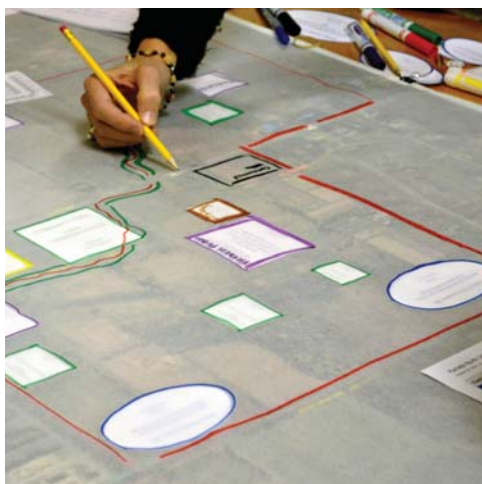




# KANATA NORTH

## COMMUNITY DESIGN PLAN



FINAL DRAFT  
JUNE 28, 2016







# KANATA NORTH COMMUNITY DESIGN PLAN

## **PREPARED BY:**

NOVATECH  
SUITE 200, 240 MICHAEL COWPLAND DRIVE  
OTTAWA, ON K2M 1P6

## **WITH THE ASSISTANCE OF:**

**GEOTECHNICAL**  
PATERSON GROUP INC

**HYDROGEOLOGY**  
PATERSON GROUP INC

**NATURAL HERITAGE AND SPECIES AT RISK (ENVIRONMENT)**  
MUNCASTER ENVIRONMENTAL PLANNING INC.  
DST  
BOWFIN ENVIRONMENTAL  
MCKINLEY ENVIRONMENTAL SOLUTIONS

**FLUVIAL GEOMORPHOLOGY**  
MATRIX SOLUTIONS AND PARISH GEOMORPHIC

**ARCHAEOLOGY**  
PATERSON GROUP INC.

**POTABLE WATER ASSESSMENT**  
STANTEC CONSULTING LTD.

**INTEGRATED ENVIRONMENTAL ASSESSMENT**  
MORRISON HERSHFIELD GROUP INC.

JUNE/28/2016

NOVATECH FILE NO. 112117  
REPORT NO. R-2016-020







# CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>IX</b>
<b>1.0 INTRODUCTION</b>	<b>1</b>
1.1 KANATA NORTH URBAN EXPANSION AREA	1
1.2 BACKGROUND	1
1.3 INTEGRATED PLANNING PROCESS	3
1.4 CONSULTATION PROCESS	5
<b>2.0 PLANNING CONTEXT</b>	<b>11</b>
2.1 PROVINCIAL POLICY STATEMENT	11
2.2 CITY OF OTTAWA OFFICIAL PLAN	12
2.3 BACKGROUND DOCUMENTS	14
2.4 EXISTING CONDITIONS REPORTS	15
2.5 EXISTING LAND USES	16
2.6 ARCHAEOLOGY AND HERITAGE	16
2.7 THE EXISTING NATURAL ENVIRONMENT	18
2.8 EXISTING TRANSPORTATION CONDITIONS	23
2.9 EXISTING INFRASTRUCTURE SERVICING	27
2.10 EXISTING COMMUNITY SERVICES	27
<b>3.0 PLAN DEVELOPMENT</b>	<b>31</b>
3.1 PUBLIC CONSULTATION PROCESS	31
3.2 STRUCTURING ELEMENTS	32
3.3 PRELIMINARY LAND USE CONCEPTS	37
<b>4.0 KANATA NORTH COMMUNITY DESIGN PLAN</b>	<b>41</b>
4.1 VISION FOR KANATA NORTH	41
4.2 GUIDING COMMUNITY PRINCIPLES	42
4.3 LAND USE DESIGNATIONS	44
<b>5.0 DEMONSTRATION PLAN</b>	<b>55</b>
5.1 LAND USE DISTRIBUTION	55
5.2 PARKS AND PATHWAYS	59
5.3 ENVIRONMENTAL MANAGEMENT PLAN	62
5.4 MASTER SERVICING STUDY	65
5.5 TRANSPORTATION MASTER PLAN	68
<b>6.0 COMMUNITY DESIGN GUIDELINES</b>	<b>73</b>
6.1 CITY OF OTTAWA DESIGN GUIDELINES	73
6.2 KANATA NORTH DESIGN GUIDELINES	75
<b>7.0 IMPLEMENTATION</b>	<b>91</b>
7.1 OFFICIAL PLAN AMENDMENT	92
7.2 COMMUNITY DESIGN PLAN INTERPRETATION AND AMENDMENTS	93
7.3 ENVIRONMENTAL ASSESSMENT AMENDMENT PROCESS	94
7.4 DEVELOPMENT APPROVALS	95
7.5 DEVELOPMENT CHARGE PROJECTS	97



# CONTENTS (CONTINUED)

7.6	COST SHARING/FINANCIAL PLAN	97
7.7	GREENSPACE	98
7.8	AFFORDABLE HOUSING	99
7.9	INFRASTRUCTURE STAGING	100
7.10	DEVELOPMENT MONITORING	102
<b>APPENDIX A: AREA PARKS PLAN</b>		<b>A1</b>

## LIST OF FIGURES

<b>FIGURE 1</b>	KANATA NORTH URBAN EXPANSION AREA (KNUEA) CONTEXT AND LOCATION	12
<b>FIGURE 2</b>	KNUEA BOUNDARIES AND PROPERTIES OF SPONSORING LANDOWNERS	14
<b>FIGURE 3</b>	INTEGRATED CLASS EA AND CDP PLANNING FRAMEWORK	16
<b>FIGURE 4</b>	EXCERPT FROM OFFICIAL PLAN SCHEDULES 'A' AND 'B' SHOWING "URBAN EXPANSION STUDY AREA" AND SURROUNDING LAND USE DESIGNATIONS	23
<b>FIGURE 5</b>	EXISTING LAND USE CONDITIONS	27
<b>FIGURE 6</b>	NAMING CONVENTIONS FOR WATER CHANNELS	29
<b>FIGURE 7</b>	EXISTING TERRESTRIAL FEATURES AND HABITAT	31
<b>FIGURE 8</b>	2013 EXISTING ROAD AND TRANSIT CONDITIONS	34
<b>FIGURE 9</b>	EXISTING CYCLING CONDITIONS	35
<b>FIGURE 10</b>	EXISTING PEDESTRIAN CONDITIONS	36
<b>FIGURE 11</b>	EXISTING SERVICING	38
<b>FIGURE 12</b>	EXISTING COMMUNITY SERVICES	39
<b>FIGURE 13</b>	PUBLIC WORKSHOP BASE PLAN	43
<b>FIGURE 14</b>	PUBLIC WORKSHOP "BUILDING BLOCKS" TABLE	45
<b>FIGURE 15A</b>	PRELIMINARY LAND USE PLAN CONCEPTS	48
<b>FIGURE 15B</b>	PRELIMINARY LAND USE PLAN CONCEPTS	49
<b>FIGURE 16</b>	LAND USE PLAN	55
<b>FIGURE 17</b>	PARKS AND OPEN SPACE PLAN	61
<b>FIGURE 18</b>	DEMONSTRATION PLAN	66
<b>FIGURE 19</b>	PARKS AND PATHWAYS DEMONSTRATION PLAN	68
<b>FIGURE 20</b>	5-MINUTE WALKING DISTANCE/400M RADIUS FROM PARKS	71



