KENDAL

NEIGHBOURHOOD STRUCTURE PLAN

Prepared for: Kendal Ownership Group
Presented by: Select Engineering Consultants Ltd.
Date: September 27, 2024
RPT-303-20001-8.5-KendalNSP-240924

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1.0 Introduction

1.1 Purpose

The purpose of this Neighbourhood Structure Plan (NSP) is to provide a document to establish a land use framework and provide detailed objectives, planning policies and requirements of applicable statutory plans. This NSP will guide the review and approval of future development within the Kendal neighbourhood.
This NSP has been prepared and guided by existing statutory plans which include The Edmonton Metropolitan Region Growth Plan (EMRB), The City Plan (Edmonton's Municipal Development Plan), The Windermere Area Structure Plan (ASP) and other applicable statutory documents. The NSP intends to guide future development of a complete community that is well connected, incorporates natural ecological features, supports transit, and promotes active lifestyles. This NSP identifies:

- Location and configuration of various land uses including residential, commercial, mixed uses, parks and open spaces, schools, and public utilities.
- The anticipated residential density for the neighbourhood.
- The pattern and alignment of the road networks, pedestrian connectivity, and walkway systems.
- The general pattern of development.
- General servicing schemes.

1.2 Authority and Framework

The Kendal NSP was adopted by Edmonton City Council on DATE as Bylaw ### in accordance with Section 633 of the Municipal Government Act (MGA).

Planning in Alberta is governed by The Municipal Government Act (MGA). This legislation allows municipalities to establish a Municipal Development Plan and to plan a framework for land areas and neighbourhoods through an established ASP and NSP process. The Municipal Development Plan for the City of Edmonton, The City Plan, was approved on December 7, 2020 and charts a course for the growth and development of a 'future city'. The City Plan designates this neighbourhood as a residential area, which is planned to accommodate much of the City's future residential growth.



Source: City of Edmonton; Terms of Reference for the preparation and amendment of Neighbourhood Structure Plans in Edmonton's Urban Growth Areas. April 2014.

Residential growth and land development are further guided by specific Area Structure Plans (ASP) and Neighbourhood Structure Plans (NSP). The ASP governing this area is the Windermere Area Structure Plan which was adopted by council in May 2004 and consolidated in April 2022. The Windermere ASP established a framework for land use planning and municipal infrastructure with the intent of building a vibrant and sustainable Southwest Edmonton. The Windemere ASP divides the area into six neighbourhood areas, requiring more detailed plans be prepared for each area. This NSP will cover neighbourhood five (5) which is the final NSP to be planned and developed within Windermere.

Council's authorization to prepare the neighbourhood structure plan was required to undergo the planning process. Council granted authorization to prepare the Kendal NSP on February 2, 2011. The proposed NSP follows the objectives and principles outlined in the ASP and Designing New Neighbourhoods Policy C572 with an amendment required to update and align the ASP development concept plan and land use statistics with this proposed NSP.

1.3 Interpretation

All map symbols, locations and boundaries contained within this Plan should be interpreted as approximate unless otherwise specified in the plan or coincide with clearly recognizable physical features or fixed (i.e. legal) boundaries.

Policy statements containing "shall" are mandatory and must be implemented. Where a policy proves impractical or impossible, an applicant may apply to amend the plan. A policy statement containing "should" is an advisory statement and indicates the preferred objective, policy and/or implementation strategy. If the "should" statement is not followed because it is impractical or impossible, the intent of the policy may be met through other agreed-upon means.

1.4 NSP Amendment Process

Policies, text, and mapping information contained within this Plan may be amended from time to time in order to remain current and up to date in response to broader or more specific issues affecting the neighbourhood.

Any change to policy, text or mapping information contained within the Plan should be in accordance with the Municipal Government Act, the Windermere ASP and City of Edmonton's 2014 Terms of Reference for the preparation and amendment of Neighbourhood Structure Plans.

1.5 Summary of Consultation

The Kendal consultation process has been completed in accordance with Edmonton's public involvement process and guidelines (Policy C53). All surrounding landowners and stakeholders affected by this NSP were notified in accordance with the City of Edmonton's policies and application requirements for new neighbourhood plans.

1.5.1 Pre-Application Meetings

As part of the NSP Terms of Reference, a pre-application meeting was held with Planning Coordination on June 16, 2020. The purpose of this meeting was to discuss the land use related to City policies, existing conditions, top-of-bank, servicing and stormwater outfall to Whitemud Creek through Glenridding Ravines, confirm technical report requirements, timing of application and approvals and transportation system and road alignment standards. Several meetings were held between the applicant, City departments, and other stakeholder groups to work collaboratively on the development concept and technical study details throughout the application process.

Due to changes in planning direction and a need to update the plan based on new requirements, an additional pre-application meeting was held on April 12, 2023. This meeting was held to receive feedback on the updated concept which included increased overall density for the plan area, allocation of a third school, as well as further distribution of land uses throughout the neighbourhood. Multiple follow-up meetings were held subsequently to continue to refine the concept based on a request for an additional school site.

1.5.2 Preapplication Notification

Preapplication notification was sent out to all non-participating landowners on June 11, 2019. This notification was sent along with the proposed NSP development concept, to inform all non-participating landowners within the NSP area that an NSP application is underway and will be submitted to the City of Edmonton. Opportunities to make contact were available to each non-participating landowner to discuss the letter and NSP Development Concept.

The non-participating landowners were invited to participate in the preparation and costs of the NSP creation several times by the participating owners. The development concept plan and land use statistics were provided to the Stelter family In April 2024, along with a letter outlining the rationale for the plan. The letter invited feedback from the Stelter family at that time and none was received.

1.5.3 Public Meeting and Engaged Edmonton Website

A public meeting was hosted by Planning Coordination to review the draft plan on DATE. Mailed notification letters were sent to landowners in and surrounding the NSP area advising them of this meeting. The purpose of the meeting was to provide an update on the proposed plan and the planning process followed to date, and to hear from attendees regarding their questions, comments, and concerns. All feedback received at the public meeting was summarized in Planning Coordination's report to City Council.

In addition, the Engaged Edmonton Website was utilized to publish application details to share information and collect public feedback during the two-week period following the Public Meeting. Information was subsequently updated on the Engaged Edmonton website with a second call for public feedback for the new information posted.

1.5.4 Public Hearing

In accordance with the MGA, landowners have been notified of the Public Hearing and were given the opportunity to provide written comments or register to speak in front of City Council. A public hearing was held on DATE in order to hear representations made by parties affected by the proposed bylaw and to receive approval by Council.

2.0 Development Context

2.1 Location

Kendal is one of six neighbourhoods described in the Windermere ASP and is located in southwest Edmonton containing approximately 300 hectares (ha) of land (**See Figure 1**). Kendal is located west of 170 Street, east of the North Saskatchewan River, north of 41st Avenue and south of 28th Avenue and the Keswick neighbourhood.

This area represents a logical planning unit with respect to identifiable plan boundaries and servicing considerations. In addition, it is in conformance with the boundaries identified for Kendal (Neighbourhood 5) in the approved Windermere ASP. The Kendal NSP is the last neighbourhood to be developed in Windermere and provides contiguous development since lands in the other nearby NSPs are nearing completion. Kendal will provide a logical extension of roadways and services currently under development within the adjacent neighbourhoods abutting the subject lands.

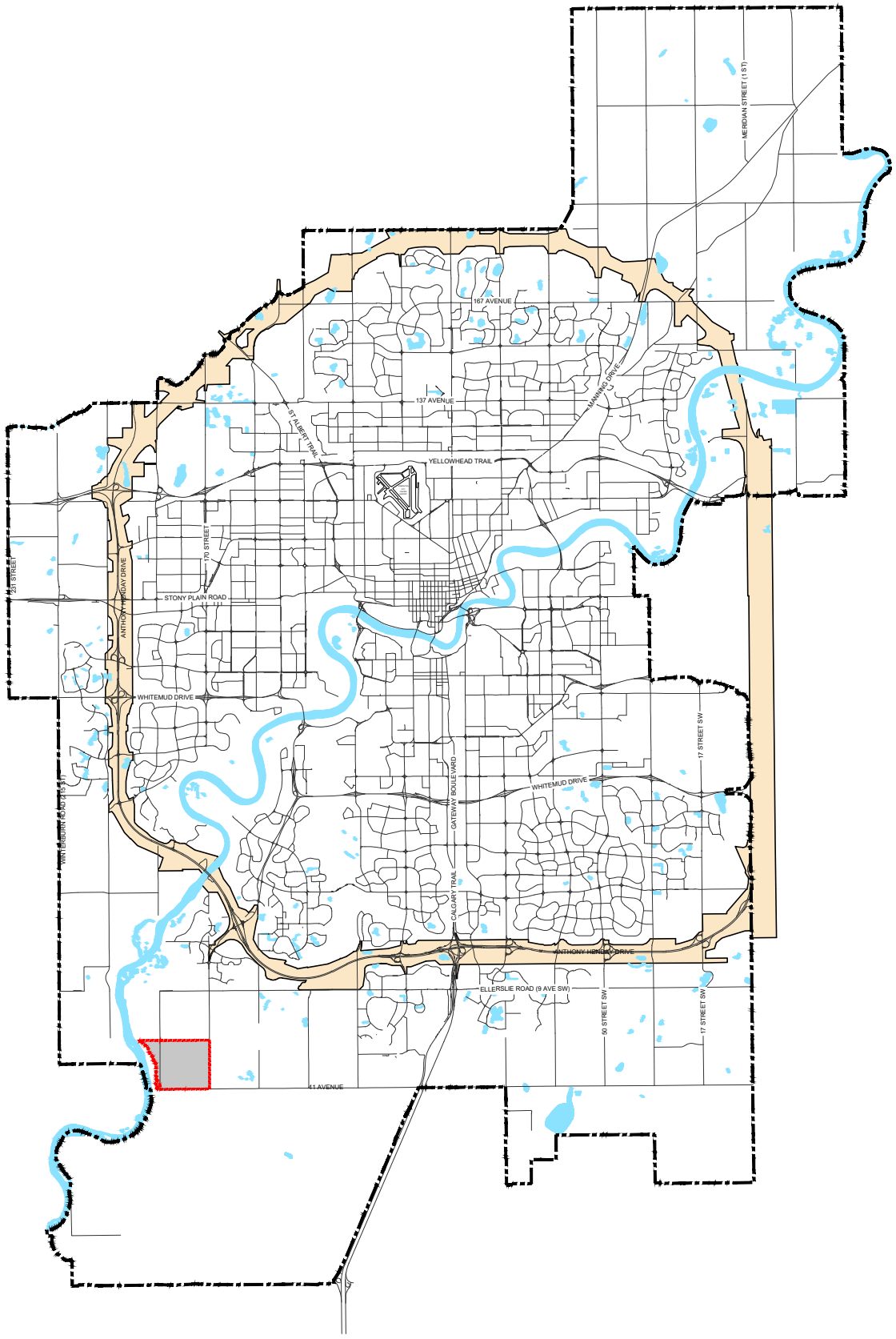
2.2 Land Ownership

This NSP has been prepared on behalf of four of the private landowners. All participating landowners within the plan area have been involved in the plan preparation process. Non-participating owners were invited to join the ownership group in order to contribute to the planning of this NSP, but declined, however they were provided opportunity to review the plan at several stages of development and have opportunity to review the plan and provide input through the public consultation process. Land ownership is illustrated on **Figure 2** and is listed in **Table 1**.

Table 1: Land Ownership

No.	Legal Description	C of T	Titled Owner	Total Area (ha)	Area in Plan (ha)
1	NE & NW ¼ 17-51-25-W4M	20O240A	Private Corporate	47.03	28.27
2	SE ¼ 17-51-25-W4M	132 280 690	Private Corporate	26.90	8.18
3	Lot 1, Plan 942 1778	082 462 424	Private	0.84	0.84
4	Lot A, Plan 3050 RS	052 438 542/ 543	Private Corporate	16.18	16.18
5	SW ¼ 16-51-25-W4M	20O240	Private Corporate	49.08	49.08
6	NW ¼ 16-51-25-W4M	112 187 427	Private Corporate	32.56	32.56
7	NW ¼ 14-51-25-W4M	102 082 556	Private Corporate	32.55	32.55
8	NE ¼ 16-51-25-W4M	062 384 785	Private Corporate	32.47	32.47
9	NE ¼ 16-51-25-W4M	852 283 900	Private	32.48	32.48
10	SE ¼ 16-51-25-W4M	072 718 967	Private Corporate	65.36	65.36
11	Gov. Road Allowance		City of Edmonton	5.21	3.47
	TOTAL			**340.66**	**301.44**

Source: Certificate of Title Search – 2020. Areas based on AutoCAD linework boundaries.



