not feasible, this site should be landscaped and screened at the developer's expense to visually blend into the surrounding

neighbourhood from ground level. SaskTel has identified a location for a future cellular tower facility near College Drive and Range Road 3044. As part of the Concept Plan process, land holdings should be secured or agreements should be decided upon to integrate this facility with the surrounding land uses.

15.5 Permanent Snow Management Facility

Development of the Holmwood Sector will require the relocation of the City's Nicholson Yards and the snow storage site. The City Administration will be working to find a suitable new location. A permanent site for a snow management facility and Public Works Satellite Yard may be located in or near the Sector. A permanent site typically requires:

- 35 hectares (90 acres),
- Suitable road access,
- Access to the existing stormwater management system,
- Adequate separation from significant wetlands, and
- Adequate separation from residential development (trucks run 24 hours per day mostly in the winter).

Preference should be given to land otherwise unsuitable for urban development.

15.6 Recycling and Composting Facilities

Development of the Holmwood Sector required relocation of the City's McOrmond Drive compost Depot. The City is currently working to identify a location for a full service permanent Eco-Centre to serve residents in the City's northeast. Should a Holmwood location be selected the Business Park and Suburban Centre would be suitable locations.

The Eco-Centre will compliment Recovery Park (currently the Saskatoon landfill) located in the southwest corner of Saskatoon by providing quality, convenient recycling services to residents in the northeast areas of the City.

The Eco-Centre will be a manned facility on a 2 hectare (5 acre) site accessible to the public. Eco-Centres typically accept materials such as:

- household hazardous waste,
- organics (compost),
- mixed recyclables,
- some construction waste, and
- gently used items for exchange.

15.7 Parks Maintenance Facility

The City is currently working to identify a location for establishment of a Parks maintenance hub on the east side of the city to complement the Vic Rempel Yards on the west side. The east side hub will support Parks' maintenance initiatives on the east side of the City, primarily serving the communities of Stonebridge, Lakewood, Evergreen, Willowgrove and Rosewood.

The Holmwood Parks maintenance hub would be a permanent, fully manned facility housing staff and equipment for Parks' Urban Forestry, Irrigation and Sports fields, Operations and Maintenance and Pest Management programs. This facility would require approximately 1.0 ha (2.47 ac) area. Should a Holmwood location be selected the Business Park and Suburban Centre would be suitable locations.

15.8 Shallow-buried Utilities

As part of the Concept Plan process, the developer must arrange for the respective service providers to provide shallow buried services such as electricity, natural gas, street lighting, telephone, and cable television to the neighbourhood.

16 Phasing

16.1 Development Sequence

The development sequence as shown on the Phasing Plan (Map 8) is proposed to be consistent with the servicing scheme described in Section 15 Servicing:

- Phase 1 is comprised of the Brighton Neighbourhood east of College Park East and west of McOrmond Drive,
- Phase 2 is comprised of the Neighbourhood Development Area east of the Brighton Neighbourhood and west of Zimmerman Road,
- Phase 3 is comprised of the Neighbourhood Development Area west of Zimmerman Road and south of 8th Street East,
- Phase 4 is comprised of Neighbourhood Development Area east of Zimmerman Road and north of 8th Street East,
- Phase 5 is comprised of the Neighbourhood Development Area east of Zimmerman Road and south of College Drive, and
- Phase 6 is comprised of the Neighbourhood Development Area east of the University of Saskatchewan East Management Area and north of College Drive.

The Suburban Centre and Business Park are intended to be phased concurrently with the residential development, but the Phasing Plan allows for the development of the Business Park and the Suburban Centre to proceed as demand warrants. The Concept Plans for the Suburban Centre, Business Park and Neighbourhood Development Area 2 shall be submitted as a single Concept Plan in order to show how these areas will interface with one another.

In addition to the servicing scheme for the Holmwood Sector, the lands north of College Drive were also identified as the lands with the highest agricultural potential based on the soil quality (see Section 4.3 and Map 2). Therefore, these lands should be developed during later phases to retain these lands in agricultural production for the greatest amount of time.