# LIST OF FIGURES (CONTINUED)

<b>FIGURE 21</b>	RECOMMENDED NATURAL HERITAGE SYSTEM	73
<b>FIGURE 22</b>	PROPOSED COMBINED INFRASTRUCTURE ONSITE	76
<b>FIGURE 23</b>	PROPOSED COMBINED INFRASTRUCTURE OFFSITE	77
<b>FIGURE 24</b>	RAPID TRANSIT AND TRANSIT PRIORITY – 2031 ULTIMATE NETWORK CONCEPT	80
<b>FIGURE 25</b>	TRANSITION FROM STREET-ORIENTED RESIDENTIAL TO EXISTING DEVELOPMENT	88
<b>FIGURE 26</b>	TRANSITION FROM MULTI-UNIT RESIDENTIAL TO EXISTING DEVELOPMENT	88
<b>FIGURE 27</b>	CROSS-SECTION FOR MARCH ROAD - INTERIM	89
<b>FIGURE 28</b>	CROSS-SECTION FOR MARCH ROAD - ULTIMATE	89
<b>FIGURE 29</b>	TYPICAL COLLECTOR ROAD CROSS-SECTION	90
<b>FIGURE 30</b>	TYPICAL COLLECTOR ROAD CROSS-SECTION WITH BUS SHELTER	91
<b>FIGURE 31</b>	NORTH-SOUTH COLLECTOR TYPICAL CROSS-SECTION	92
<b>FIGURE 32</b>	NORTH-SOUTH COLLECTOR TYPICAL CROSS-SECTION WITH BUS SHELTER	92
<b>FIGURE 33</b>	LOCAL ROAD – TYPICAL 18M ROW CROSS SECTION WITH SIDEWALK	93
<b>FIGURE 34</b>	LOCAL ROAD – TYPICAL 18M ROW CROSS SECTION WITHOUT SIDEWALK	94
<b>FIGURE 35</b>	LOCAL ROAD – TYPICAL 16.5M ROW CROSS SECTION	95
<b>FIGURE 36</b>	CONCEPTUAL GATEWAY FEATURE LOCATIONS	97
<b>FIGURE 37</b>	TYPICAL CROSS SECTION OF CREEK CORRIDOR	98

## APPENDIX A

<b>FIGURE 1</b>	PARKS AND PATHWAY	A2
<b>FIGURE 2</b>	5 MINUTE WALKING DISTANCE/400M RADIUS FROM PARKS	A3
<b>FIGURE 3</b>	NORTHWEST QUADRANT NEIGHBOURHOOD PARK FACILITIES FIT PLAN	A4
<b>FIGURE 4</b>	COMMUNITY PARK FACILITIES FIT PLAN	A5
<b>FIGURE 5</b>	SOUTHEAST QUADRANT NEIGHBOURHOOD PARK FACILITIES FIT PLAN	A6
<b>FIGURE 1</b>	NORTHEAST QUADRANT NEIGHBOURHOOD PARK FACILITIES FIT PLAN	A7



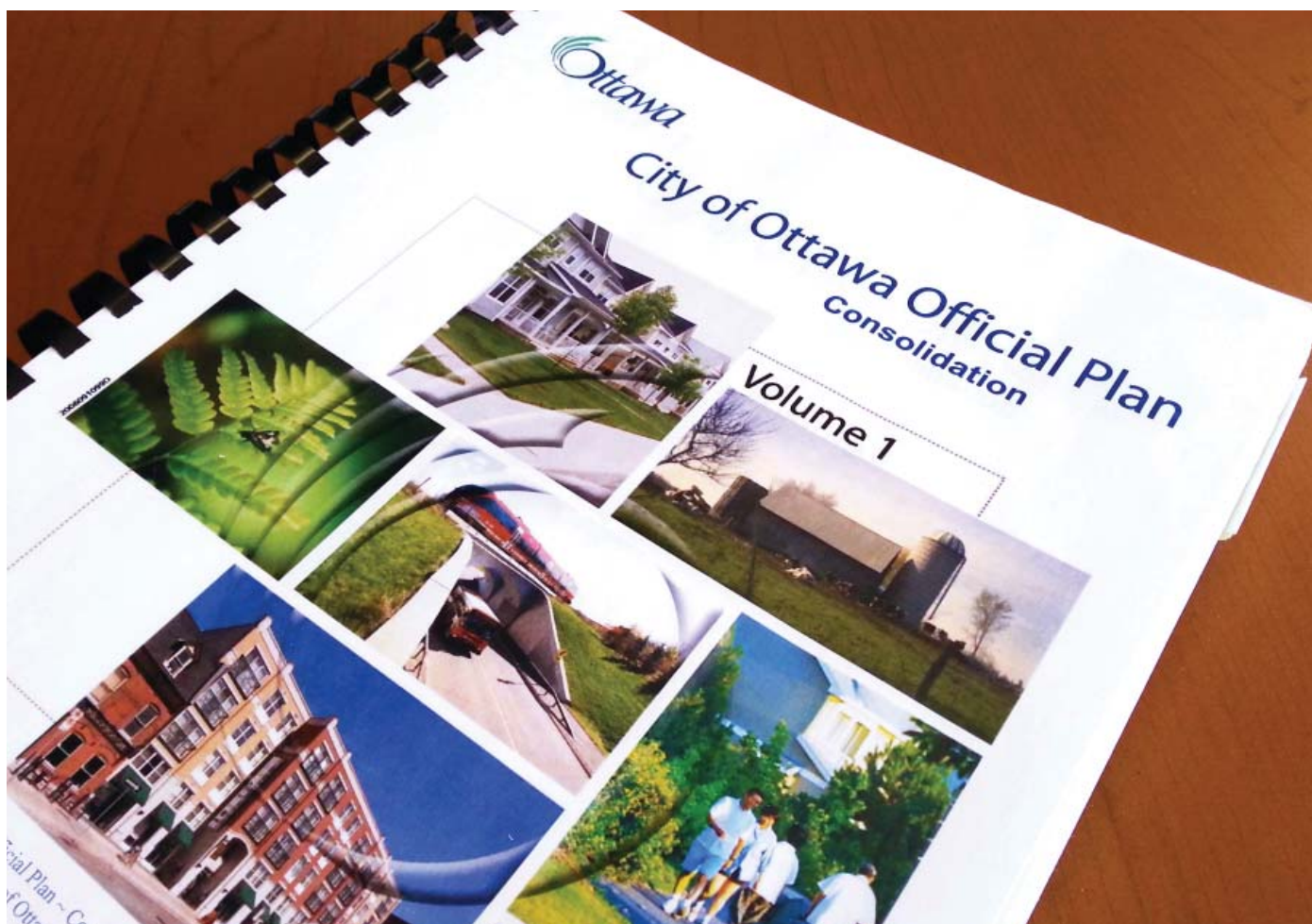


# LIST OF TABLES

<b>TABLE 1</b>	RESIDENTIAL UNIT DISTRIBUTION AND POPULATION ESTIMATE	67
<b>TABLE 2</b>	MIXED USE LAND AREAS	67
<b>TABLE 3</b>	PARKLAND DEDICATION REQUIREMENTS	69
<b>TABLE 4</b>	DEMONSTRATION PLAN PARKLAND PROPOSED	69
<b>TABLE 5</b>	GREENSPACE AREA	70
<b>TABLE 6</b>	CORE SERVICING STAGING	111
<b>TABLE 7</b>	DEVELOPMENT MONITORING	112

## APPENDIX A

<b>TABLE 1</b>	AMENITIES OVERVIEW	A8
<b>TABLE 2</b>	CANOPY COVER BREAKDOWN	A8
<b>TABLE 3</b>	NORTHWEST QUADRANT PARK BUDGET	A9
<b>TABLE 4</b>	COMMUNITY PARK BUDGET	A10
<b>TABLE 5</b>	SOUTHEAST QUADRANT PARK BUDGET	A11
<b>TABLE 6</b>	NORTHEAST QUADRANT PARK BUDGET	A12
<b>TABLE 7</b>	PARKLAND AREA SUMMARY (WEST AND EAST)	A13
<b>TABLE 8</b>	PARK AMENITIES DISTRIBUTION (WEST AND EAST)	A13



# EXECUTIVE SUMMARY

The Kanata North Community Design Plan (CDP) has been prepared as collaboration between the City of Ottawa and the Kanata North Land Owners Group (KNLOG) to demonstrate how development of the Kanata North Urban Expansion Area (KNUEA) will achieve the requirements of the Official Plan.