LOCATION PLAN

LEGEND

City Boundary

NSP Boundary

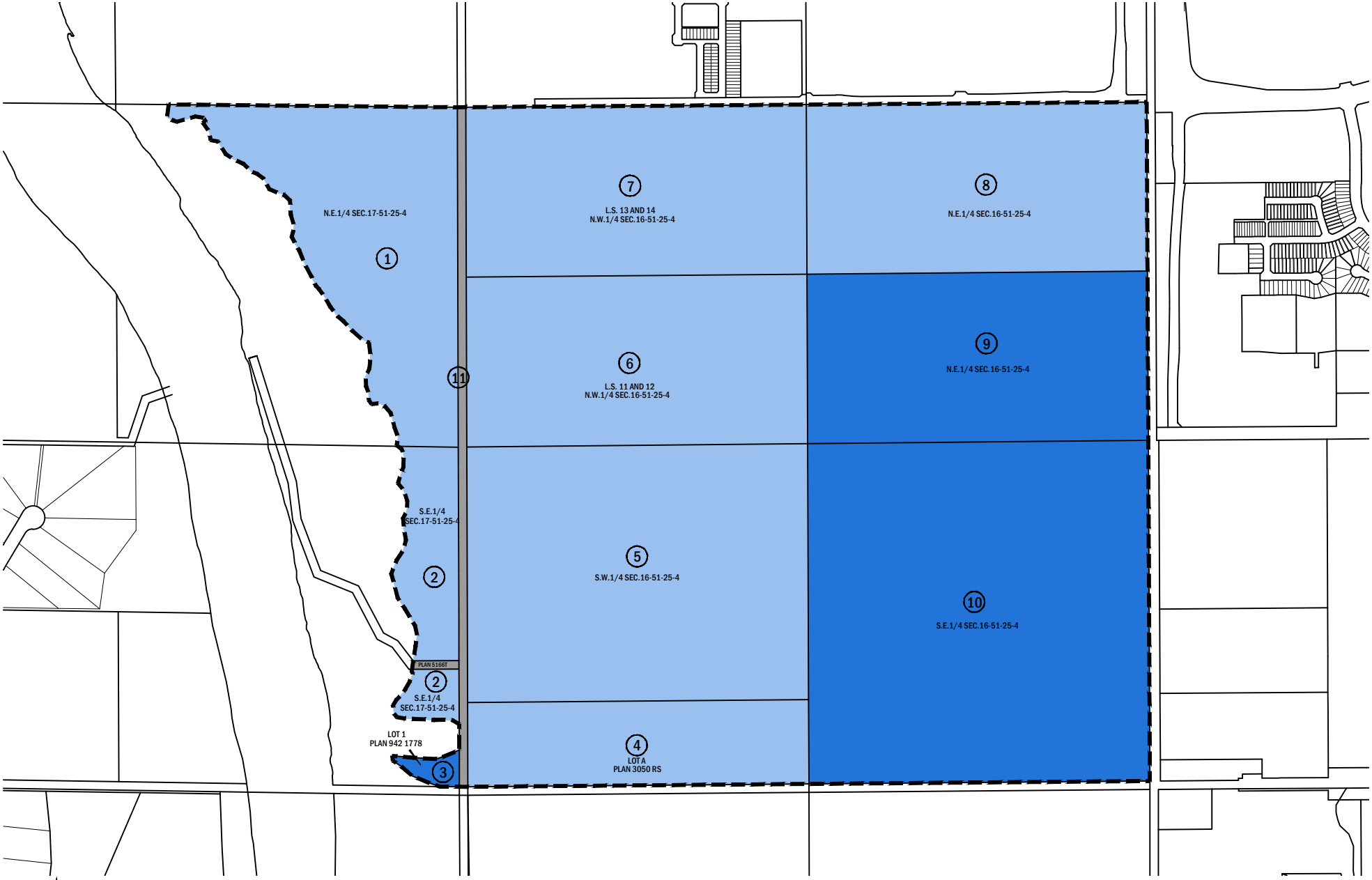
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KENDAL
THE CITY OF EDMONTON

303-20001-01-PRF001-LOCATION.DWG
Jjurincic September 20, 2024

FIGURE 1



OWNERSHIP PLAN

scale 1:12,500

0 125 250 m

LEGEND

- Private - Corporate
- Private - Non-Participating
- The City of Edmonton
- NSP Boundary

KENDAL
THE CITY OF EDMONTON

303-20001-01-PRF002-OWNER.DWG
Jjuricic September 20, 2024

FIGURE 2

2.3 Existing Conditions

2.3.1 Existing Land Use and Natural Features

The lands within the Plan area are predominantly cultivated for agricultural purposes. A top-of-bank survey along the west edge of the neighbourhood was completed on August 12, 2020 with City of Edmonton staff to define the area to be dedicated as Environmental Reserve within the North Saskatchewan River Valley.

The remaining lands are primarily under agricultural use. There is a farmstead containing several barns and grain silos in the southeast corner with access from 170 Street. Another farmstead is located centrally with access from 184 Street and a third home is located in the southwest, near the top-of bank **(See Figure 3)**.

There are several small tree stands located in the southwest area of the NSP and several low-lying wet areas described in great detail in the accompanying Ecological Network Report (ENR) prepared by WSP. Provincial Water Act approval shall be required from Alberta Environment and Sustainable Resource Development (AESRD) prior to disturbance of identified wetlands. The northwest wetland (W1) abutting 28 Avenue is identified to be retained in the Windermere ASP and survey delineation of the bed and shore of this wetland was completed by Pals Geomatics in 2024.

2.3.2 Topography

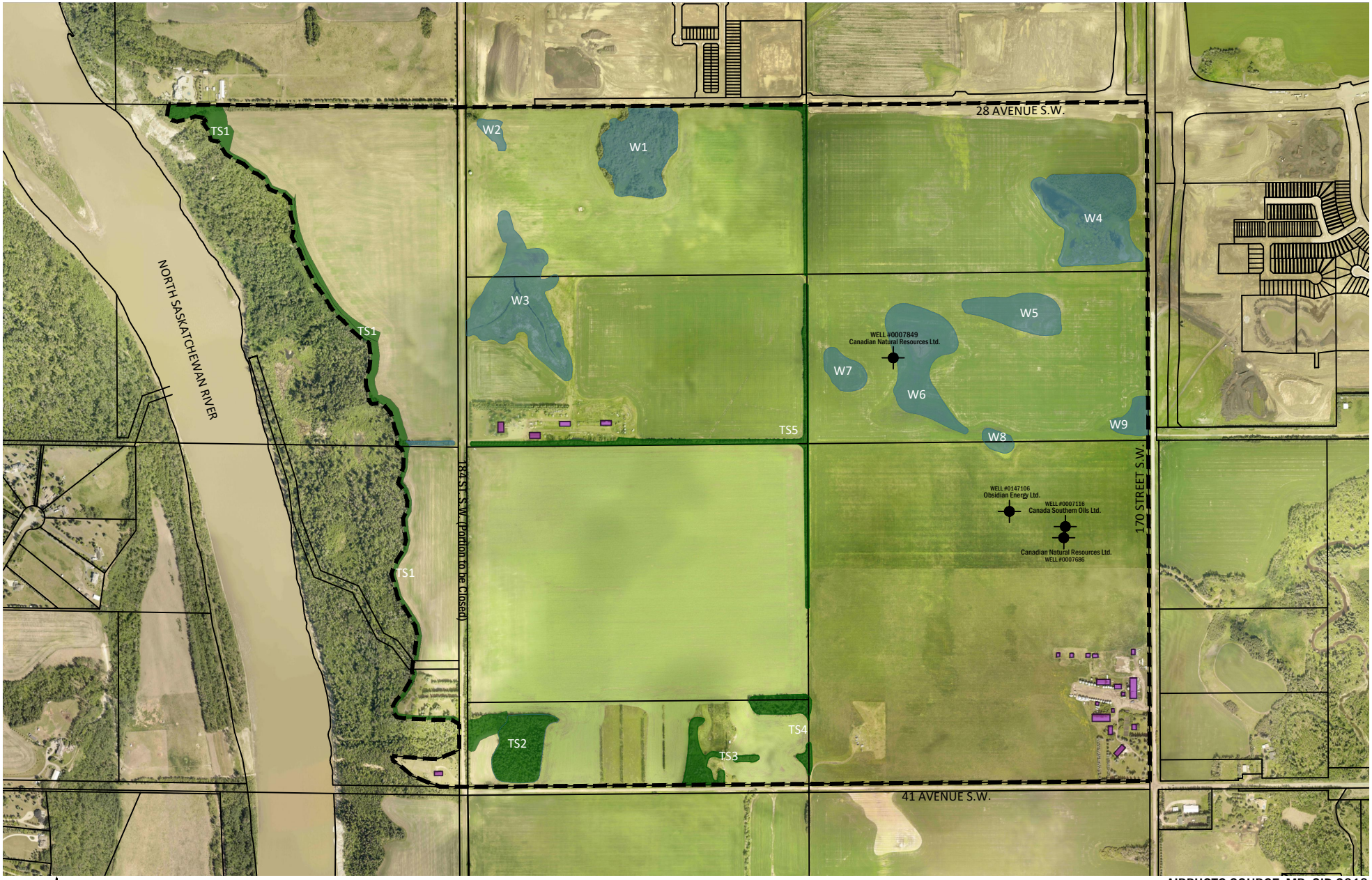
The topography of the Plan area is gently rolling from the center of the neighbourhood. The highest elevation is in the center of the plan area with existing surface drainage generally flowing west towards North Saskatchewan River and east towards 170 Street (**See Figure 4**). Elevations vary across the site with the highest elevations, of approximately 701 meters found in the central part of the neighbourhood and the lowest elevations, of approximately 683 meters toward the North Saskatchewan River. Two isolated low-lying areas are in the northcentral and northeast portions of the plan area. The north central wetland is identified to be retained, providing a significant natural feature in the neighbourhood.

2.3.3 Geotechnical

Several geotechnical reports were prepared for individual land parcels owned by different developers. For ease of review, a consolidated report was prepared by Hoggan Engineering and Testing Ltd. (December 2020) with input from CT & Associates Inc. to be submitted under separate cover.

As part of the geotechnical drilling program, slotted piezometric standpipes and vibrating wire piezometers were installed in selected test holes. The groundwater table within the study area was generally noted to be low with trace moderate levels. Several sets of water table readings were taken in the test holes.

The water table levels may fluctuate on a seasonal or yearly basis with the highest readings obtained in the spring or after periods of heavy rainfall. In general, the soil conditions at this site consisted of topsoil, underlain by a native deposit of clay, silt underlain by sand or clay till (Testhole 2020-08) and bedrock at depth. Slope Stability Analysis was completed along the North Saskatchewan River Valley by CT and Associates and Hoggan Engineering and Testing Ltd. These studies help to determine setbacks based on a factor of safety to establish the Urban Development Line (UDL) along the top-of-bank in accordance with the City of Edmonton Top-of-Bank Policy C542.



AIRPHOTO SOURCE: MR. SID 2019

SITE FEATURES

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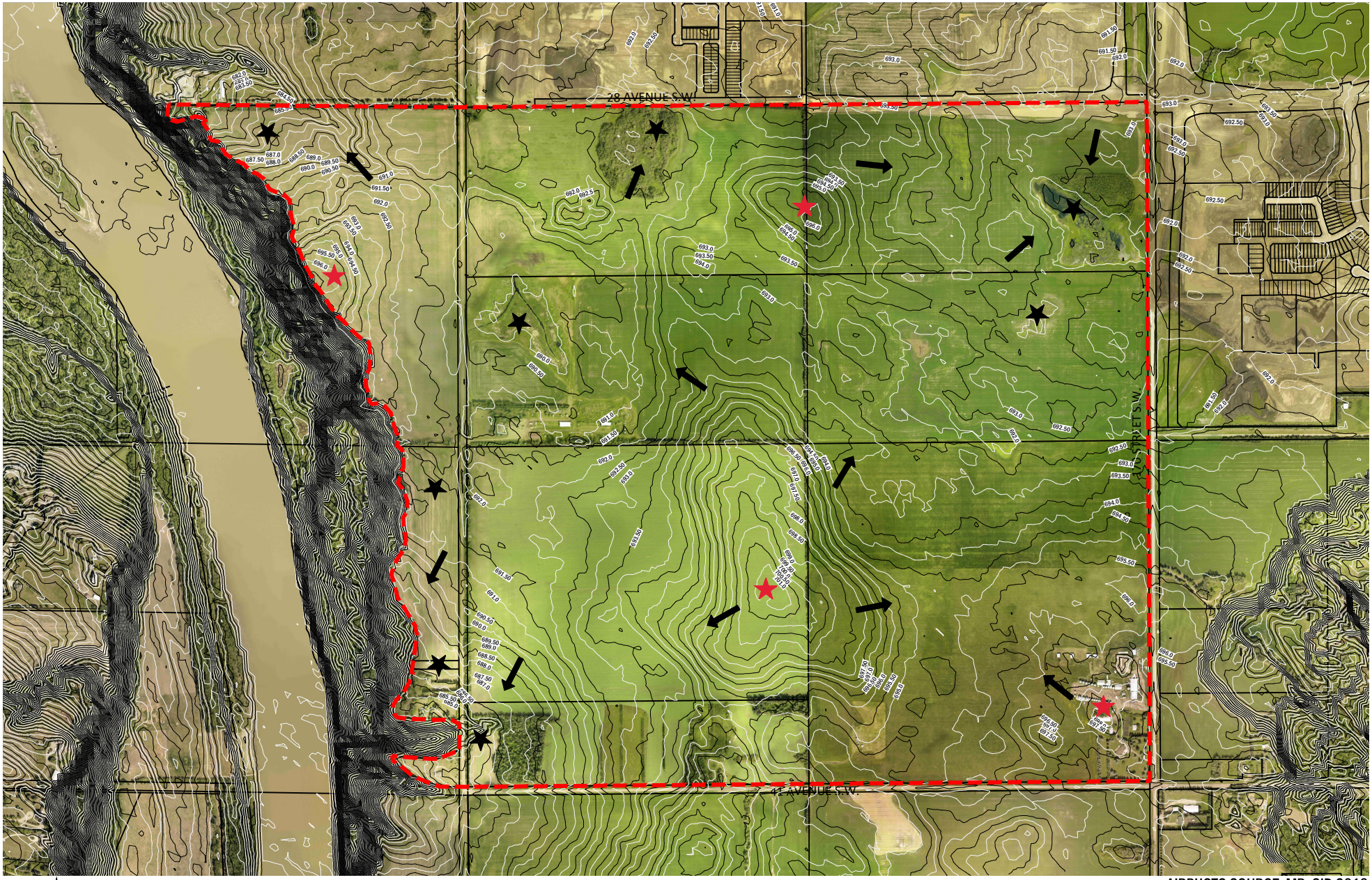
LEGEND