17 Funding

The role of the Holmwood Sector Plan is to provide a framework within which development of the Holmwood Sector can take place, and a vision to shape that development to reflect the values of the community. Data on detailed costing and funding are not available at the Sector Plan stage due to the very large scale of such plans, their long term and conceptual nature, and numerous uncertainties regarding timing of development and specific elements required for development to occur. Sector Plans do enable the City Administration to begin more detailed infrastructure analysis, and to address this infrastructure in operating budgets, capital budgets and capital plans. It is important to acknowledge that the costs for development of new growth sectors are funded in a fiscally sustainable manner, ensuring that growth is paid for by those who benefit from it.

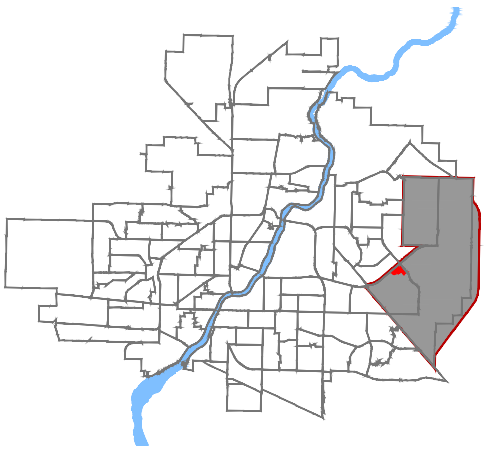
It is possible to provide very general estimates of upfront costs. The Holmwood Sector requires significant upfront investment in infrastructure to begin development. While much of this infrastructure has a funding source (i.e. prepaid service rates, for direct and off-site services), some is unfunded. When infrastructure is partially funded or unfunded, the City Administration works to identify and secure funding sources. Funding sources typically include changes to prepaid service rates, special assessments, developer contributions, and senior government funding. In principle, infrastructure that has a direct benefit to a sector rather than a more general city-wide benefit, such as the CPR overpass in the case of the Holmwood Sector, is to be paid for by that sector.

Key funded and un-funded (i.e. has no funding source) infrastructure projects required to support the development of the sector are described in Table 4.

Table 4: Infrastructure Funding

Infrastructure Funding		
Infrastructure	**Funding**	**Description**
Interchanges (Internal)	Partial - City, developers	College Dr & McOrmond Dr
		College Dr & Zimmerman
Interchanges (Saskatoon Freeway)	Partial - City, Province, others	College Dr & Saskatoon Freeway
		8th St & Saskatoon Freeway
Railway grade-separated crossings	Partial - City, Developers	8th St & CPR
	Unfunded - discussions planned with future developers	Zimmerman Rd & CPR
		Active Transportation crossing over CPR (Donna Birkmaier Park-Neighbourhood 3)
Primary watermains	Funded	
Sanitary & Storm trunk sewers, Stormwater retention pond	Funded	
Arterial roadways	Partial	4 lane standard
Recreational Facilities & Amenities	Partial	Examples include: Libraries, Leisure Centres, Spray Parks, Indoor Rinks, etc
Active Transportation Infrastructure	Unfunded - discussions planned with future developers	Multi-use trail along Arterial Roadways
		AAA Cycling Facility along College Drive
		Multi-use trail under College Drive overpass at CPR tracks
		Multi-use trails over CPR tracks

Map 1 - Study Area
Holmwood Sector Plan



2015 Aerial Photography

City Limits

Sector Boundary

City of Saskatoon
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July 11, 2017

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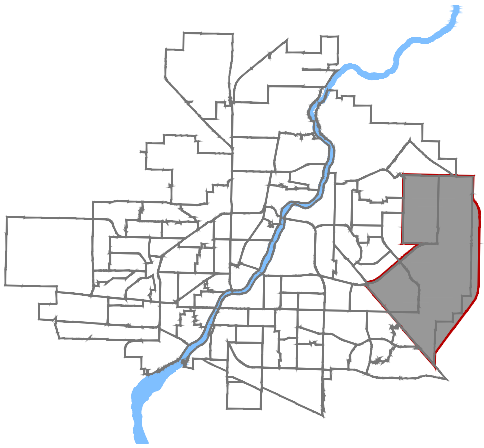
Map 2 - Existing Features