The CDP provides a level of direction between Official Plan policy and development approvals, and will be used as a guide for the preparation and review of future applications for development.

The Kanata North Urban Expansion Area (KNUEA) is located north of the established urban area of Kanata and is approximately 181 hectares (447.6 acres) in area, extending along both sides of March Road between Maxwell Bridge Road/Halton Terrace in the south and Maxwell Road/Murphy Court in the north.

The KNUEA is envisioned as a contemporary master-planned community of approximately 3000 dwelling units that could accommodate approximately 8000 residents. The CDP provides for a range of housing options and a vibrant, well-defined mixed-use core. Design of this community is rooted in an integrated open space system embracing the asset of existing natural heritage features and structured around Shirley's Brook and its tributaries.

March Road functions as the spine of the community, connecting the KNUEA to the wider transit and transportation network. Local and collector streets are laid out as a modified grid and designed to create a transit supportive street network. To facilitate active transportation, neighbourhoods will be connected by a comprehensive pathway system following the street network and creek corridors.

Each neighbourhood will have a park, school and other amenities within walking and cycling distance. Well-designed streetscapes and built form will be responsive to the context, location and intensity of land uses throughout the community.



# STRUCTURE OF CDP

## **1.0 INTRODUCTION**

Provides an overview of the project location, purpose, key stakeholders and a summary of the CDP and EA framework and consultation process.

## **2.0 PLANNING CONTEXT**

Sets out the authority for and required components of the CDP process, and provides an overview of existing environmental, cultural and servicing conditions that form the basis for the development of the plan.

## **3.0 VISION AND PLAN DEVELOPMENT**

Tells the story of the evolution of the preferred land use plan, including the role of public consultation.

## **4.0 KANATA NORTH COMMUNITY DESIGN PLAN**

Presents the preferred land use plan and describes the different land uses.

## **5.0 DEMONSTRATION PLAN**

Provides a more detailed version of the land use plan as a demonstration plan showing how the Kanata North Urban Expansion Area could develop over time. Discussion of the supporting master plans demonstrates how the plan achieves the City's objectives for parks and recreation, traffic, servicing, storm water management and environmental protection.

## **6.0 COMMUNITY DESIGN GUIDELINES**

Offers guidelines to influence how the community could look and function.

## **7.0 IMPLEMENTATION**

Contains direction for how the plan will be achieved and the processes for making changes in the event deviations from the plan are required. Information is provided on interpretation of the CDP, the approval process, how to make changes if necessary, acquisition of key elements such as greenspace and stormwater management facilities, cost sharing and the development approvals process.







# 1.0 INTRODUCTION

This Community Design Plan (CDP) has been prepared to establish a community-wide land-use framework for the Kanata North Urban Expansion Area (KNUEA) that reflects the principles, objectives and policies for community development as directed by the Official Plan. The purpose of a CDP is to provide a level of direction between Official Plan policy and development approval and to enable development to occur incrementally over time in an optimum and coordinated manner. Community design plans are used as a guide to the preparation and review of future applications for development.

## 1.1 KANATA NORTH URBAN EXPANSION AREA

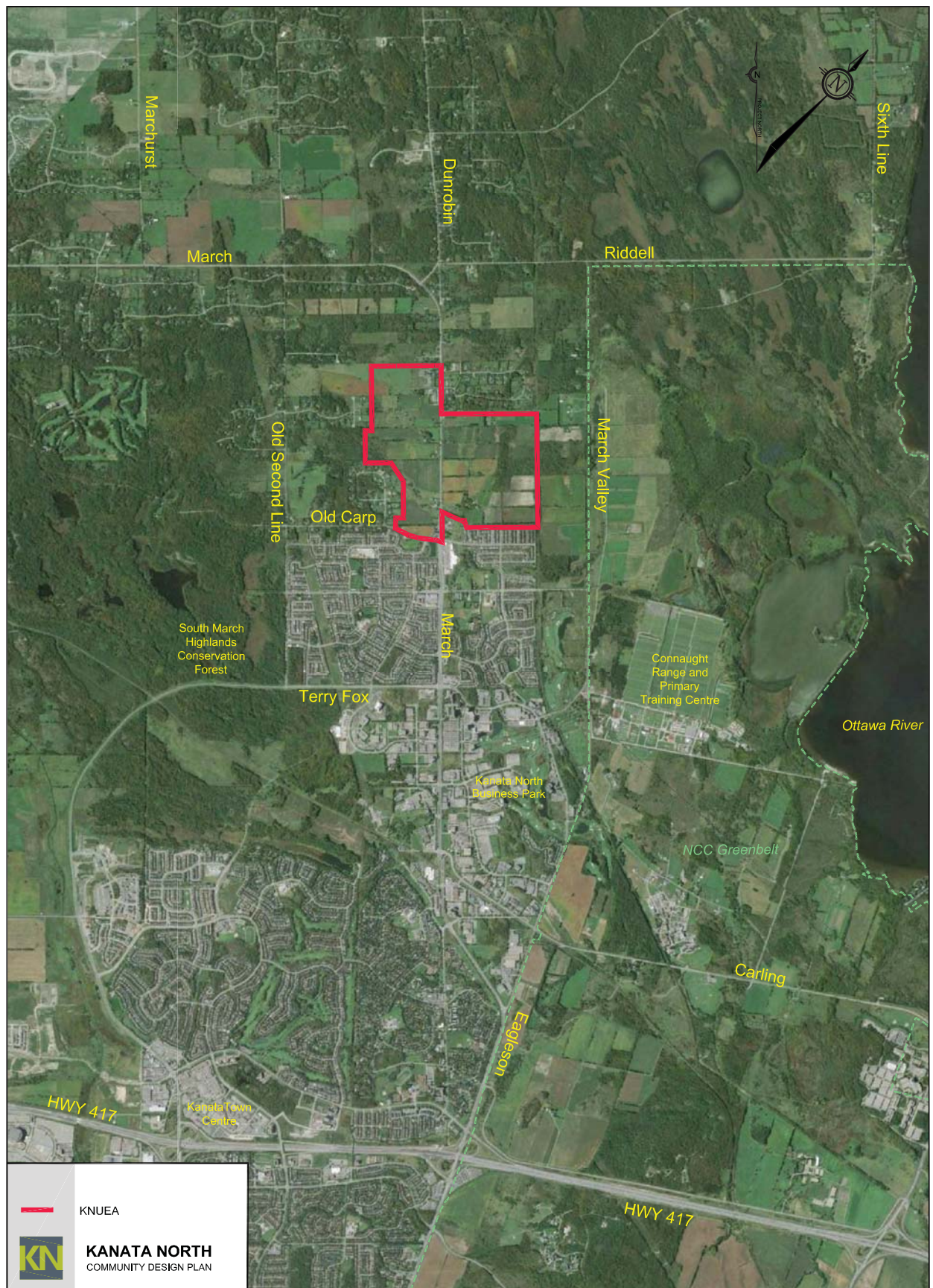
The Kanata North Urban Expansion Area (KNUEA) is approximately 181 hectares in area (447.6 acres) located north of the established urban communities of Morgan's Grant, Briarbrook, and Brookside and adjacent to a number of rural estate subdivisions including Hillview Estates Subdivision to the north, and the Marchbrook Circle and Panandrick subdivisions to the west. The abandoned CN railway corridor forms the KNUEA boundary to the east. For the purposes of this report, March Road is considered to run north/south.

As shown on Figure 1, the KNUEA extends north from the urban portion of Kanata along both sides of March Road. The area is predominantly rural but also includes existing development such as St. Isidore Roman Catholic Church and St. Isidore Catholic School (Ottawa Catholic School Board) as well as several other existing rural residential and commercial uses along the west side of March Road.

## 1.2 BACKGROUND

When the City's Official Plan was reviewed in 2009, City Council and the Ontario Municipal Board approved a number of urban expansion areas to support projected population growth to 2031. The Kanata North Urban Expansion Area (KNUEA) was one of several areas amended from a "General Rural" designation to "Urban Expansion Study Area" through Official Plan Amendment 76 (OPA 76).