- Existing Structure
- Tree Stands
- Wetlands
- Abandoned Well
- NSP Boundary

KENDAL
THE CITY OF EDMONTON

303-20001-01-PRF003-EXSF.DWG
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FIGURE 3



AIRPHOTO SOURCE: MR. SID 2019

LEGEND

- High Point
- Low Point
- General Overland Flow Direction
- Contours (0.5m intervals)
- NSP Boundary

EXISTING TOPOGRAPHY

scale 1:12,500

0 125 250 m

KENDAL
THE CITY OF EDMONTON

303-20001-01-PRF004-TOPO.DWG
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FIGURE 4

2.3.4 Environmental Overview

An Environmental Overview was completed by WSP in October 2020. This overview was conducted through limited records review, current owner/occupant interviews, and a site visit within Sec 16-51-25-W4, E ½ 17 and a portion of NW17-51-W4. A desktop assessment was completed on the non-participating lands legally identified as S ½ NE 16 and SE 16-51-25-W4 as permission to access the lands was not received.

The purpose of the Environmental Overview report was to identify areas of actual or potential environmental concern and associated contaminates of concern on or within proximity to the property. The report found no significant concerns for contamination. Four abandoned well sites are located on non-participating lands. Buildings and above ground storage tanks associated with farming activity will require further investigation through Phase 1 ESAs to be completed and submitted for subject lands at time of zoning. The detailed results of this assessment are listed within the Environmental Overview Report submitted concurrently with this NSP.

2.3.5 Pipelines and Wells

According to the Alberta Energy Regulator (AER) and AbaDATA website, no utility corridors or pipelines exist throughout the Kendal NSP area.

There are four (4) existing Abandoned Wells within the Plan area located on non-participating landowners **(See Table 2).** Two are owned by Canadian Natural Resources, one owned by Obsidian Energy Ltd., and one by Canada Southern Oils Ltd. which all have been abandoned in the 1950's (**See Figure 3**). A survey of each wellhead will be required prior to rezoning or subdivision to ensure the exact location and to determine required development setbacks in accordance with Alberta Energy Regulator (AER) and City of Edmonton policy.

Table 2: Abandoned Wells

Company Name	Well Licence #	Status	Legal
Canadian Natural Resources Ltd.	0007849	Rec Exempt	NE-16-51-25-4
Obsidian Energy Ltd.	0147106	Rec Certified	SE-16-51-25-4
Canada Southern Oils Ltd.	0007116	Rec Exempt	SE-16-51-25-4
Canadian Natural Resources Ltd.	0007686	Rec Exempt	SE-16-51-25-4

2.3.6 Historical Resources

A Historical Resource Overview (HRO) was completed by Western Heritage for all lands within the NSP area in the spring of 2020. This HRO was submitted and given approval on September 4, 2020 by Alberta Culture, Multiculturalism and Status of Women. The approval indicates that no historic sites were recorded in the area and no recorded archaeological sites will be directly impacted by the proposed development.

Pursuant to Section 31 of the Historical Resources Act (HRA), development proponents and/or their representative(s) are required to report the discovery of any archaeological, historic period or paleontological resources, which may be encountered during construction. Preservation, conservation, and integration of cultural, historical, and/or archaeological resources within the Kendal NSP is important for retaining local history and character that may also be of regional or provincial significance.

2.4 Technical Studies

Multiple technical studies have been completed to support the development of the Kendal NSP. All non-participating lands were excluded from the Geotechnical Investigation and on-site observations of the Ecological Network Report and Environmental Overview Report technical studies completed with this NSP as permission to access the lands was not received. Should the non-participating landowners want to develop these lands in the future, new reports will be required. Other technical reports completed to support the entire NSP Development Concept include, but are not limited to, an Environmental Overview Report, Historic Resource Clearance, Transportation Impact Assessment, Hydraulic Network Analysis, and Neighbourhood Design Report. The top-of-bank along the North Saskatchewan River Valley was walked with City representatives and surveyed for SE & NE 17-51-25-4. The top-of-bank line was not walked, for Lot 1 Plan 942 1778, and should be confirmed if future development is proposed.

All technical reports required by non-participating landowners will be determined through a technical review with the City of Edmonton prior to rezoning of non-participating lands.

3.0 Neighbourhood Development Concept

3.1 Vision

Kendal is an inclusive, diverse, and well-connected community located along the North Saskatchewan River Valley in southwest Edmonton. The development of Kendal will complete the established vision for the Windermere community as a vibrant and sustainable community in Southwest Edmonton where people choose to live, learn, work, and play throughout their lives. Kendal roadways, greenways, and shared pathways will provide multiple ways to connect residents with adjacent neighbourhoods, and residents can easily utilize the amenities and open space network already established within Windermere, including the nearby planned district park in Glenridding Heights and Currents at Windermere (commercial District Node) within the Windermere neighbourhood.

The Kendal neighbourhood provides additional dedicated park spaces, River Valley access points, trail connections, bikeways, and shared pathways that prioritize multi-modal travel to connect people between areas for shopping, learning, working, recreation, and enjoyment of nature within the neighbourhood and the broader Windermere community. Kendal also provides key connection points to the future residential lands to the south, acting as a transitional area between the future communities and established areas. A wide range of housing forms, business types, and open space throughout the plan area provide for a diverse and complete community that offers a range of experiences with ample opportunity to connect to the vibrant River Valley system.

3.1.1 Development Concept Overview

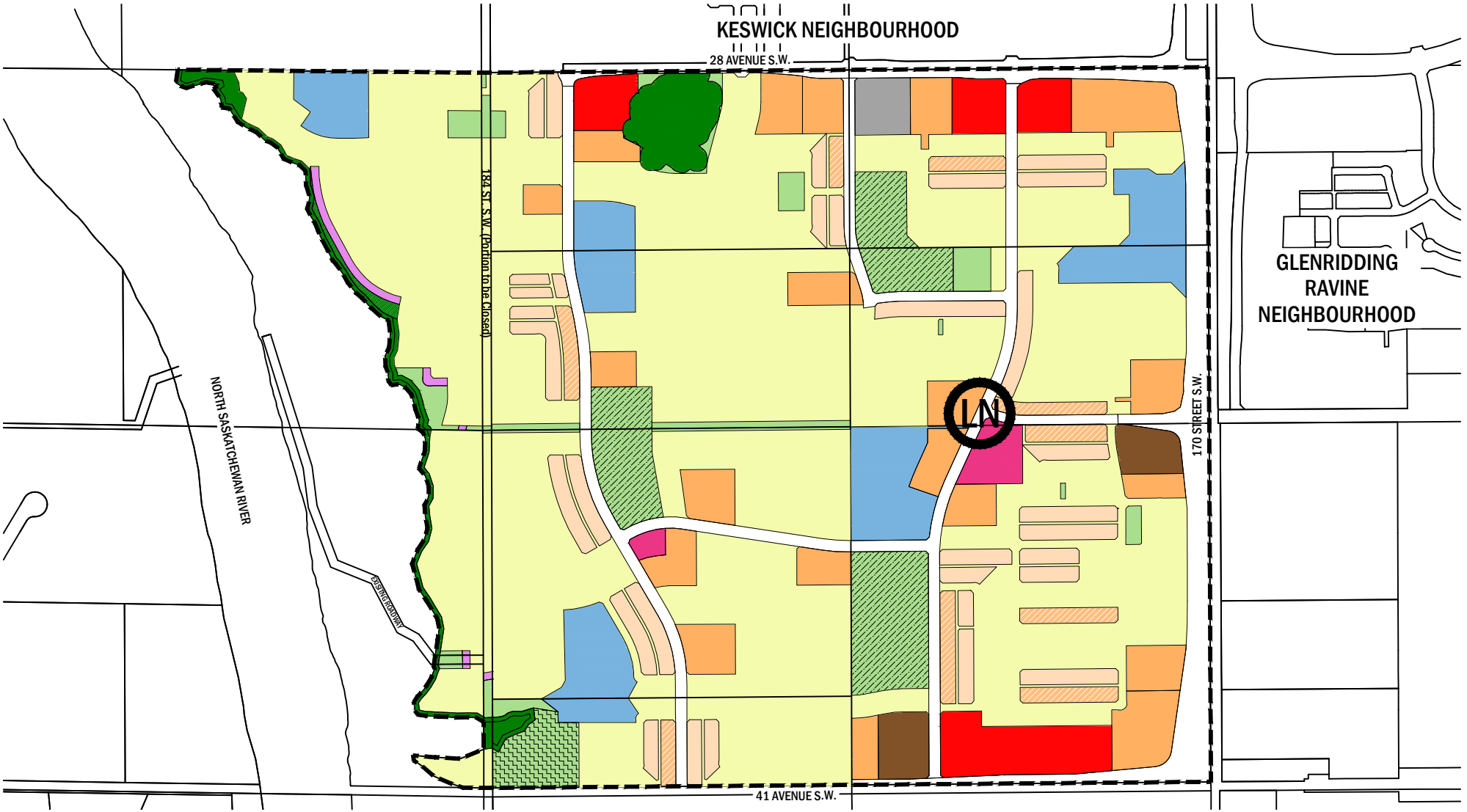
The Kendal Development Concept prioritizes multi-modal connections, whether it be connecting people to the natural features experienced from the top-of-bank trail along the North Saskatchewan River Valley and a retained wetland at 28 Avenue, the recreation and education facilities at three dispersed school sites, or the convenient access to shopping, services, and jobs at several locations within the neighbourhood. Edmonton's City Plan prioritizes connectivity and the creation of complete communities that provide residents with the opportunity to live and meet their daily needs through access to nearby recreation, shopping, and services within 15-minutes by walking, biking, or using transit. Kendal achieves this with a modified grid road network, shared pathways and by prioritizing connected streets. The broader Windermere area provides regional infrastructure including the entertainment and shopping within Ambleside neighbourhood, numerous schools of different age levels and boards, the district campus, and a transit centre.

Direct routes for transit and vehicles through the neighbourhood help with wayfinding and efficient movement of traffic, while street enhancements for safe and convenient multi-modal travel will help to calm traffic speeds at priority pedestrian crossings. Higher density residential, commercial, and employment uses are located nearby transit facilities and collector and arterial roads for easy access to regional travel and are also well connected to infrastructure for active modes. Collector roads and walkways in Kendal align with existing road alignments north of 28 Avenue into Keswick Neighbourhood for inter-neighbourhood travel, with planned connections to future neighbourhoods to the south.

A well-connected active transportation system is evident throughout the neighbourhood with dedicated paths and linear greenway parks that connect open spaces, top-of-bank access, commercial opportunities, and neighbourhood focal points. Residents can follow a system of looped pathways on bike or on foot to access recreational and commercial amenity areas, take an evening stroll, visit a friend, or go for a morning jog with the dog. Residents can also use the network of paths and sidewalks on their daily commute to work or school. Planned commercial developments range from neighbourhood convenience, mixed-use, and traditional commercial along key neighbourhood intersections, providing a range of services to residents and visitors.

As shown in the Development Concept **(See Figure 5)**, a Local Node is located at the east neighbourhood entrance at 170 Street, providing a focal point of activity for the neighbourhood that is connected west to the North Saskatchewan River Valley by a dedicated linear greenway park through the centre of the neighbourhood. The greenway spine is a central feature of the neighbourhood plan with opportunities for residents and visitors to connect with nature, meet neighbours and reach their destination in a safe, healthy, and interesting way. The regional bikeway identified in City Plan borders the neighbourhood along 28th Avenue, providing great connection to shared pathways within the Kendal and Keswick neighbourhoods and to the top-of-bank. Opportunity for connection to the future neighbourhood to the south is also planned.

Land uses are dispersed throughout the neighbourhood to allow for equitable distribution of amenities and to provide a wide diversity of housing choice at different densities. To meet the current and future housing needs for residents in this neighbourhood, many housing choices will be available in accordance with the City of Edmonton Land Use Bylaw. Higher density housing options are located strategically to allow for convenient access to nearby neighbourhood amenities and transportation networks. This distribution of land uses and density provides opportunity for a diverse group of residents to live in attainable and accessible building forms suitable to their needs at different stages of life.