Holmwood Sector Plan



- City Limits
- Sector Boundary
- Water Table <2m
- Natural Areas (Area Requires Addional Review)
- Natural Wetlands
- Class 2 Soils
- Topographic Contours
- Heritage Site
- Residence
- Previous Homestead
- Commercial/Industrial/Business
- Overhead Powerlines
- Power Substation
- Cellular Tower
- Transmission Line
- Power Substation

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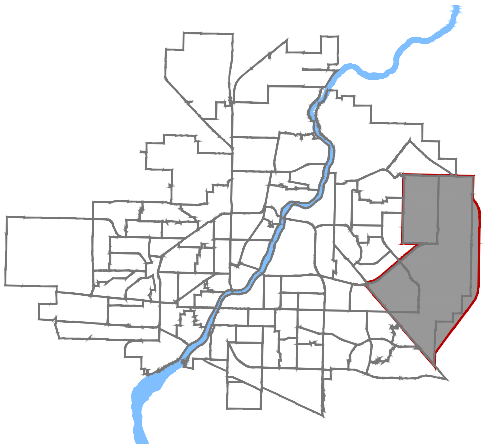
Map 3 - Land Use Plan

Holmwood Sector Plan



City Limits

Sector Boundary

Saskatoon Freeway

Saskatoon Freeway
(Ministry of Highways Preferred Alignment)

Arterial Road

Natural Areas
(Area Requires Addional Review)

Natural Wetlands

Urban Holding

Residential

U of S Lands

Business Park

District Village

Suburban Centre

Commercial/Retail

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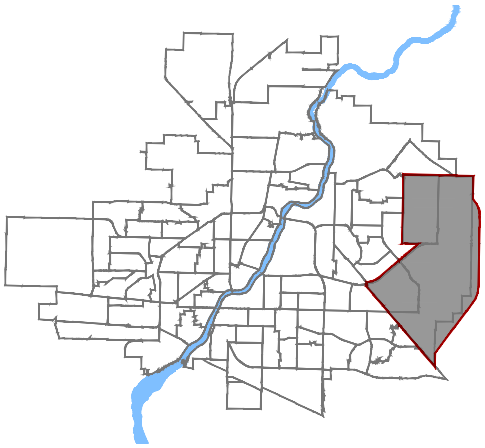
Map 4 - Transit Plan
Holmwood Sector Plan



- City Limits
- Sector Boundary
- Saskatoon Freeway
- Saskatoon Freeway (Ministry of Highways Preferred Alignment)
- Possible Transit Route & Linkage
- Rapid Transit Corridor
- Natural Areas (Area Requires Addional Review)
- Natural Wetlands
- Urban Holding
- Residential
- U of S Lands
- Business Park
- Suburban Centre

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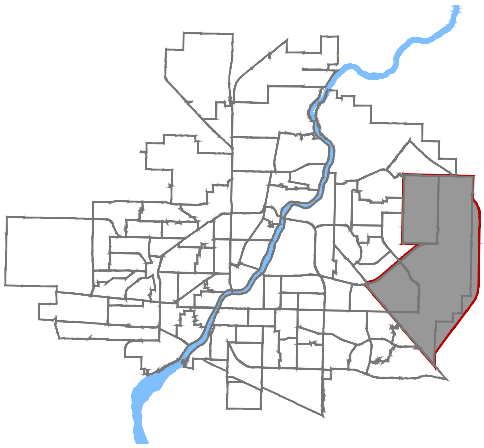
Map 5 - Active Transportation Plan

Holmwood Sector Plan



City Limits

Sector Boundary

Saskatoon Freeway

Saskatoon Freeway
(Ministry of Highways Preferred Alignment)

Arterial Road

Active Transportation Grade Separated Crossing

Proposed Multi-use Trail

Existing Multi-use Trail

Bicycle Network Linkage

Natural Areas
(Area Requires Addional Review)

Natural Wetlands

Urban Holding

Business Park

Suburban Centre

Residential

U of S Lands

City of Saskatoon
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July 11, 2017