OPA 76 also added Section 3.11 of the Official Plan which sets out a process for further amending the "Urban Expansion Study Area" to "General Urban Area" and other land use designations appropriate for urban development. The preparation of a CDP, including satisfying Environmental Assessment and Official Plan Amendment requirements, is a necessary component of this process and must be completed before the City will consider development applications for the area.







The major landowners in the KNUEA, known collectively as the “Kanata North Land Owners Group” (KNLOG), initiated a Community Design Plan process to fulfill the requirements of the Official Plan. Collectively, the sponsoring land owners represent approximately 87% of the land within the KNUEA. The CDP, while funded by the KNLOG, has been balanced and shaped in accordance with the goals, objectives and policy directives of the City of Ottawa Official Plan.

The Sponsoring Landowners include:

- Metcalfe Realty Company Ltd.;
- Brigil (3223701 Canada Inc.);
- Valecraft (8409706 Canada Inc.)/JG Rivard Ltd.; and
- Junic/Multivesco (7089121 Canada Inc.).

Early in the process formal invitations were sent to other landowners to participate; however, none other than the group listed above chose to join the KNLOG. Non-participating landowners have been involved in the CDP process through consultation and opportunities to comment as the plan evolved.

Figure 2 provides a map showing the ownership of lands within the KNUEA. Adjacent properties owned by members of the KNLOG are also shown. For clarity, the KNUEA is sometimes referred to as being divided into quadrants, east and west of March Road and north and south roughly based on property ownership. The quadrants are labeled on Figure 2.

### 1.3 INTEGRATED PLANNING PROCESS

A critical element of completing a successful planning exercise is the integration of the CDP and Official Plan Amendment (OPA) process with the Municipal Class Environmental Assessment (Class EA) processes for associated infrastructure projects. The objective of the integrated process is to create a set of guiding documents that will shape the development of Kanata North as a healthy, vibrant, liveable community. The guiding documents are as follows:

- a Community Design Plan (CDP) to determine the location of land uses and provide direction for future development in the KNUEA;
- an Environmental Management Plan (EMP) to address the management of the Natural Heritage System;
- a Transportation Master Plan (TMP) to provide an integrated and sustainable transportation network; and
- a Master Servicing Study (MSS) to inform the design and implementation of sanitary, water, and stormwater management infrastructure.

The Planning Act process to implement the CDP will be an Official Plan Amendment approved by City Council, implementing the recommendations set out in the EMP, TMP, MSS and CDP.









The Master Plans set out a network of roads and municipal infrastructure including water, sanitary and stormwater management system(s). These facilities will ultimately be turned over to the City of Ottawa as municipal infrastructure through the subdivision approvals process. The Province of Ontario's Environmental Assessment Act requires an Environmental Assessment for any major public sector undertaking which includes public roads, transit, water, sanitary and stormwater installations. Meeting requirements of the Environmental Assessment Act is a requirement of Section 3.11 of the Official Plan.

Combining the CDP process with the Class EA creates an opportunity to co-ordinate the approval requirements of the Environmental Assessment Act and the Planning Act and provides an integrated approach to the planning and development of all aspects of the community. For example, an integrated planning process means that background studies and existing conditions reports can be shared between the two processes, stakeholders and advisory committees are able to consider all aspects of planning and servicing, and the public review and approval processes can be consolidated and simplified. The Master Plan and CDP process was integrated in accordance with Approach #4 as outlined in the Class EA.

A figure showing the integration of the Class EA process and the Community Design Plan/Official Plan Amendment process is provided as Figure 3.

## 1.4 CONSULTATION PROCESS

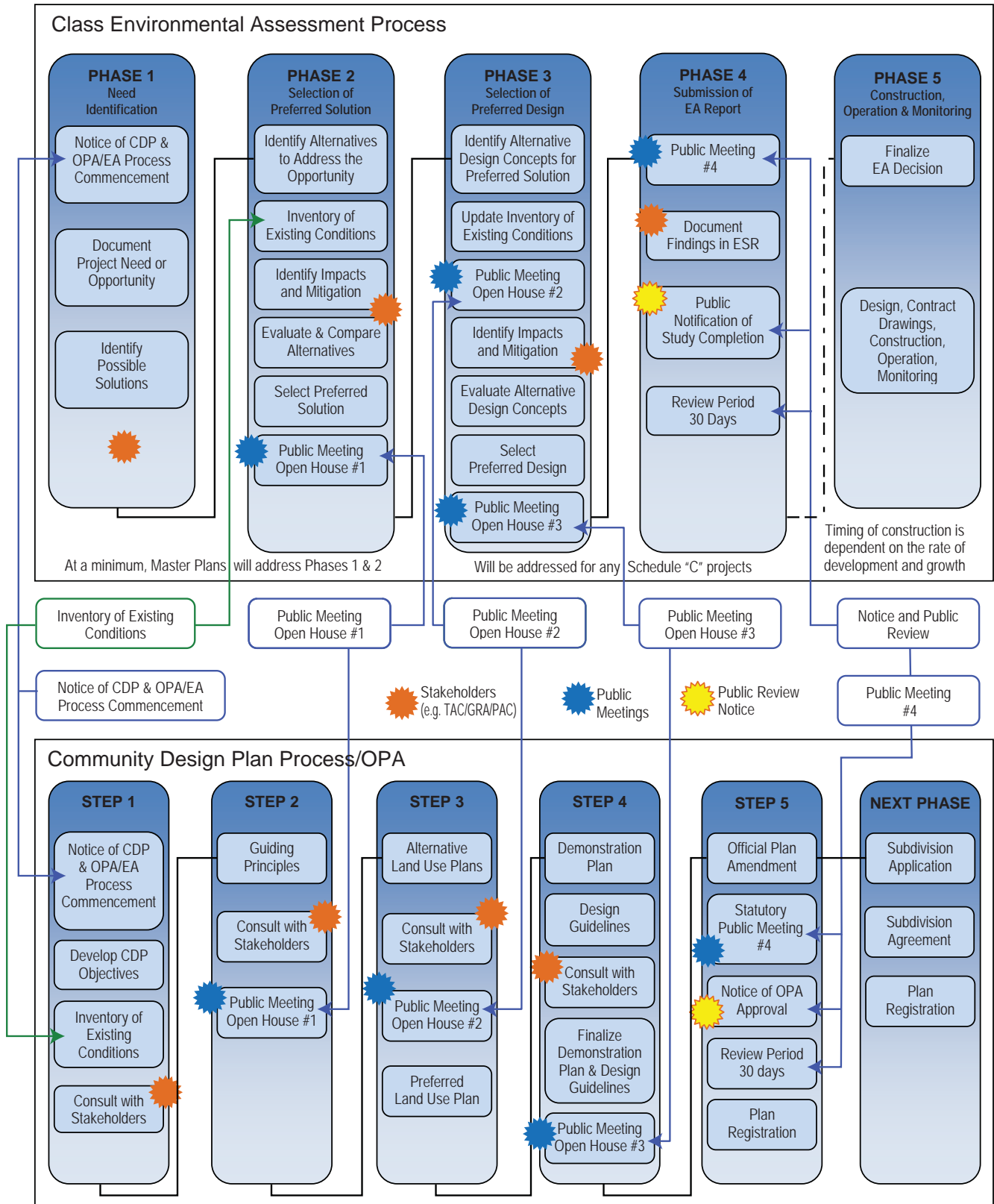
### 1.4.1 PUBLIC MEETINGS AND WORKSHOP

Both the CDP and Environment Assessment processes include an important component of public consultation that gives the public and community stakeholders meaningful opportunities to be involved in shaping the community.

A Consultation Plan was developed as part of the initial Terms of Reference for the Kanata North CDP and three public open houses and a workshop session were held in Kanata between the summer of 2013 and spring of 2016. The first two open houses and workshop led to the development of the preferred options for land use, transportation, infrastructure and environmental management. The third open house presented the preferred land use plan and supporting master plans to the community. A fourth and final public meeting was held in June 2016 to present the CDP, Official Plan Amendment and Master Plans to Planning Committee.