NOTE: CONCEPT IS PRELIMINARY AND IS SUBJECT TO CHANGE BASED ON TECHNICAL REVIEW

LEGEND

- Low Density Residential/Local Roads
- Street Oriented Residential
- Row Housing Residential
- Medium Density Residential
- High Density Residential
- Mixed Use - Residential/Commercial
- Park/Greenway (Municipal Reserve)
- School/Park (Municipal Reserve)
- Natural Area (Municipal Reserve)
- Natural Area (Environmental Reserve)
- Stormwater Management Facility
- Top of Bank Road
- Public Utility Lot
- Commercial
- LN Local Node
- NSP Boundary

DEVELOPMENT CONCEPT

scale 1:12,500

0 125 250 m

KENDAL
THE CITY OF EDMONTON

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Jjuricic September 24, 2024

FIGURE 5

3.2 Residential

Kendal NSP provides a mix of residential land use designations to promote an inclusive community by offering opportunities for aging in place through a range of housing types that address different lifestyles and affordability needs. High and medium density residential developments are generally located close to commercial and Mixed Use sites, schools, community parks, and along collector and arterial roadways to promote walkability, healthy living, and access to public transit. Medium density residential development will include both low-rise and medium-rise buildings. Low density residential development will be the predominate form of housing in the neighbourhood, with street-oriented development located along collector roadways, adjacent to school sites, and areas with high multi-modal mobility. Street-oriented residential provides opportunity for single detached, semi-detached and row housing with laned rear access, typically built on smaller lots at higher densities than standard front drive homes. Rowhousing land use provides certainty that this form of housing will be dispersed within the plan area, helping to create diverse housing choice. Different housing densities are illustrated in **Figure 5.**

Current housing trends in the region have shown demand for shallower and narrower lots, along with zero lot line development which help to reduce ecological footprints and maintain housing affordability. These trends have created an overall higher density of housing and population in suburban neighbourhoods which creates a more active and diverse neighbourhood. The density generation rates for low density housing have been increased in the **Land Use and Population Statistics - Table 3** to reflect smaller lot sizes and denser ground-oriented housing forms enabled by the Edmonton Zoning Bylaw. The density targets provide a realistic projection of neighbourhood density based on development patterns over the past several years.

Objective 1: Provide a mix of housing types and sizes for a more inclusive neighbourhood with opportunity for people of different ages, stages of life, and abilities to live within the Kendal neighbourhood and access key amenities.	
Policy 1.1	A mix of housing types shall be provided, including single detached, semi-detached, duplex, and multi-unit housing of various sizes, density, and affordability.
Policy 1.2	Encourage lots with varying site depths to promote the development of secondary suites, live-work units, garden suites, or shallow lots.
Policy 1.3	Opportunities to incorporate new and innovative forms of housing should be encouraged to improve housing efficiency, address market trends, and reflect advances in technology.
Policy 1.4	Overall residential density shall comply with the density targets of the Edmonton Metropolitan Region Board Growth Plan and City Plan.
Policy 1.5	Residential land uses will be integrated in the neighbourhood with good access to future transit routes, commercial areas, open space, major roads, and multi-modal connections.
Implementation: A variety of housing types and densities will provide choice and a range of affordability for various income levels and lifestyles. Housing choice will also allow the opportunity for aging in place as residents progress through different stages of life and housing needs. Lot sizes shall vary within subdivision design to accommodate different housing forms and shall provide opportunity for secondary suites, garage suites and garden suites. These products have the benefit of creating efficient housing while providing secondary income to help homeowners with housing costs. As market trends progress and technology and energy efficiency improves, innovative housing forms should be encouraged to adapt and plan for climate change. Connected and	

Objective 1: Provide a mix of housing types and sizes for a more inclusive neighbourhood with opportunity for people of different ages, stages of life, and abilities to live within the Kendal neighbourhood and access key amenities.

integrated land uses will allow residents to access amenities and services within the neighbourhood and beyond with their choice of transportation method.

The Kendal NSP will comply with the density targets defined within the Edmonton Metropolitan Region's Growth Plan. The approved Windermere ASP defines the average overall density for Neighbourhood 5 (Kendal) as 25 dwelling units per net residential hectare (du/nrha). The proposed Kendal NSP exceeds that density and provides higher residential density in accordance with the density targets outlined in City Plan and EMRB. The Kendal NSP proposes an average net residential density of 45 dwelling units per net residential hectare (du/nrha) as shown in **Table 3 – Land Use and Population Statistics** reflecting more efficient lotting and smaller products, maximizing the use of existing infrastructure and maintaining affordability in the marketplace. Densities vary across the plan area with higher densities focused on transit opportunities, major roadways, and business and commercial services.







Objective 2:	Develop high density residential sites to a higher urban design standard.
Policy 2.1	Higher density residential sites shall be developed in general accordance with the developer managed architectural controls.
Policy 2.2	Parking areas shall be located internal to sites or underground to improve the aesthetics of the adjacent streetscape.
Policy 2.3	Locate higher density residential uses near future transit routes, commercial, major roads, and active mode connections to promote convenient multi-modal transportation access for the highest number of residents.
Policy 2.4	Transition residential density and intensive use in accordance with setbacks and regulations within the City of Edmonton Zoning Bylaw.

Implementation: Figure 5– Development Concept identifies the location of lands designated for higher density residential development. The design, location of buildings, landscaping, parking areas, and transitioning between land uses will be reviewed by the Development Officer at the development permit stage. Using a consistent architectural theme creates placemaking and a unifying identity for neighbourhood residents. Locating medium and high-density sites near transit routes, commercial sites, open space, school amenities, and business employment uses will promote the ability to work, play, shop and learn all within the Kendal neighbourhood.

Table 3: Land Use and Population Statistics

GROSS AREA	**301.44**	**100.0%**
Natural Area (Environmental Reserve)	7.24	
Land Between UDL & TOB Road	0.46	
Top of Bank Roadway	0.91	
Arterial Road Right-of-Way	13.92	
Existing Residents	0.84	
GROSS DEVELOPABLE AREA	**278.07**	**100.0%**
Commercial		
Neighbourhood Commercial	9.14	3.3%
Mixed Use Commercial	1.04	0.4%
Parkland, Recreation, School (Municipal Reserve)		
CKC/School/Park	19.28	6.9%
Natural Area (MR)	2.71	1.0%
Transportation		
Circulation	57.06	20.5%
Infrastructure / Servicing		
Stormwater Management Facilities	18.66	6.7%
PUL/walkways	0.69	0.2%
Reservoir	1.60	0.6%
TOTAL Non-Residential Area	**110.18**	**39.6%**
Net Residential Area (NRA)	**167.89**	**60.4%**

RESIDENTIAL LAND USE AREA, UNIT & POPULATION COUNT**

Land Use	Area (ha)	Units/ha	Units	People/ Unit	Pop.	% of NRA
Low Density Residential	115.03	30	3,450	2.80	9, 660	68.5%
Street-Oriented Residential	17.62	40	704	2.80	1, 971	10.5%
Row Housing Residential	6.09	50	304	2.8	851	3.6%
Mixed Use Residential	1.04	90	93	2.80	260	0.6%
Medium Density Residential	24.92	90	2, 242	1.80	4, 035	14.8%
High Density Residential	3.19	225	717	1.80	1, 290	1.9%
Total Residential	167.89	45	7,510		18, 067	100.0%

SUSTAINABILITY MEASURES

Population Per Net Residential Hectare (ppnrha)	**107.61**
Units Per Net Residential Hectare (du/nrha)	**45**
[Single/Semi-Detached] / [Row Housing; Low-rise/Medium Density Medium to High-Rise Units] Unit Ratio	**55/45**
Population (%) within 500m of Parkland	**100%**
Population (%) within 600m of Transit service	**98%**
Population (%) within 600m of Commercial service	**96%**

	Land	Water
Presence/Loss of Natural Area features		**N/A**
Protected as Environmental Reserve (ha)	**7.24**	**N/A**
Conserved as Naturalized Municipal Reserve (ha)	**2.71**	
Protected through other means (SWMF) (ha)		**N/A**
Lost to Development (ha)		**N/A**

STUDENT GENERATION COUNT

	Public	Separate
Elementary School	556	279
Junior High School	279	139
Senior High School	279	139
Total	**1114**	**557**

3.3 Commercial and Employment

Commercial land uses are located along 28 Avenue and 41 Avenue to accommodate neighbourhood level retail and services. These sites are intended for local scale commercial, meeting the daily commercial retail and service needs of residents in the neighbourhood. One site is located at 182 Street and 28 Avenue, two sites are located at 175 Street south of 28 Avenue and one site is located at 175 Street and 41 Avenue.

Commercial and employment opportunities will be integrated throughout the neighbourhood, providing walkable access to services for residents. Incorporating employment opportunities into the neighbourhood helps to achieve the 15-Minute District promoted by City Plan, where residents can work, live, play, and learn within a 15-minute travel distance using transit or active modes.

Objective 3:	Provide daily commercial retail services and employment opportunities for residents from both within and nearby the neighbourhood.
Policy 3.1	Neighbourhood commercial uses shall primarily be located near arterial roadways at neighbourhood entrances to allow for high visibility from passing traffic and active modes.
Policy 3.2	Cluster compatible and complementary services, housing, and amenities to create activity centres, or neighbourhood hubs that serve the greatest number of residents and can be supported by consumers within and between neighbourhoods.
Policy 3.3	Appropriate walkway and shared pathway connections will be established during subdivision and detailed design to ensure appropriate multi-modal access to and within commercial and employment sites.

Implementation: Figure 5 - Development Concept identifies the location of commercial land uses. Commercial uses are most viable with good visibility and convenient access to major roadways for vehicles, transit, and active modes. Locating clusters of complementary uses, such as medium and high density residential with commercial and parks creates activity areas within the plan where residents are actively using the streets and local amenities resulting in a vibrant community.
Appropriate zones in the Edmonton Zoning Bylaw will guide the development of these sites, with the Development Officer assessing development permit applications for site design, landscaping, parking areas, building articulation, and transitioning with other land uses.

3.4 Mixed Use Sites: East Local Node & West Mixed Use Site

The East Local Node (ELN) is intended to be a focal point for the neighbourhood that will allow for the development of residential (medium to high density) and compatible office, institutional, and/or retail uses creating a vibrant local gathering spot. This site will be compatible with surrounding residential development, and serve the day-to-day needs of the neighbourhood, commuters, and the surrounding community. Residential and commercial uses can be developed as horizontal mix of uses in separate buildings on the site or vertically integrated within the same buildings in accordance with appropriate zones within the Edmonton Zoning Bylaw. The location of the East Local Node near the neighbourhood entrance at 170 Street at the intersection of two collector roads and across from the central greenway creates an accessible center for activity with convenient access via different travel modes. Architectural considerations will reflect higher urban design standards with consideration for the pedestrian experience, connectivity, and the role of the East Local Node as a focal point for the neighbourhood.

The West Mixed Use Site is located at the intersection of two collector roads, across from the western school site. The West Mixed Use site is intended to provide additional amenity and gathering opportunity for residents in the western portion of the plan, while providing multi-modal connections for easy access from neighbourhood areas. The Mixed Use sites within Kendal provide gathering places for residents and visitors to meet, stop for coffee, access personal services, go to work, shop, or stop on their way to access the River Valley trails, further supporting the concept of a complete community with amenities within 15 minute travel distance.

Objective 4: Provide flexible commercial and residential development opportunities in the East Local Node and the West Mixed Use Site that responds to market conditions, provides a central gathering space, and meets the local commercial needs of residents within the neighbourhood.	
Policy 4.1	Mixed Use sites shall allow for a mix of office, retail, institutional, and residential uses.
Policy 4.2	Land uses may be vertically integrated within a single building, or horizontally integrated within multiple buildings on a site, to provide a compatible mix of uses and intensities.
Policy 4.3	Buildings in the Mixed Use sites will measure a maximum of 10,000 square feet.
Policy 4.4	Materials used in all development within the East Local Node should be long-lasting, high quality/durable, and cohesive in aesthetic.
Policy 4.5	High quality and unified landscaping should be utilized throughout the East Local Node.
Policy 4.6	To enhance the pedestrian experience within the East Local Node, street furniture, distinctive lighting, and public art should be integrated where appropriate.
Policy 4.7	Access to and within the Mixed Use sites will be multi-modal, including by transit, automobile, walking, and biking, with safe crossings at appropriate locations.
Implementation: The Mixed Use sites within the Kendal NSP are located along collector roadways and transit routes to provide safe and convenient access for all residents and visitors. Convenience retail, restaurants, cafes, salons, and other professional services are encouraged to locate withinin Mixed Use Sites. The East Local Node is located along the east end of the central greenway with a	

Objective 4: Provide flexible commercial and residential development opportunities in the East Local Node and the West Mixed Use Site that responds to market conditions, provides a central gathering space, and meets the local commercial needs of residents within the neighbourhood.

shared pathway that provides an easy link for people to access the river valley, creating an attractive and convenient place to live and a destination point for active travellers or vehicle drivers alike. The location of the East Local Node at a central area of the plan creates a focal point for the neighbourhood at a local scale that avoids attracting heavy traffic from outside the neighbourhood to internal local roadways. The shared pathways along collector roads and greenways provide connection from the regional bikeway that could attract multi modal users to the neighbourhood amenities while promoting healthy living, climate resiliency and inclusiveness. A focus on cohesive and high-quality architecture, landscaping, the pedestrian experience, and multimodal access will allow the East Local Node to be a focal point that has a unique character and acts as a central gathering spot for the neighbourhood. The West Mixed-Use Site, provides an opportunity for additional service and amenity within the western portion of the neighbourhood to provide opportunity for dispersed local commercial activity with convenient multi-modal access in Kendal.