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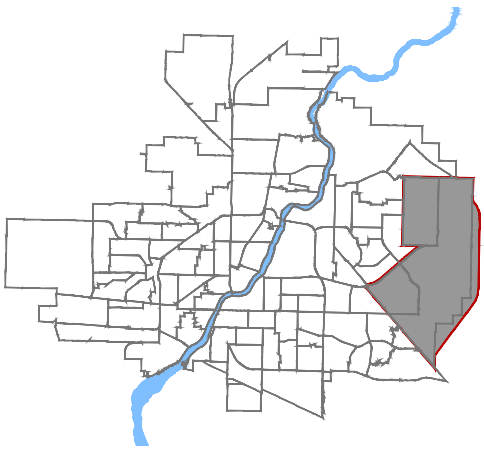
Map 6 - Roadways Plan
Holmwood Sector Plan



City Limits
Sector Boundary
Saskatoon Freeway
Saskatoon Freeway (Ministry of Highways Preferred Alignment)
Arterial Road
Urban Expressway (College Drive)
Collector Road

Future Interchange
Grade Separation
Active Transportation Grade Separated Crossing
Natural Areas (Area Requires Addional Review)
Natural Wetlands
Urban Holding

Business Park
Suburban Centre
Residential
U of S Lands (Agricultural)

City of Saskatoon
Planning & Development

DRAWING NOT TO BE SCALED
August 9, 2017

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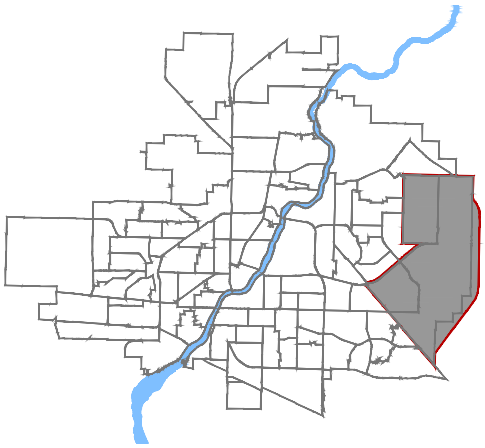
Map 7 - Servicing Plan
Holmwood Sector Plan



DISCLAIMER:
All servicing alignments are conceptual. Final alignments will be determined during detailed design for each neighbourhood.

Potential Temporary Lift Station
Fleury Road
HWY 41
Kernen Prairie
Eagle Ridge Estates
Super DARN Radar Facility
Potential Temporary Lift Station
Blackely Rd
HWY 5
Attridge Drive
115th Street
McOrmond Dr
Berini Dr
108th St W
Kerr Road
105th St W
Central Avenue
College Drive
14th Street
8th Street
McKercher Drive
Acadia Drive
Boychuk Drive
Taylor Street
Circle Drive
Rosewood Blvd E
HWY 16
Zimmerman Road
Taylor St E
Range Road 3043
Range Road 3042
Hidden Ridge Estates
Patience Lake Road
N

City Limits
Sector Boundary
Natural Areas
(Area Requires Addional Review)
Natural Wetlands

Storm
Stormwater Trunk
Stormwater Trunk
Ditch
Forebay
Stormwater Pond
Direction of Flow

Water
Fill Main
Watermain
Water Reservoir

Sanitary
Gravity Trunk
Lift Station

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July 11, 2017

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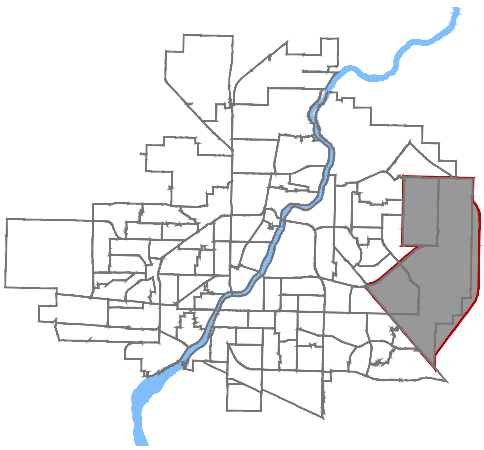
Map 8 - Phasing Plan

Holmwood Sector Plan



City Limits

Sector Boundary

Phase 1 2 3 4 5 6 TBD

Neighbourhood Development Area

Business Park B1

Suburban Centre SC1 SC2

City of Saskatoon
Planning & Development

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July 11, 2017

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