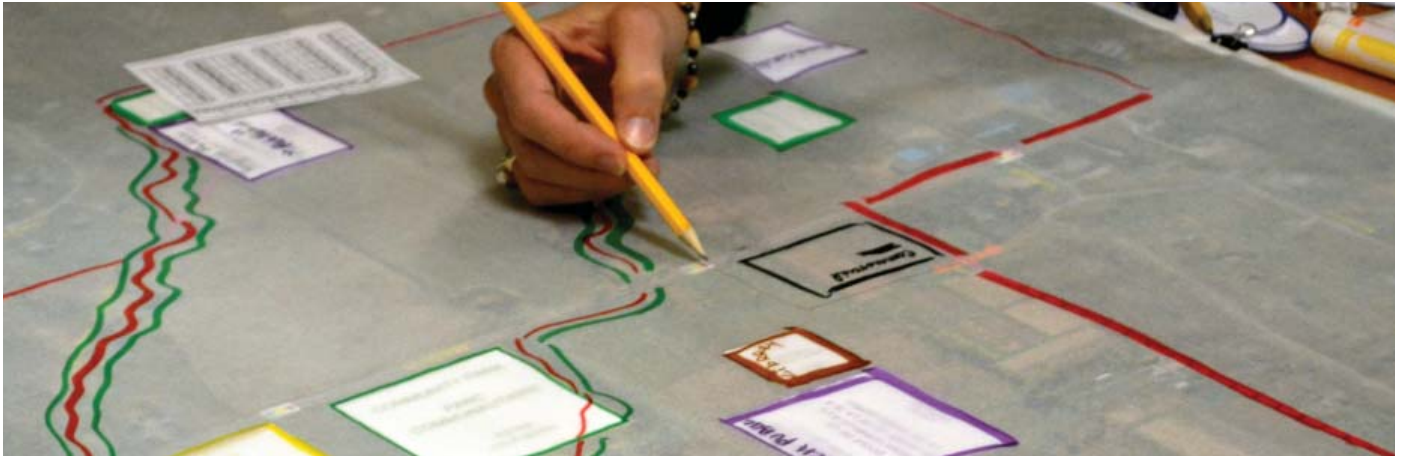
Additional information about the public consultation process is provided in Section 3 of this document and is available in the Kanata North Public Consultation Report (Morrison Hershfield Ltd).

# KANATA NORTH URBAN EXPANSION STUDY AREA CDP Class EA and Planning Act Processes



**FIGURE 3** | Integrated Class EA and CDP Planning Framework





## PROJECT TEAM

The preparation of the CDP included the participation of a number of committees or teams created to enable a collaborative study process encompassing a range of stakeholders.

### CORE PROJECT TEAM (CPT)

The Core Project Team (CPT) was established to lead the CDP process. The CPT was comprised of the Kanata North Land Owners Group, the Consultant Team, and City of Ottawa staff from the Department of Planning and Growth Management. The primary function of the CPT was to review reports, resolve issues and achieve consensus at each step of the CDP work program.

Novatech was retained by the KNLOG as Project Managers to lead the Consulting Team. Novatech was also responsible for Land Use Planning, Urban Design, the Master Servicing Study, Transportation Master Plan, and the Environmental Management Plan. The City of Ottawa provided an internal project manager for coordination and guidance. The CPT had representation from the following organizations:

### CITY OF OTTAWA

- City of Ottawa staff from the Planning and Growth Management Department;
- Kanata North Land Owners Group;
- Metcalfe Realty Company Ltd.;
- Brigil (3223701 Canada Inc.);
- Valecraft (8409706 Canada Inc.)/JG Rivard Ltd.; and
- Junic/Multivesco (7089121 Canada Inc.).

## CONSULTING TEAM

- Land Use Planning and Urban Design – Novatech;
- Integrated Environmental Assessment – Morrison Hershfield;
- Master Servicing Study – Novatech;
- Transportation Master Plan – Novatech;
- Environmental Management Plan – Novatech;
- Geotechnical – Paterson Group Inc.;
- Hydrogeology – Paterson Group Inc.;
- Natural Heritage and Species at Risk (Environment) - Muncaster Environmental Planning Inc., DST, Bowfin Environmental, McKinley Environmental Solutions;
- Fluvial Geomorphology – Matrix Solutions and Parish Geomorphic;
- Archaeology – Paterson Group Inc.; and
- Potable Water Assessment – Stantec.

## TECHNICAL ADVISORY COMMITTEE (TAC)

The Technical Advisory Committee (TAC) was created to provide guidance and review critical deliverables on an as-needed basis. Specifically, TAC Meetings were held to discuss the evolving land use plan and information related to the preparation of the Transportation Master Plan, Master Servicing Study and Environmental Management Plan. In addition, as needed, the members of the TAC were available to provide input throughout the CDP process. Representatives of the following organizations were invited to participate:

- CPT Members (as needed);
- City of Ottawa Planning and Growth Management Department;
- City of Ottawa Traffic Services;
- City of Ottawa Parks and Recreation Branch;
- City of Ottawa Infrastructure Approvals;
- City of Ottawa Transit Services;
- Ottawa Public Health;
- Ottawa Public Library;
- Ottawa Carleton District School Board (OCDSB);
- Conseil des écoles publiques de l'Est de l'Ontario (CEPEO);
- Ottawa Catholic School Board (OCSB);
- Conseil des écoles catholiques du Centre-Est (CECCE); and
- Hydro Ottawa.

Government Review Agencies (GRA) are specific agencies with an interest in land use and development. The GRA were provided with copies of all notices prepared for the project and requested to provide input and comments. Representatives were invited to sit as regular members of the TAC and depending on the agency were involved to provide technical input at various stages from the initial steps to reviewing the details of alternative designs. The level of participation was at the discretion of the agency/representative and some agencies were involved throughout the process while others were consulted primarily to acknowledge they will have a role in future subdivision applications. Individual meetings were held with GRA as required and TAC meeting agendas were distributed in advance to assist in determining if attendance/participation was required. Government Review Agencies consulted included:

- Ontario Ministry of the Environment and Climate Change (Environment);
- Ontario Ministry of Natural Resources and Forestry (Environment);
- Ontario Ministry of Tourism, Culture and Sport (Archaeology);
- Ontario Ministry of Aboriginal Affairs (Heritage);
- Mississippi Valley Conservation Authority (Environment/Floodplain);
- National Capital Commission (Adjacent landowner); and
- Department of Fisheries and Oceans Canada (Fish habitat);

### PUBLIC ADVISORY COMMITTEE (PAC)

The varied interests of the surrounding community (i.e., community associations, local residents, and special interest groups) were represented through a Public Advisory Committee (PAC). The PAC met with members of the project team on a regular basis to:

- Identify any community issues early in the CDP process;
- Review technical analyses;
- Provide direct input to the establishment of the guiding principles of the CDP;
- Review land use alternatives; and
- Provide meaningful feedback on all study activities and work-in-progress.

The composition of the PAC was determined through consultation with the Ward Councillors and City of Ottawa staff and included:

- City Councillors from Wards 4 (Kanata North) and 5 (West Carleton-March)
- Residents and representatives of the March Rural Community Association and the Briarbrook, Brookside and Morgan's Grant Community Association
- A representative from the Kanata Chamber of Commerce







## 2.0 PLANNING CONTEXT

This Section provides a general overview of the policy framework for planning of the Kanata North community and the parameters that formed the development of the Community Design Plan. Substantial background work and analysis was undertaken during the preparation of the Plan, addressing such matters as the existing natural heritage conditions, transportation, hydrogeology, and servicing. This section also provides a brief summary of existing pre-development conditions within the study area.