4.0 Public Realm

4.1 Objectives and Policies

The following objectives and policies were developed to guide future development in the Kendal NSP area. Objectives and policies were created using the following City of Edmonton reference documents: Designing New Neighbourhoods Guidelines, Terms of References- Neighbourhood Structure Plans in Growth Area, and the City Plan.

4.2 Urban Design and Placemaking

Public spaces are planned and maintained to be accessed by everyone. The planning of inviting and accessible streetscapes, walkways, and open spaces is important to provide a positive daily experience which contributes to a higher quality of life and feeling of safety for residents and visitors of the neighbourhood.

The Kendal NSP will use an urban design approach that creates a functional, connected, attractive, and desirable neighbourhood to live, work, and play. Through the design of public spaces by professional landscape architects and the creation of focal points, residents will be encouraged to use the public realm as gathering spaces for both active and passive recreation. By focusing on the design and connections to these spaces, this NSP can ensure an attractive and desirable neighbourhood, fostering a community of stewards with residents that feel proud of their homes.

A strong network of public and open spaces which are connected to focal points, destinations, natural areas, landmarks, school sites, and commercial areas will encourage residents to walk, run, or bike throughout the neighbourhood rather than use a personal vehicle. This will benefit the overall physical, mental, and social health of the residents.

Objective 5: Design a neighbourhood with public spaces that are attractive, multi-modal, and promote safe travel within the neighbourhood.	
Policy 51	Design open space networks that connect neighbourhood focal points as destinations, through use of sidewalks and trails.
Policy 5.2	Design neighbourhood public open spaces to support community interaction and socialization with enhanced landscape features, such as seating areas or shelters, where appropriate.
Policy 5.3	Provide architectural features, public art, and/or enhanced landscaping within public open space and at neighbourhood focal points to provide points of interest and wayfinding.
Policy 5.4	Provide design features that encourage opportunity for people of all ages to access the open space system
Policy 5.5	Promote the creation of inviting and attractive public and semi-private spaces that conserve and enhance the natural environment and promote community use and social interaction while taking into consideration Crime Prevention through Environmental Design (CPTED) principles.

Objective 5: Design a neighbourhood with public spaces that are attractive, multi-modal, and promote safe travel within the neighbourhood.	
Policy 5.6	Locate development such as buildings, parking and other facilities in a manner that minimizes impact on adjacent uses.
Policy 5.7	Encourage enhancement and creation of views of signature buildings, streetscapes and natural landscapes at a human scale.
Policy 5.8	Encourage transitions in height and massing between high intensity and low intensity uses.
Policy 5.9	Provide opportunities to address changes in land use, infrastructure, demographics, market conditions, emerging technologies, and climate over time.
Implementation: Kendal NSP is designed to highlight the natural areas and open space systems throughout the neighbourhood. Vista points and accesses have been incorporated along various points of the top of bank so that residents may enjoy the North Saskatchewan River Valley System and socialize in an inviting area. Viewpoints to storm ponds and open spaces are strategically located at roadway intersections to maximize views to the amenities and promote access and use. Neighbourhood character should be enhanced through themed street furniture, signage, and streetscape infrastructure to create a unifying sense of belonging and can also be used to differentiate sub-areas of the plan. Market trends, technologies and demographics are constantly changing to adapt to an ever-changing world. City processes and standards will need to keep pace to allow for innovation and flexibility in neighbourhood design, building form, and construction practices.	

Objective 6: Design functional, active, and safe public and open spaces that create a sense of place for residents.	
Policy 6.1	Streetscapes should aid in providing connections to neighbourhood focal points, amenity areas, open spaces, natural areas, and adjacent neighbourhoods through the use of on-street sidewalks and shared use-paths.
Policy 6.2	Separate sidewalks and/or shared trails with boulevard trees and landscaping should be incorporated along collector roadways in accordance with Complete Streets Principles.
Policy 6.3	On-street landscaping and furniture shall be sited and chosen to avoid obstructing driver views and impacting safety of active users.
Policy 6.4	Traffic calming using infrastructure to slow vehicles and enhance the safety of active users at high traffic areas to be implemented at the safe crossing locations identified on Figure 7. Specific infrastructure requirements will be determined at time of subdivision design.
Policy 6.5	Create entry features or landmarks that provide a sense of arrival to the neighbourhood and to sub-areas of the neighbourhood.
Policy 6.6	Front drive access to residential units shall be restricted along 175th street, 182 Street, and 36th Avenue as outlined in the Transportation Impact Assessment. Front drive accesses to other collector roadways to be no more than 30% of the total roadway frontage, shall not interfere with the location of future bus stops, and be in accordance with the Zoning Bylaw (if additional access restrictions are required). Accesses to individual residential units shall be restricted along arterial roadways unless supported by transportation study.
Policy 6.7	School sites should be located with frontage along collector roadways with front drive access prohibited for residential units directly across from school sites to reduce traffic and bus stop conflicts, improve the pedestrian experience, and promote safety.

Objective 6: Design functional, active, and safe public and open spaces that create a sense of place for residents.

Implementation: The transportation network throughout the NSP area provides a mix of on-street sidewalks and shared pathways that connect the neighbourhood to amenity areas, open spaces, the top-of-bank walkway, and commercial areas. The open space network will also allow opportunities for both passive and active recreation. Traffic calming measures at high traffic areas should be considered at time of subdivision to enhance safety of travellers using active modes. In accordance with recommendations from the accompanying TIA, laned housing is planned across from school sites and on portions of collector roads to limit front drive access which can create on-street conflicts at busy times of day.

4.3 All Season Design Policies

The City of Edmonton has weather that changes through the four distinct seasons of spring, summer, fall, and winter. The Kendal NSP will be designed to consider all four of these seasons through design of the public realm and associated infrastructure that will function during hot summers and cold winters.

Site design should consider both summer and winter activities and look at designing park and open spaces that attempt to block prevailing winds and maximize solar access through either natural or constructed strategies. Accounting for spring run-off will aid in protecting the natural areas from collecting any contaminates, such as, salt, ice melters and sand. Landscape design within the neighbourhood shall promote use of native plant species with consideration given to incorporating some evergreen species that provide colour year-round.

Objective 7:	Consider all season design in parks, open spaces, and infrastructure.
Policy 7.1	Civic sites, parks, and open spaces shall be designed to minimize exposure to wind and maximize exposure to sunlight.
Policy 7.2	The design of civic sites, parks and open spaces, and entrance features should consider incorporating design elements that respond to all seasons, through such measures as the creative use of light and colour.
Policy 7.3	Plant species or architectural features that provide wind shelter, enable solar penetration, and encourage year-round appeal should be included in the design of parks and open spaces.
Policy 7.4	Public spaces including commercial and Mixed Use areas should be designed to include areas for gathering with design features which promote four season use.
Policy 7.5	Use of vibrant colours, lighting, and warm materials are encouraged in residential, institutional, and commercial developments.
Policy 7.6	Higher density sites, including residential, commercial, mixed use, and the Town Centre, shall be designed with consideration given to building orientation, and variations in façade treatment that reduce the amount of sun shadowing on adjacent open spaces.
Policy 7.7	Neighbourhood layout should encourage a modified grid to promote connectivity and reduce operational costs of snow clearing.

Implementation: The Winter City Strategy encourages the development of winter design elements into public buildings, parks and open spaces, and public spaces. Developers are encouraged to incorporate winter design elements into their architectural controls, with the design and location of buildings taking advantage of passive solar heating and light. Places to gather in public space or commercial areas may include unique design elements such as a public fire pits and heaters in a central gathering area to promote winter use or overhangs and pergolas to protect from the elements.

Kendal is designed using a modified grid street network, which creates shorter walking distances to access transit and amenities via active modes. Cul-de-sacs shall only be permitted within the neighbourhood area to address constraints to efficient development such as the River Valley top-of-bank and integration of storm ponds, physical features, well sites, and landownership boundaries.

5.0 Ecology, Parks and Amenities

5.1 Ecological Network

An *Ecological Network Report* has been prepared by WSP to support this NSP and is submitted to the City under separate cover. This report provides wetland classification and conservation recommendations for natural areas to enable City of Edmonton Ecological Planners to make decisions related to natural area retention and dedication of Environmental Reserve (ER) for planning purposes.

The report supports the neighbourhood concept to retain the northwest wetland, the southwest natural tree stands and the creation of dispersed park spaces, greenways, and Stormwater Management Facilities (SWMFs) as ecological stepping stones for avian migration. The greenways within the plan area will act as a wildlife corridor in the neighbourhood. Roads crossing the central greenway will need to incorporate City of Edmonton planning and design guidelines for wildlife crossings.

Objective 8: Protect, connect, and integrate the priority natural areas and Stormwater Management Facilities into the design of the neighbourhood to support a complete ecological network and create unique features for the community.	
Policy 8.1	Priority natural areas shall be retained through the dedication of Environmental Reserve (ER) or Municipal Reserve (MR).
Policy 8.2	Foster opportunities for habitat and naturalized spaces that encourage biodiversity.
Policy 8.3	Drainage from land uses adjacent to retained wetlands should be directed to help maintain pre-development hydrology.
Policy 8.4	Environmental Reserve areas shall be appropriately buffered in accordance with the Municipal Government Act to ensure proper transitions with the surrounding development are provided.
Policy 8.5	Planting of native species and landscaping to enhance the overall biodiversity in the area will be encouraged.
Policy 8.6	Encourage Low Impact Development (LID) features, such as bioswales and constructed wetlands, within neighbourhood design to reduce the need for pipe systems and to increase naturalized vegetation and permeable surfaces.
Policy 8.7	Establish the top-of-bank and Urban Development Line (UDL) in accordance with the City Policy and associated Slope Stability Analysis.
Policy 8.9	Where feasible, minimize light pollution into the River Valley, and natural areas to reduce the impact of development on wildlife.
Policy 8.10	Roadway design should maximize viewing opportunities of the River Valley, wetlands, parks, natural areas, and stormwater management facilities.
Policy 8.11	Public spaces such as parks and SWMFs shall be designed to encourage passive and active recreational opportunities.
Policy 8.12	Parks and SWMFs shall be designed using Crime Prevention Through Environmental Design (CPTED) principles.

Objective 8: Protect, connect, and integrate the priority natural areas and Stormwater Management Facilities into the design of the neighbourhood to support a complete ecological network and create unique features for the community.	
Policy 8.13	A minimum of 50% of the Stormwater Management Facilities' perimeter shall be designed with a shared pathway.
Policy 8.14	Roads intersecting with the central greenway will implement applicable City of Edmonton planning and design guidelines for wildlife crossings, or recommendations from a professional Biologist with approval by the City of Edmonton, at the time of subdivision.

Implementation: Kendal benefits from access to the most significant natural feature within the City of Edmonton with the adjacent North Saskatchewan River Valley. Lands adjacent to the River Valley are subject to the City of Edmonton Top-of-Bank policy C-542, which defines the setbacks based on slope stability study and establishment of an Urban Development Line (UDL). The top-of-bank line has been established through a survey and agreed upon with City Parks staff. The top-of-bank includes ample access for the public through establishing TOB road totalling a minimum 30% of the length of the UDL line and walkway access approximately every 120m.

In accordance with the Windermere ASP, two natural areas are identified to be retained within the Kendal NSP. The north wetland identified as W1 on **Figure 3** – Site Features, is located adjacent to 28 Avenue and has some previous disturbance at its margins from crop cultivation and construction of 28 Avenue. A minimum 20m buffer has been incorporated into the ER to ensure the continued viability of the north wetland, recognizing pre-existing disturbance from adjacent 28 Avenue which was built along the edge of the wetland without establishing a buffer. A tree stand identified for retention is identified as TS2 in the southwest plan area. The tree stand has been designated as Municipal Reserve within the plan and integrated with an adjacent planned Stormwater Management Facility.

Low Impact Development (LID) can be considered in neighbourhood design as technologies, standards, and City policies evolve to reduce stormwater run-off and create additional ecological habitat. LID should be considered where feasible, and duplication of standard infrastructure is not a requirement. Roads intersecting the central greenway will incorporate the relevant City of Edmonton planning and design guidelines for wildlife crossings to ensure that the ecological function of the greenways can be maintained.

5.2 Schools and Park Spaces

The NSP Development Concept includes several parks, natural areas, and open spaces dispersed throughout the plan area (**See Figure 6**). Where possible, these sites should be integrated and connected with each other and to the North Saskatchewan River Valley system through a network of shared pathways, on-street sidewalks, walkways, and greenway corridors. Allocation of parks, open spaces, and natural areas will be provided through a combination of Environmental and Municipal Reserves and Stormwater Management Facilities (SWMFs). In accordance with the UPMP guidelines, all residents within the NSP area are within 500m of a planned park or open space as shown in the Parkland Impact Assessment (PIA) submitted under separate cover.