### 2.1 PROVINCIAL POLICY STATEMENT

The 2014 Provincial Policy Statement (PPS) provides policy direction on land use planning and development matters of provincial interest. Authority of the PPS comes from Section 2 of the Planning Act, and all decisions affecting planning matters within the Province of Ontario are required to “be consistent with” policies of the PPS.

Section 1 of the PPS discusses “Building Strong Healthy Communities” and provides policy direction on matters related to community design, such as

- efficient development and land use patterns;
- a mix of residential, employment, recreational and open space uses;
- healthy, livable and safe communities with an appropriate range of housing types and densities;
- healthy and active communities which provide for walking and cycling; and,
- optimization of existing and planned infrastructure.

Section 2 of the PPS sets out policies relating to the Wise Use and Management of Resources, including

- the protection of significant natural heritage features such as significant wetlands, significant woodlands, fish habitat and habitat of endangered or threatened species;
- the protection of water resources; and
- the use of watershed boundaries as the ecological meaningful scale for integrated and long-term planning.

Section 3 of the PPS addresses “Protecting Public Health and Safety” and includes policies to protect the public from natural or human-made hazards through

- directing development to areas outside of hazardous lands impacted by flooding hazards, erosion hazards and/or dynamic beach hazards.

These policies and priorities have been considered throughout the planning process. Further, the policies of the PPS are also reflected in the City of Ottawa Official Plan which provides additional policy direction on matters of provincial and municipal interest.

## 2.2 CITY OF OTTAWA OFFICIAL PLAN

Authority for commissioning a CDP and direction on required steps and components come from the City of Ottawa Official Plan.

As shown in Figure 4, the Kanata North Urban Expansion Area lands are designated in the City of Ottawa Official Plan as 'Urban Expansion Study Area.' The Urban Expansion Study Area designation is given to areas outside of the urban boundary which have been identified to provide sufficient urban land to support the residential demands of the projected population to 2031. These lands are intended primarily for residential purposes, as well as minor non-residential uses to meet the needs of a neighbourhood and create a complete community.

Before any development applications (i.e. Official Plan amendment, subdivision, and zoning) can be considered within an area designated as Urban Expansion Area, the Sponsoring Landowners must fulfill the requirements of the Official Plan.

Section 3.11 of the Official Plan sets out in detail the requirements and process for bringing lands designated as Urban Expansion Study are into the Urban Area.

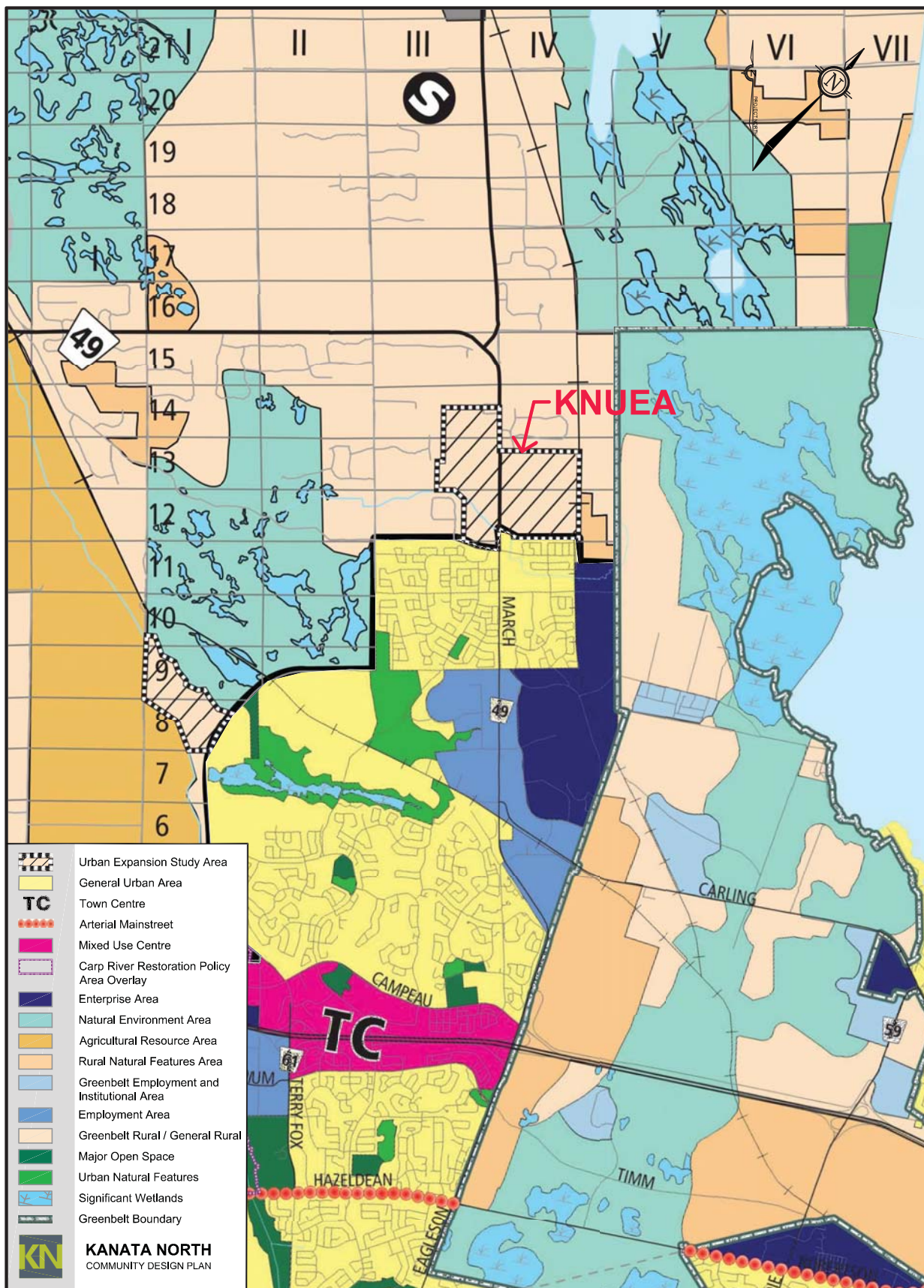
The following list summarizes the general requirements of Section 3.11:

- The lands will be evaluated primarily for urban residential uses;
- An Official Plan amendment will be required to designate the lands General Urban Area and to implement infrastructure, environmental and open space provisions;
- A community design plan or concept plan will be required;
- The preparation of this plan will include a comprehensive consultation process with the community to identify issues and potential solutions;
- A landowners' agreement addressing the location and costs of parks, stormwater ponds, and other facilities will be prepared prior to the review of future development applications;
- Studies will identify the location, timing and cost of roads and transit facilities, water and wastewater services, public utilities, stormwater management facilities, and any other on-site or off-site elements required to service the area;
- An Environmental Management Plan will identify the natural heritage system in accordance with Section 2.4.3 of the Official Plan;
- Recreational pathways will be identified;
- The adequacy of existing or planned community facilities for the area will be evaluated in consultation with School Boards and other providers of community facilities;
- The mix and location of residential dwelling types for the area, as a minimum, will consist of the following:
  - At least 45% single detached but not more than 55 percent single-detached, at least 10% apartment dwellings, and the remainder being multiple dwellings other than apartments;
  - An overall minimum average density of 34 units per net hectare for residential development. Net residential density is defined as being the area of land in exclusively residential use, including lanes and parking areas internal to developments but excluding public streets, rights-of-way and all non-residential uses;
- The plan must show how other policies in the Official Plan will be achieved including, but not limited to, affordable housing and design;
- Requirements of the Environmental Assessment Act must be met, where required;
- A Financial Implementation Plan will be prepared.

Additionally, prior to development each land owner will be required to go through the subdivision and/or site plan approval process and meet the requirements of Section 4, Review of Development Applications, and other relevant policies of the Official Plan.

The CDP process represents an opportunity to shape future development and land use in a manner that fulfills and implements the key goals, objectives and policies of the City of Ottawa Official Plan, including those pertaining to growth management, within a framework that carefully considers the character of existing and planned adjacent communities.