Objective 9: Design neighbourhood infrastructure, parks and civic facilities to accommodate people of all ages and abilities.	
Policy 9.1	Developers and landowners are responsible for providing parkland to the City in a suitable condition for development. This includes obtaining permission from the Province of Alberta

Objective 9: Design neighbourhood infrastructure, parks and civic facilities to accommodate people of all ages and abilities.	
	for the removal of any wetlands located on school and park sites, draining and physical removal of the wetland, providing engineered fill, and grading prior to rezoning.
Policy 9.2	As part of the subdivision approval process, Municipal Reserve shall be dedicated as land, cash in lieu of land, or a combination thereof, in accordance with the Municipal Government Act.
Policy 9.3	Servicing shall be provided to parks and school sites, where required, to accommodate facilities which may be developed on site.
Policy 9.4	Provide access to Parks and Open Space promoting inclusiveness in accordance with City standards and guidelines.

Implementation: The Kendal NSP design shall generally follow the guidelines listed within the Urban Parks Management Plan (UPMP) which includes the overall design, size, and locations of park and school sites within the neighbourhood. School sites within the NSP include minor variation in site sizes to efficiently distribute Municipal Reserve and public infrastructure and amenities throughout the plan. Through efficient site design, the minor variations in size from the UPMP guidelines still allow for student needs to be addressed and reduce the amount of site maintenance. A combination of walkways and shared pathways help ensure universal access to parks and schools, helping to create an inclusive neighbourhood community.

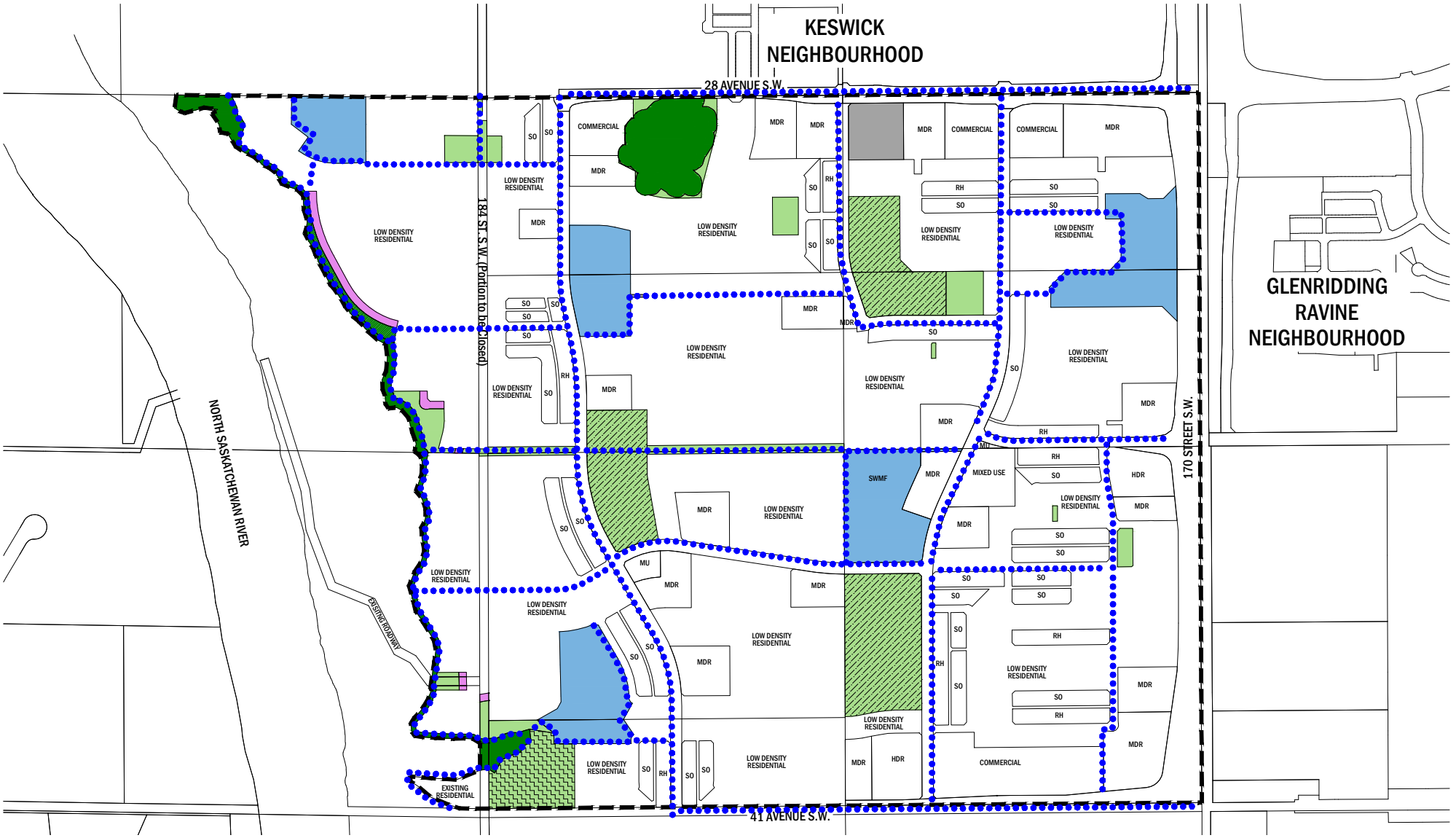
The Windermere ASP allocated 4.8% of the Gross Developable Area (GDA) in the Kendal Neighbourhood as Municipal Reserve. The proposed plan increases overall dedication to provide more than 7.9% of the Gross Developable Area (GDA) as MR, which accommodates three dispersed school sites, pocket parks, a central greenway, and retention of a natural tree stand in the southwest. Kendal benefits from proximity to the adjacent North Saskatchewan River Valley as a natural open space with top-of-bank walk encouraging physical activity and providing access to nature. The neighbourhood park sites vary from smaller pocket parks to larger school sites that serve the community needs and, in some cases, provide openings to the River Valley trail system. Schools have been prioritised in the plan and create community amenities, however, should the southeast school site no longer be required for school purposes, the site should be retained and treated as a community park to support the neighbourhood. In addition to walkways, a trail head park site is located along the top-of-bank to provide visible and convenient access to the River Valley Trail system.

Pocket parks are dispersed throughout the neighbourhood to provide localized amenities for residents. Parks are located and connected along the neighbourhood walkway system providing convenient multi-modal access. A site for a potential community league is connected to the northeast school site which can be established early in the neighbourhood development and allows for an accessible site to serve as a community gathering space. Greenways are included within the plan as Municipal Reserve for the entire 20m width of the linear parks. The UPMP allows for 0.5% of the GDA in the Windermere ASP to be dedicated as greenways if they provide connection to an open space. Greenway parks are often the most used parks by residents daily, and this greenway provides excellent connectivity across the plan area from the East Local Node to the River Valley trail system, providing residents with access to enjoy the Ribbon of Green. There are existing trees within the greenway which may be retained if feasible within overall efficient grading design for neighbourhood drainage, provision of shared pathway, and based on tree assessment recommendation from a qualified arborist.

Objective 10: Provide safe routes to schools.	
Policy 10.1	Utilize signage, surface treatments, and lighting to distinguish Safe Routes to Schools.

Objective 10:	Provide safe routes to schools.
Policy 10.2	Connect shared pathways to school sites.
Policy 10.3	A network of shared pathways, greenways and sidewalks will be developed with intent to minimize the amount of major roadway crossings to school sites.
Policy 10.4	Municipal Reserve dedication will be credited to the full width of the 20 m greenway.
Policy 10.5	Housing with front driveway access shall not be located across the road from school sites.
Policy 10.6	Streets around school sites shall be designed to accommodate adequate off-site parking.
Policy 10.7	Enhanced crossing infrastructure and visible crossings will help establish safe road crossings near schools.

Implementation: Universal access to parks and school sites will be provided through walkways and/or shared pathways to the satisfaction and approval of the City of Edmonton. Dispersing three school sites at different development stages of the neighbourhood and along collector roadways allows for equitable access to the public amenities and provision of school facilities for the residents of Kendal and surrounding areas.



NOTE: EXACT LOCATION OF TRAILS WILL BE DETERMINED AT DETAILED DESIGN

ECOLOGICAL NETWORK AND PARKS

scale 1:12,500

0 125 250 m

LEGEND

- Park/Greenway
- School/Park
- Natural Area (Municipal Reserve)
- Natural Area (Environmental Reserve)
- Stormwater Management Facility
- Public Utility Lot
- Top of Bank Road
- Shared Use Path
- NSP Boundary

KENDAL
THE CITY OF EDMONTON

303-20001-01-PRF006-TRAILS.DWG
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FIGURE 6

6.0 Transportation

6.1 Roadway Network

The Kendal neighbourhood's roadway network proposes an internal circulation system connected to the existing and planned roadway networks, in accordance with City of Edmonton's guidelines and standards. A hierarchy of arterial, collector, enhanced local, and local roadways is intended to facilitate the efficient movement of vehicular traffic (**See Figure 7)**.

6.1.1 Arterial Roadways

The plan area is surrounded by existing and planned arterial roadways; 170 Street, 28 Avenue and 41 Avenue. These arterial roadways facilitate the movement of traffic, and generally have limited direct access to adjacent land uses.

The alignment of 41 Avenue for the plan area is subject to further analysis based on a discovered geological formation near Whitemud Creek. Additional studies are being conducted by the City, which may impact the south boundary of the Kendal plan area in the future. If changes are required for the 41 Avenue alignment based on this additional technical analysis, an amendment to the NSP will be required.

6.1.2 Internal Road Network

The internal roadway network includes collector roadways, local enhanced roadways, and local roadways. Collector roadways provide efficient and convenient access to residential areas. Local enhanced roadways provide for two travel lanes and are utilized in areas that require a boost in capacity to accommodate more traffic than a typical local roadway would provide. An enhanced local typically requires the incorporation of a parking ban on one side of the street to accommodate the two travel lanes required. Local roadways will offer safe and convenient access throughout the neighbourhood. They maintain a limited role in the overall movement of traffic. Roadways will be designed in accordance with the Complete Streets Guidelines.

Objective 11: Establish an integrated roadway network through the City of Edmonton's road hierarchy system and provide noise attenuation where residential uses back onto major transportation corridors.	
Policy 11.1	Lands within the neighbourhood, except where exempted, shall be subject to an Arterial Roadway Assessment to cost share roadway facilities needed to service the area.
Policy 11.2	A well-integrated system of arterial, collector, local enhanced and local roadways shall be established for vehicular and active circulation within the neighbourhood boundaries and the adjacent neighbourhoods.
Policy 11.3	Opportunities for roadways to be developed with innovative and/or alternative standards that follow the Complete Street Guideline principles shall be explored.
Policy 11.4	Emergency and Protective Services shall have multiple entry and exits in the neighbourhood and will utilize the well integrated roadway network and emergency accesses, as necessary.

Objective 11: Establish an integrated roadway network through the City of Edmonton's road hierarchy system and provide noise attenuation where residential uses back onto major transportation corridors.	
Policy 11.5	Road network design in the neighbourhood allows for safe and efficient snow removal practices by the City of Edmonton.
Policy 11.6	Appropriate noise attenuation shall be provided for residential uses adjacent to 170 Street S.W., 28 Avenue S.W. and 41 Avenue S.W. in accordance with City standards or Noise Impact Assessment at the time of subdivision.
Policy 11.7	Local enhanced roadways shall provide for two travel lanes which can be accommodated using a standard local cross section with the incorporation of a parking ban on one side.
Policy 11.8	Local enhanced roadways shall provide shared pathways if required as part of the active mode network outlined in Figure 6 and be integrated with adjacent land uses to promote safety for all roadway users.
Implementation: A hierarchy of arterial, collector, enhanced local and local roadways was designed to meet the transportation needs of the neighbourhood. Locating school sites, commercial and higher density residential units along collector roadways provides a safe and efficient flow of traffic in and out of the neighbourhood. Roadway design throughout the neighbourhood is encouraged to utilize the Complete Streets Guidelines to accommodate all modes of transportation. Alternative roadway cross-sections shall be reviewed at time of subdivision engineering.	

Objective 12: Design collector roadways to provide safe routes to school, minimize shortcutting, and mitigate the impact of automobile traffic associated with commercial and higher density residential areas on the roadway and active road network	
Policy 12.1	Front driveways shall not be permitted across from school sites.
Policy 12.2	Traffic calming techniques shall be employed to reduce automobile speeds, minimize shortcutting, increase safety of active users, and improve the streetscape at the locations indicated in Figure 7.
Policy 12.3	Locate commercial and medium/high rise multi-unit residential development to facilitate vehicular access from arterial or collector roadways to the greatest extent possible.
Implementation: Restricting the number of driveway accesses at specific points along high traffic roadways in accordance with the TIA helps to avoid potential conflicts between vehicles and/or pedestrians and cyclists. Traffic calming measures along collector roadways and enhanced local roadways can be implemented and may include roundabouts, curb extensions and raised crosswalks or intersections at higher traffic areas such as school sites, and will also include assessment of active mode desire lines. Details of all traffic calming and lot configuration will be determined at the subdivision and zoning stage of development to the satisfaction and approval of the City of Edmonton.	

6.2 Active Transportation Network

A continuous network of sidewalks and shared pathwayshave been designed in Kendal to accommodate active users and provide connectivity to various land uses and destinations. The design and provision of multi-modal routes will connect residents to services, and amenities throughout the neighbourhood. The active modes network in Kendal Neighbourhood includes a combination of facilities developed within parks, road right-of-way, the top-of bank, greenways, and storm water management facilities (**See Figure 6**). There are strong north/south and east/west links through the neighbourhood connecting to adjacent

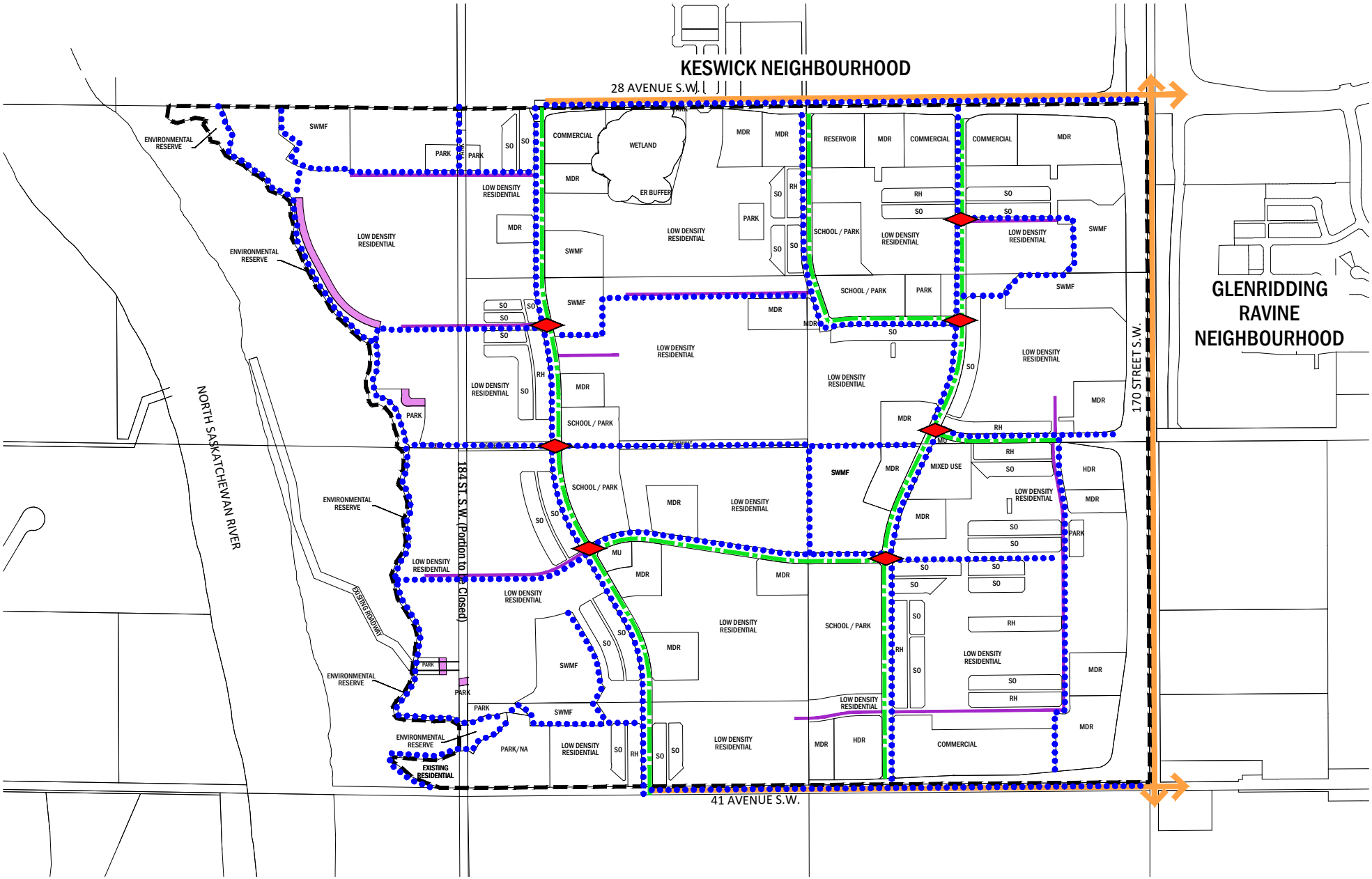
neighbourhoods. Central greenways are a key feature of the plan and connectthe east Local Node to thetop-of-bank trail system, inviting people to the River Valley and highlighting the importance of the Ribbon of Green for this neighbourhood. As part of the Traffic impact Assessment (TIA) by Bunt & Associates, an analysis of the bike network within Kendal was completed. The analysis determined that the bike network planned for the neighbourhood meets the network considerations and guidelines outlined in the Bike Plan, with a high level of connectivity noted. The future District Connector Bike Route is planned along 28th avenue and will connect with the active mode network planned for Kendal providing strong connections to the Ribbon Green. The focus on multi-modal transportation for Kendal encourages active lifestyles with the potential to build a climate resilient neighbourhood.

Objective 13: Provide strong, direct and convenient active modes connections for a variety of modes, such as walking, cycling, rollerblading and wheelchair accessibility, to the North Saskatchewan River Valley and Ravine System, neighbourhood amenities, services and surrounding neighbourhoods.	
Policy 13.1	A network of hard-surfaced shared pathways and walkways shall be provided to promote walkability, cycling, and access to the North Saskatchewan River Valley and Ravine System, parks and open spaces, natural areas, transit facilities, and neighbourhood amenities.
Policy 13.2	Shared pathways shall connect to existing trail networks in adjacent neighbourhoods.
Policy 13.3	As indicated on Figure 7, appropriate safe crossings and safe mid-block crossings shall be designed to facilitate multi-modal movements between neighbourhood amenities.
Policy 13.4	Design of pedestrian crossings should consider minimizing crossing distances and maximizing visibility.
Policy 13.5	Greenway shall include shared pathways and be dedicated as Municipal Reserve.
Policy 13.6	Walkway connections between blocks shall be provided at a maximum of 250m spacing to ensure pedestrian accessibility to transit routes, neighbourhood amenities and active modes network.
Policy 13.7	Develop convenient pedestrian access between neighbourhood amenities and focal points.
Policy 13.8	Shared pathways shall be provided along one side of collector roads, along parks, and along a minimum of 50% of Stormwater Management Facilities and adjacent to arterial roadways.
Policy 13.9	Provide convenient, direct, and integrated active mode access linking neighbourhood amenities (such as storm pond pathways, parks, PUL greenways and open spaces) and the active mode network.
Policy 13.10	Where appropriate, mid-block crossings shall be designed to facilitate pedestrian movements between neighbourhood amenities.
Policy 13.11	All collector roadways shall be developed with sidewalk and shared pathway, as shown on Figure 7, providing a sufficient level of pedestrian access
Policy 13. 12	Public access to the North Saskatchewan River Valley shall be provided through a combination of top-of-bank roadway and parks along a minimum of 30% of the length of the Urban Development Line. A continuous Top of Bank pathway shall be provided along the length of the Urban Development Line. The design of the neighbourhood shall comply with the approved City Policy C542 Development Setbacks from River Valley/Ravine Crests.
Policy 13.13	Access to the North Saskatchewan River Valley shall be maintained via Enhanced Local Roadway to preserve current access and provide future multimodal connections to support potential programming needs and the trail system.
Policy 13.14	Emergency access to the river valley shall be maintained through regular walkways at approximately 120m spacing in accordance with the Edmonton Top of Bank Policy.

Objective 13: Provide strong, direct and convenient active modes connections for a variety of modes, such as walking, cycling, rollerblading and wheelchair accessibility, to the North Saskatchewan River Valley and Ravine System, neighbourhood amenities, services and surrounding neighbourhoods.
Implementation: The configuration of local roadways will be determined and reviewed at the subdivision stage. The Subdivision Authority should have regard for the dedication of walkways to promote walkability and appropriate access to neighbourhood amenities and transit facilities. Greenway will be dedicated as Municipal Reserve with a minimum of 20m width and connect to the open space system. Detailed transportation design will be determined during subdivision, with the opportunity to adapt plans and networks to emerging mobility options that supports active modes of transportation and a climate resilient city.

6.3 Transit

Objective 14: Develop an accessible transit network within the neighbourhood that connects residents to amenities within and outside of the neighbourhood.	
Policy 14.1	Accessible and efficient transit services will be provided for the neighbourhood with connections to existing and future major transit networks.
Policy 14.2	Transit options within the neighbourhood will provide residents with access to key service areas.
Policy 14.3	Cross-sections for transit collector roads that include shared pathways shall accommodate standard ETS bus stop design requirements (e.g. size, configuration and materials) included in the Edmonton Complete Streets Design and Construction Standards.
Implementation: The neighbourhood is designed to accommodate transit service. Transit will occur along major arterial roads and collector roads to the satisfaction of the City of Edmonton and will be accessible to residents with a maximum of 600m walking distance to public transit. Where this can't be accommodated, on demand transit service may be considered. Neighbourhood design in areas beyond 600m walking distance to transit should be designed to include numerous direct pedestrian connections to bus stops on 28 Avenue SW and 182 Street SW, including walkways, shorter block lengths, and other measures required to provide a direct connection. The neighbourhood transit will connect to Edmonton's mass transit network outside the area.	



TRANSPORTATION NETWORK

LEGEND

- Arterial Roadway
- Collector Roadway
- Enhanced Local Roadway
- Top of Bank Road
- Shared Use Path
- Safe Crossing Locations
- NSP Boundary

scale 1:12,500

0 125 250 m

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FIGURE 7

7.0 Infrastructure and Servicing

The following sections provide a brief overview of the engineering service design concepts proposed for the Kendal NSP. A more detailed analysis is provided in the Kendal Neighbourhood Design Report. (NDR).

7.1 Sanitary

Ultimate servicing for Kendal is provided through a network of onsite gravity lateral and trunk sewers that drain through existing neighbourhoods to the South Edmonton Sanitary Sewer (SESS). SESS conveys neighbourhood sanitary flows to the Gold Bar Wastewater Treatment Plant.

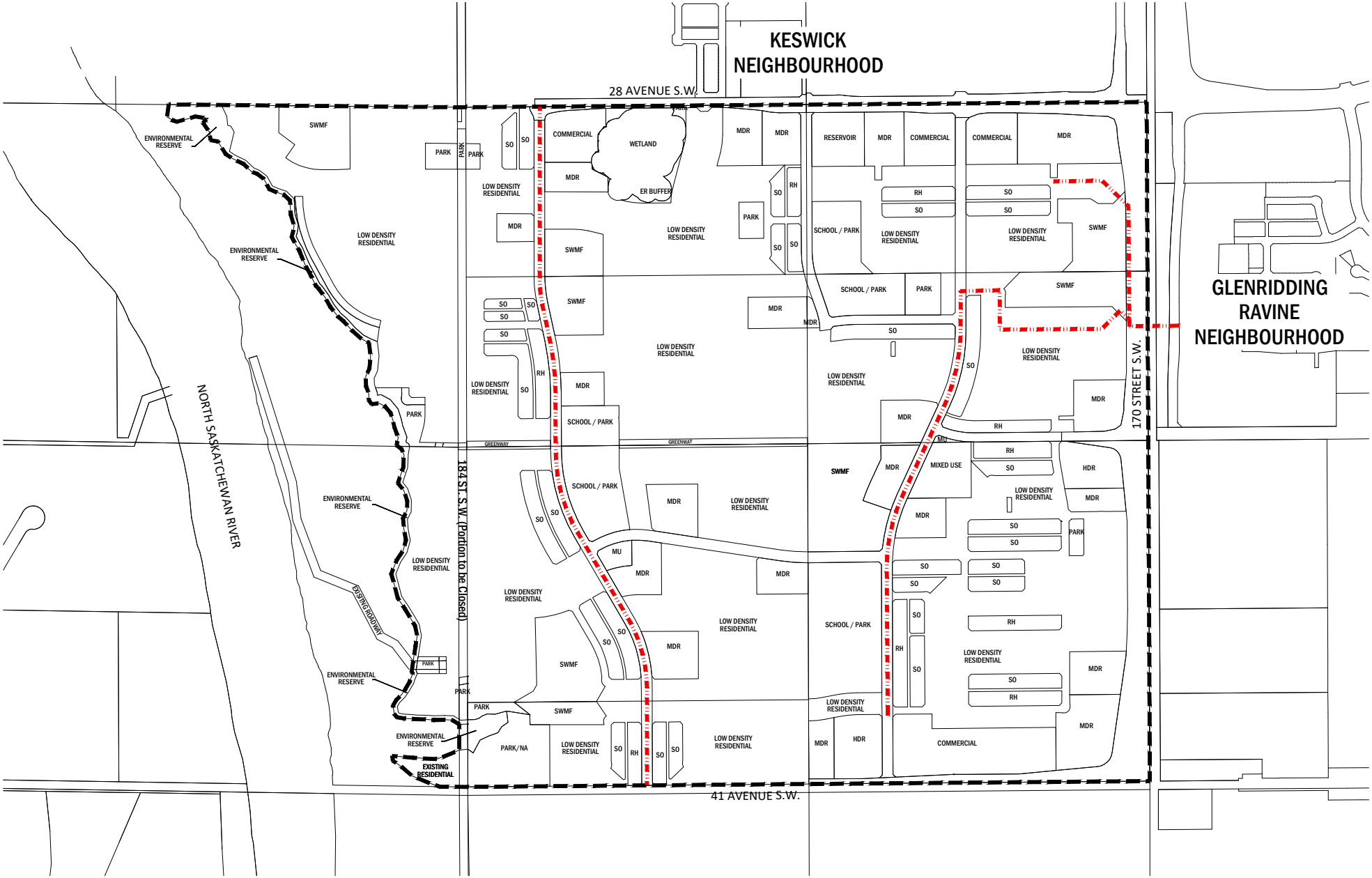
There are two general sanitary basins proposed for Kendal: the west basin and east basin. The main west basin is supported by a trunk sewer that conveys flow north along the collector roadway alignment connecting to the existing sanitary stub provided in Keswick at 28 Avenue. Due to engineering constraints, a small west basin is required in the northwest corner that conveys flows to Keswick, west of 184th Street. The east basin is supported by trunk sewers that convey flow to a connection point at 170 Street and 33 Avenue, and through the Glenridding Ravine Neighbourhood. **(See Figure 8)**

7.2 Stormwater

Stormwater management for Kendal is provided through a series of interconnected facilities with controlled discharge that provide attenuation and primary treatment of stormwater prior to release into downstream outlets. Consideration has been made to further control runoff for parcels adjacent to natural areas by making direct connections to the minor storm system.