**FIGURE 4**

Excerpt of Official Plan Schedules A and B showing "Urban Expansion Study Area" and surrounding land use designations

## 2.3 BACKGROUND DOCUMENTS

As an initial phase of the CDP process, an assessment of existing conditions was completed using existing data, mapping, and studies. This included information gathered from the following ongoing projects, and existing plans and studies:

- City of Ottawa Greenspace Master Plan (2006);
- City of Ottawa Transportation Master Plan (2013);
- City of Ottawa Infrastructure Master Plan (2013);
- City of Ottawa Cycling Plan (2013);
- City of Ottawa Pedestrian Plan (2013);
- City of Ottawa Park and Pathway Development Manual (2012)
- City of Ottawa Recreation Infrastructure Strategy (2003);
- City of Ottawa Sports Fields Strategy: Strategic Options and Recommendations (2003);
- City of Ottawa Urban Natural Areas Environmental Evaluation Study (2005);
- Regional Municipality of Ottawa Carleton Natural Environmental Systems Strategy (NESS) (1997);
- National Capital Commission Greenbelt Master Plan (2013);
- National Capital Commission Pathway Network for Canada's Capital Region (Update) (2006);
- Kanata North Environmental Management Plan (CH2M Hill) (2001);
- Greater Shirley's Brooks: Constance Creek Environmental Management Plan (Aquafor Beech & Brunton) (2006);
- Shirley's Brook & Watt's Creek Subwatershed Study (Dillon Consulting) (1999);
- Shirley's Brook & Watt's Creek Phase I Stormwater Management Study (Aecom Canada Ltd.) (2011);
- Kanata North Transitway Planning Study & Environmental Assessment (City of Ottawa) (2013);
- Kanata North Transitway Environmental Project Report (Delcan) (2013)
- Environmental Study Report (ESR) for March Road from the Queensway to Dunrobin Road (A.J. Robinson and Associates Inc.) (1994);
- City of Ottawa Urban Design Guidelines (2006-2015);
- City of Ottawa Environmental Impact Statement Guidelines (2015);
- South March Highlands Blanding's Turtle Conservation Needs Assessment (Dillon) (2013); and
- Brookside Subdivision servicing studies (Novatech) (2006 and 2007).





## 2.4 EXISTING CONDITIONS REPORTS

The CDP and Class EA process included the preparation of technical studies and existing conditions reports to provide detailed identification of existing conditions that may impact the spatial form of the community, that describe the character of the community or that set up some enduring components of the community. The Study Area for the various supporting studies extended into the urban and rural areas beyond the limits of the Kanata North Urban Expansion Area (KNU EA) to provide for a more comprehensive analysis of the influences on the CDP.

The following existing conditions reports were prepared and can be referred to for detailed information regarding the conditions within the Study Area:

- Kanata North Urban Expansion Study Area Natural Environment Features, Muncaster Environmental Planning Inc., revised January 2016;
- Kanata North Retail Market Demand and Feasibility Study, Shore-Tanner and Associates, January 2014;
- Kanata North Urban Expansion Study Area Transportation Master Plan Existing Conditions Report (R-2013-114), Novatech, September 2013;
- Kanata North Urban Expansion Study Area Stage 1 Archaeological Assessment (P369-011-2013), Patterson Group, March 2013;
- Kanata North Urban Expansion Study Area Master Servicing Study Municipal Infrastructure Existing Conditions Report, Novatech, November 2013;
- Kanata North Urban Expansion Study Area Environmental Management Plan Existing Conditions Report Storm Drainage, Hydrology, Floodplain Mapping, Novatech, March 2016;
- Kanata North Urban Expansion Potable Water Assessment, Stantec, March 2016;
- Kanata North Urban Expansion Area Hydrogeological Existing Conditions Report (PH2223-3R3), Paterson Group, January 2016;
- Kanata North Urban Expansion Area Consolidated Preliminary Geotechnical Investigation (PG2878-1R), Paterson Group, October 2013;
- Kanata North Urban Expansion Area Fluvial Geomorphic Assessment, Parish Aquatic Services, February 2016;
- Kanata North Urban Expansion Area Headwater Drainage Features Geomorphic Assessment, Parish Aquatic Services, March 2016;
- Kanata North Urban Expansion Area Headwaters Assessment, Bowfin Environmental Consulting and Muncaster Environmental Planning Inc., September 2015;
- Kanata North Urban Expansion Area Water Budget Analysis (R-2015-150), Novatech, February 2016;
- Kanata North Community Design Plan Blanding's Turtle Habitat Compensation Plan (OE-OT-019389), DST Consulting Engineers, June 2015;
- Kanata North Community Design Plan Blanding's Turtle Habitat Compensation Plan - Offsite Compensation Concept (OE-OT-019389), DST Consulting Engineers, November 2015;
- Kanata North Community Design Plan Blanding's Turtle Habitat Compensation Plan - Offsite Compensation Submission #2 (OE-OT-019389), DST Consulting Engineers, January 2016;
- Phase I Environmental Site Assessment Proposed Residential Development March Road, Paterson Group (PE1525-1), July 2008;
- Phase I Environmental Site Assessment Agricultural land 936 March Road, Paterson Group (PE3017-1), June 2013;
- Phase I Environmental Site Assessment Vacant Property 927 March Road, Paterson Group (PE1393-1), March 2008;
- Phase I Environmental Site Assessment 1070 March Road, Levac Robichaud Leclerc, November 2010;
- Phase I Environmental Site Assessment Part of Lot 13, Concession 4 Formerly Township of March, Morey Houle Chevrier Engineering Ltd., June 2000.

Information gathered through the preparation of these reports resulted in the production of existing conditions and constraints plans which were presented to the public at the first two public meetings in 2013, to describe existing conditions and to determine the structuring elements of the community, as discussed in Section 3.2.

The Environmental Management Plan for the CDP (Novatech, 2016) also contains a summary of existing conditions and constraints and can be referred to as an additional resource.

## 2.5 EXISTING LAND USES

Existing uses within and adjacent to the KNUEA, and planned uses such as the Enterprise Area designation for the lands east of the Brookside Community, provide the framework for considering future uses within the KNUEA, both in terms of land use and built-form compatibility. Existing and planned land uses adjacent to the KNUEA are illustrated in Figure 5.

Within the study area existing development is comprised of a mix of rural uses, including cultivated fields, fallow and scrub lands, wooded areas and stream corridors. There are also a number of existing rural residential, commercial and institutional uses located along March Road, including St. Isidore Catholic Elementary School, Catholic Church and Cemetery.

The surrounding area includes a mix of rural uses, residential subdivisions, both within the existing Urban Area to the south of the KNUEA and Rural Estate Lot subdivisions adjacent to the CDP boundary within the Rural Area. These include the communities of Marchbrook Circle, Hillview Estates and Panandrick Estates which abut the CDP boundary to the north and west.

To the east, the CDP boundary is defined by the decommissioned CN railway corridor. The tracks were removed in 2015. East of the KNUEA, between March Valley Road and Shirley's Bay on the Ottawa River, the land is part of the NCC Greenbelt. A portion of this area is owned by the Department of National Defence, which operates the Connaught Range and Primary Training Centre (CRPTC) at Shirley's Bay.

To the south, the KNUEA abuts the former Urban Boundary of the City of Ottawa, along Old Carp Road and north of Maxwell Bridge Road. The existing residential communities of Morgan's Grant, Briarbrook and Brookside, located on either side of March Road within the Urban Boundary, include a mix of single detached, semi-detached and townhouse dwellings. Jack Donohue Public School, South March Public School (Ottawa Carleton District School Board (OCDSB)) and École élémentaire publique Kanata (Le Conseil des écoles publiques de l'Est de l'Ontario (CEPEO)) serve these neighbourhoods. Along March Road there are a number of existing commercial and retail uses including grocery stores, a pharmacy, banks, gas stations and restaurants.

Further to the south are the Kanata North Business Park, and the Kanata neighbourhoods of Beaverbrook and Kanata Lakes. The Kanata Town Centre is approximately 7 kilometres south of the KNUEA at Terry Fox Drive and Highway 417.