There are two stormwater outlets for Kendal. The design of the neighbourhood has allowed for use of two existing outfalls for the Kendal basins, which avoids the cost and environmental impact of creating a new one. The east half of Kendal is proposed to drain to the existing connection at 170 Street and 33 Avenue, through Glenridding Ravine Neighbourhood, and to the existing outfall into Whitemud Creek. The east connection and storm system design is informed by the 170 Street concept plan. The west half of Kendal is proposed to drain north through Keswick and to the existing outfall into the North Saskatchewan River. An offsite servicing corridor has been established north of 28 Avenue, along existing 184 Street, that allows for the alignment to the Keswick connection without having to be reliant on the non-participating landowners north of 28 Avenue. **(See Figure 9)**

Low Impact Development (LID) can be considered in neighbourhood design as technologies, standards, and City policies evolve in order to reduce stormwater run-off and create additional ecological habitat. LID should be considered where feasible, and duplication of standard infrastructure is not a requirement.



LEGEND

- Sanitary Trunk
- NSP Boundary

SANITARY SERVICING

scale 1:12,500

0 125 250 m

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FIGURE 8



LEGEND

- Stormwater Management Facility
- Retained Wetland
- Inlet/Outlet
- Storm Trunk
- NSP Boundary

STORMWATER SERVICING

scale 1:12,500

0 125 250 m

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FIGURE 9

7.3 Water

Water servicing is provided through the extension of potable water infrastructure from 28 Avenue. The system within the neighbourhood is proposed to address the required demands and fire flows for low and medium density residential uses and commercial uses. Water looping and redundancy will be provided in accordance with EPCOR Water standards. Water servicing is supported by the attached Hydraulic Network Analysis **(See Figure 10).**

A water reservoir is located in the northeast portion of the plan next to 28 Avenue. The requirement for the reservoir was identified previously by EPCOR and the land secured on title with the private landowner. The reservoir is proposed with this NSP and will be required to service the southern portion of this area and the future lands south of 41 Avenue. This area will be owned and maintained by EPCOR and consist of a water reservoir underground that will be used to store and provide water for the surrounding communities. While this area is technically not parkland it will have a grassed area on the surface that residents could use for recreational activities. No permanent structures, buildings, fence posts, goal posts etc., will be permitted to be constructed on top of the reservoir however, it may be an opportunity for the City to provide residents with another grassed open space area to walk the dog, play frisbee or any other activity that does not require any structures to be constructed on the surface. A small control building may be constructed by EPCOR along the side of the parcel at their discretion. The use of this reservoir will require agreements with EPCOR and the City of Edmonton prior to implementation of any recreational activities or open space allowances.

There is transmission main alignment from the reservoir to the south end of the plan through collector roadways. The requirement will be reviewed on a stage-by-stage basis and confirmed with local modelling. The Owners will work with EPCOR and the City's open space department to explore opportunities to design the surface as public open space.

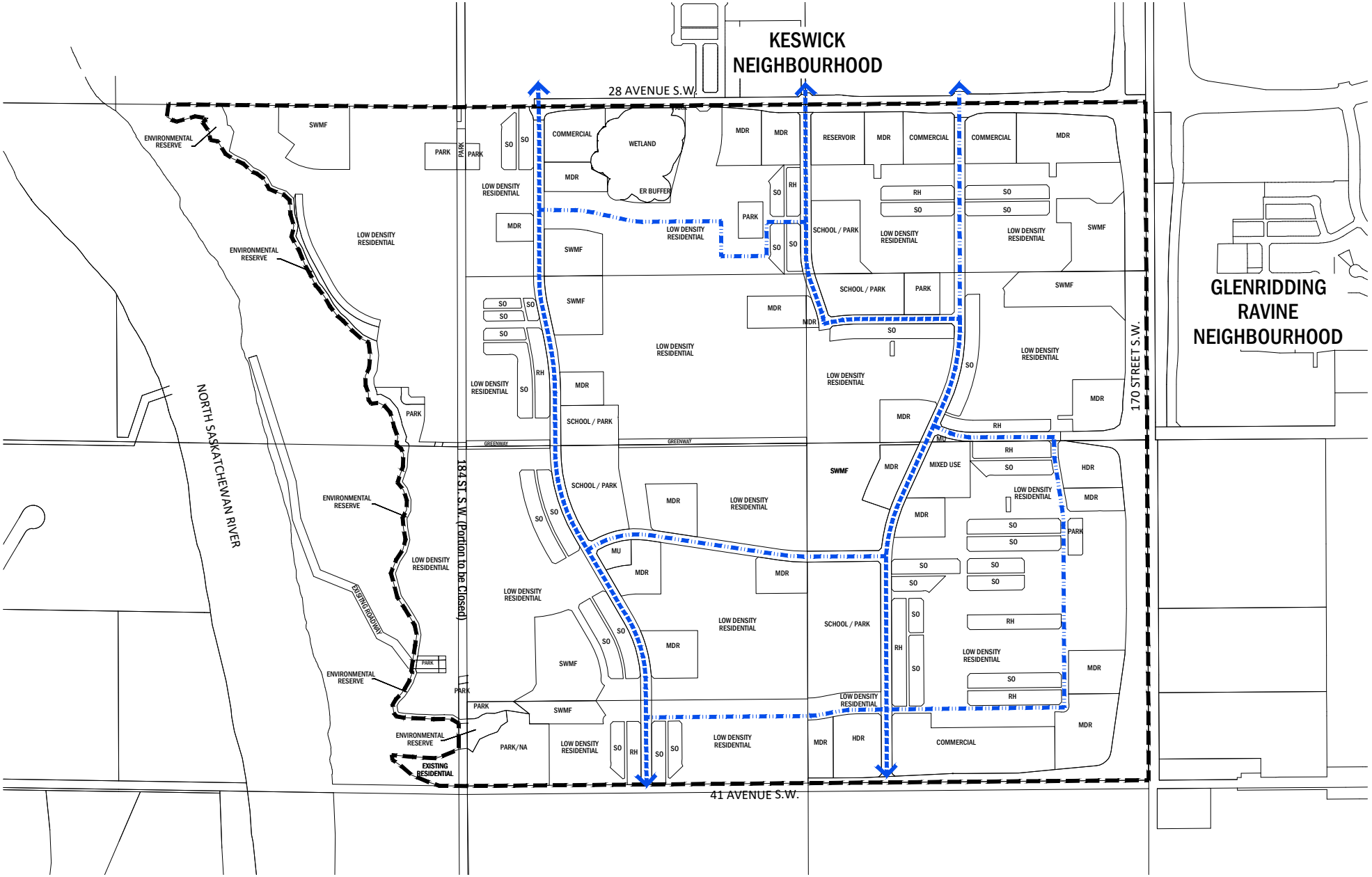
7.4 Shallow Utilities

Power, gas and telecommunication services are all located within close proximity to the Plan and will be provided by the respective utility operators concurrently with development. Alternative sources of energy should be considered as technologies and methods improve over time, such as solar power, geothermal, etc.

7.5 Staging

Development is anticipated to initially proceed from the northern boundary of the Plan area and progress toward the south (**See Figure 11**). Individual stages will ultimately be defined based on future economic conditions and market demands, as well as the orderly and economic extension of existing roadways and municipal services to the area. At current market activity rates, it is anticipated that development of the Plan will be complete within 15 to 20 years of the first stage of construction being initiated in the area.

The Keswick NSP area to the north and Glenridding Ravines to the east are nearing the end of their housing supply left for development and the adjacent roadway 28 Avenue SW is already constructed, therefore Kendal is a logical and necessary next stage of development to help the City responsibly reach its goal of 2 million population through a balance of infill and greenfield development. Zoning and subdivision applications will be required to facilitate the successive stages of development.



WATER SERVICING

scale 1:12,500

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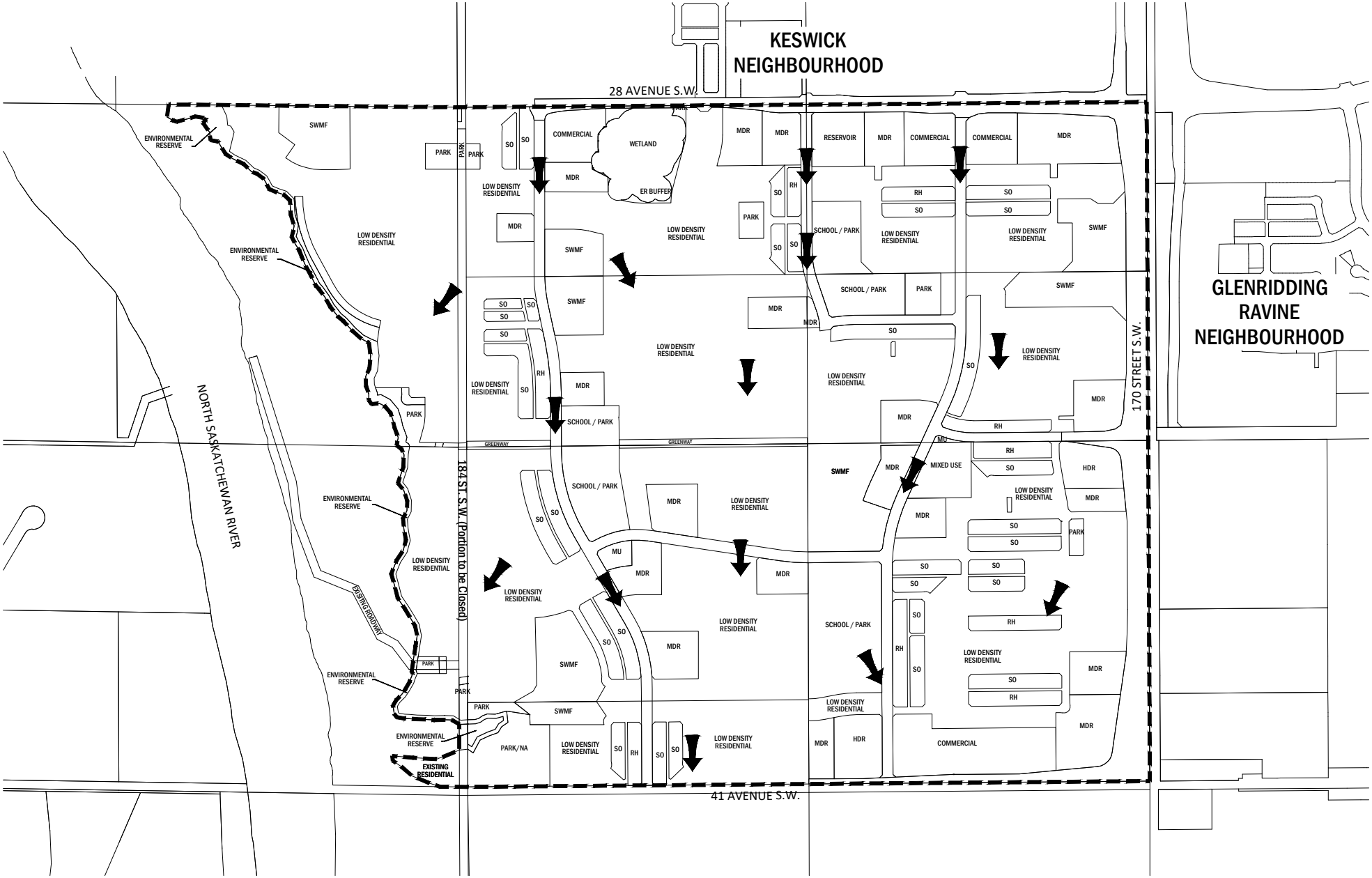
LEGEND

- Proposed Water Main
- Proposed Water Transmission Main
- NSP Boundary

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FIGURE 10



STAGING PLAN

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0 125 250 m

LEGEND

- General Staging Direction
- NSP Boundary

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FIGURE 11

APPENDIX A

Technical Studies