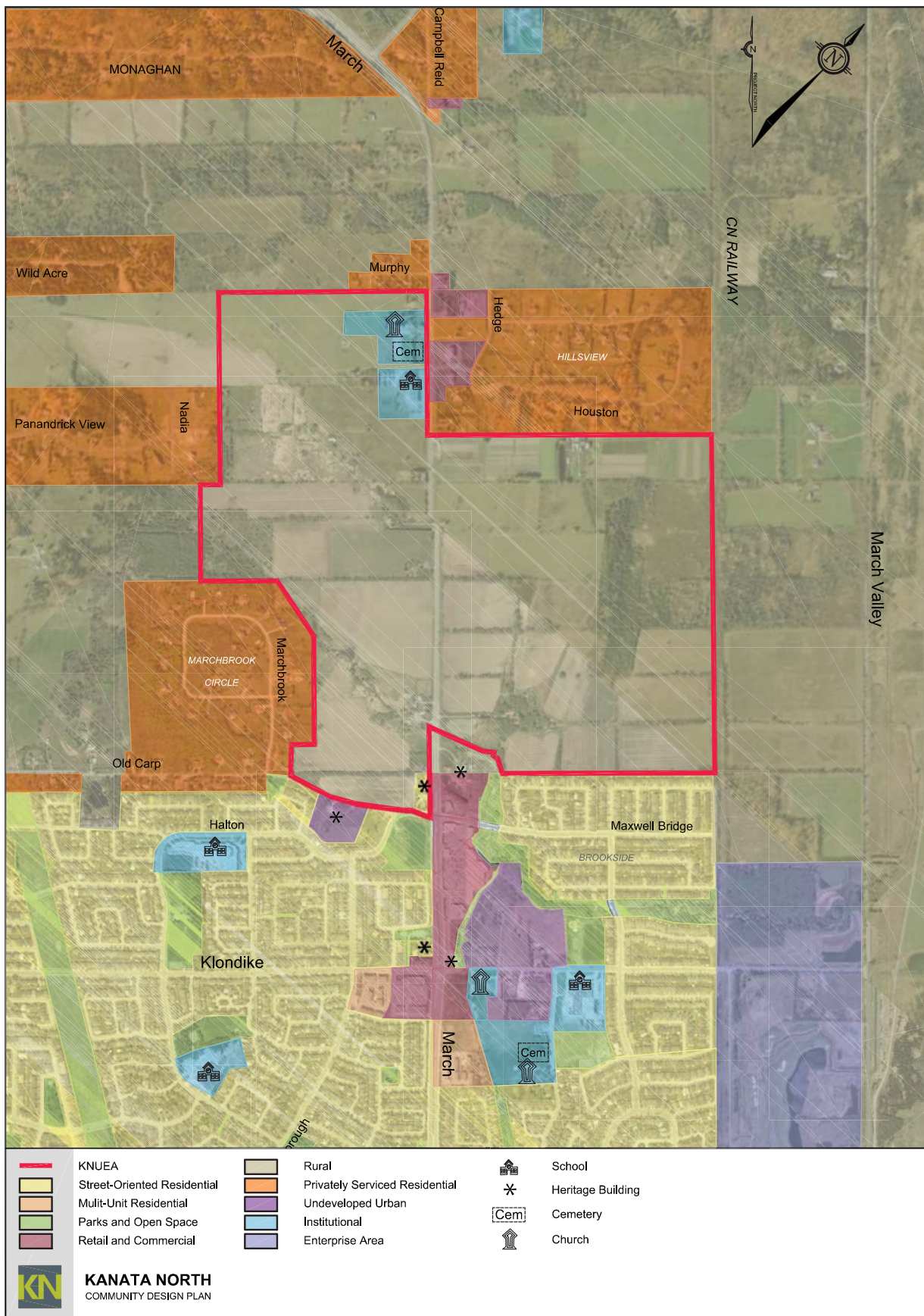
## 2.6 ARCHAEOLOGY AND HERITAGE

A Phase 1 Archeological Assessment was prepared by Patterson Group in March 2013 and concluded that the subject property has archaeological potential based on its early settlement (1828), and the distance to historic roads and topographic features. The report recommended a Phase 2 Archaeological Assessment for the entire study area, which will be initiated through the subdivision approval process by individual applicants prior to development.

Five buildings located within or in proximity to the KNUEA were identified as having heritage significance, as identified on Figure 5. Some of the heritage buildings identified are designated under Part IV of the Ontario Heritage Act (OHA), and are subject to the provisions of the Act (i.e. a Heritage Permit is required before any changes can be made to the building). Other buildings are listed on the City's Heritage Reference List as being historically significant, but are not designated under Part IV of the Ontario Heritage Act.

The former schoolhouse at 895 March Road, on the City's Heritage Reference List, is the only heritage building located within the KNUEA. Currently a private business owns and operates out of this building.





**FIGURE 5** | Existing Land Use Conditions

## 2.7 THE EXISTING NATURAL ENVIRONMENT

The KNUEA is dominated by existing and past agricultural lands, including a mixture of cultivated fields, pasture and specialty crops. The topography is relatively flat except for a significant ridge (approximately 9m high) that runs in a north-south direction through the southeast and northeast quadrants of the study area. The principal natural features characterising the area are Shirley's Brook and its tributaries which originate west of the study area and flow through the site toward the Ottawa River.

### 2.7.1 EXISTING WATERCOURSES AND AQUATIC FEATURES

Shirley's Brook has a total watershed area of approximately 3,043 hectares upstream of Shirley's Bay. Four tributaries either flow through the KNUEA or collect drainage from part of the KNUEA, eventually outletting to the Ottawa River at Shirley's Bay. Watercourses and drainage channels within the KNUEA are identified on Figure 6.

#### SHIRLEY'S BROOK MAIN BRANCH

The Main Branch is located to the south of the KNUEA and flows east through the Brookside Subdivision, then turns north, flowing parallel to March Valley Road before turning east again and entering the Ottawa River at Shirley's Bay.

Runoff from approximately 90 hectares of the KNUEA is conveyed to the Main Branch of Shirley's Brook through drainage ditches that cross the existing rail line and outlet to the Main Branch of Shirley's Brook at March Valley Road.

#### SHIRLEY'S BROOK TRIBUTARY 1

The Tributary 1 watercourse is located outside of the KNUEA. Tributary 1 flows east through the rear yards of lots on Houston Crescent before entering the Main Branch of Shirley's Brook at March Valley Road. Under existing conditions, approximately 18 hectares of the KNUEA drains north toward Tributary 1.

#### SHIRLEY'S BROOK NORTHWEST BRANCH TRIBUTARY 2

Tributary 2 flows east through the northwest, northeast and southeast quadrants of the KNUEA. It has a drainage area of approximately 379 hectares upstream of the KNUEA. Tributary 2 serves as the drainage outlet for approximately 58 hectares of the KNUEA west of March Road, and approximately 30 hectares east of March Road.

#### SHIRLEY'S BROOK NORTHWEST BRANCH TRIBUTARY 3

Tributary 3 flows east through the southwest quadrant of the KNUEA, towards March Road. This watercourse has a drainage area of approximately 235 hectares upstream of the CDP lands and serves as the drainage outlet for approximately 22 hectares of the CDP lands west of March Road.

Tributary 3 crosses March Road and merges with Tributary 2 to form the northwest branch of Shirley's Brook just before entering the Main Branch upstream of the Maxwell Bridge Road culvert crossing.

#### SHIRLEY'S BROOK NORTHWEST BRANCH TRIBUTARY 4

Tributary 4 of Shirley's Brook consists of a ditch (Channel G) that starts at the boundary of the KNUEA at Marchbrook circle, in the southwest quadrant of the site. Tributary 4 flows east, before crossing March Road to join Tributary 2 of Shirley's Brook just downstream of where Tributaries 2 and 3 come to a confluence.

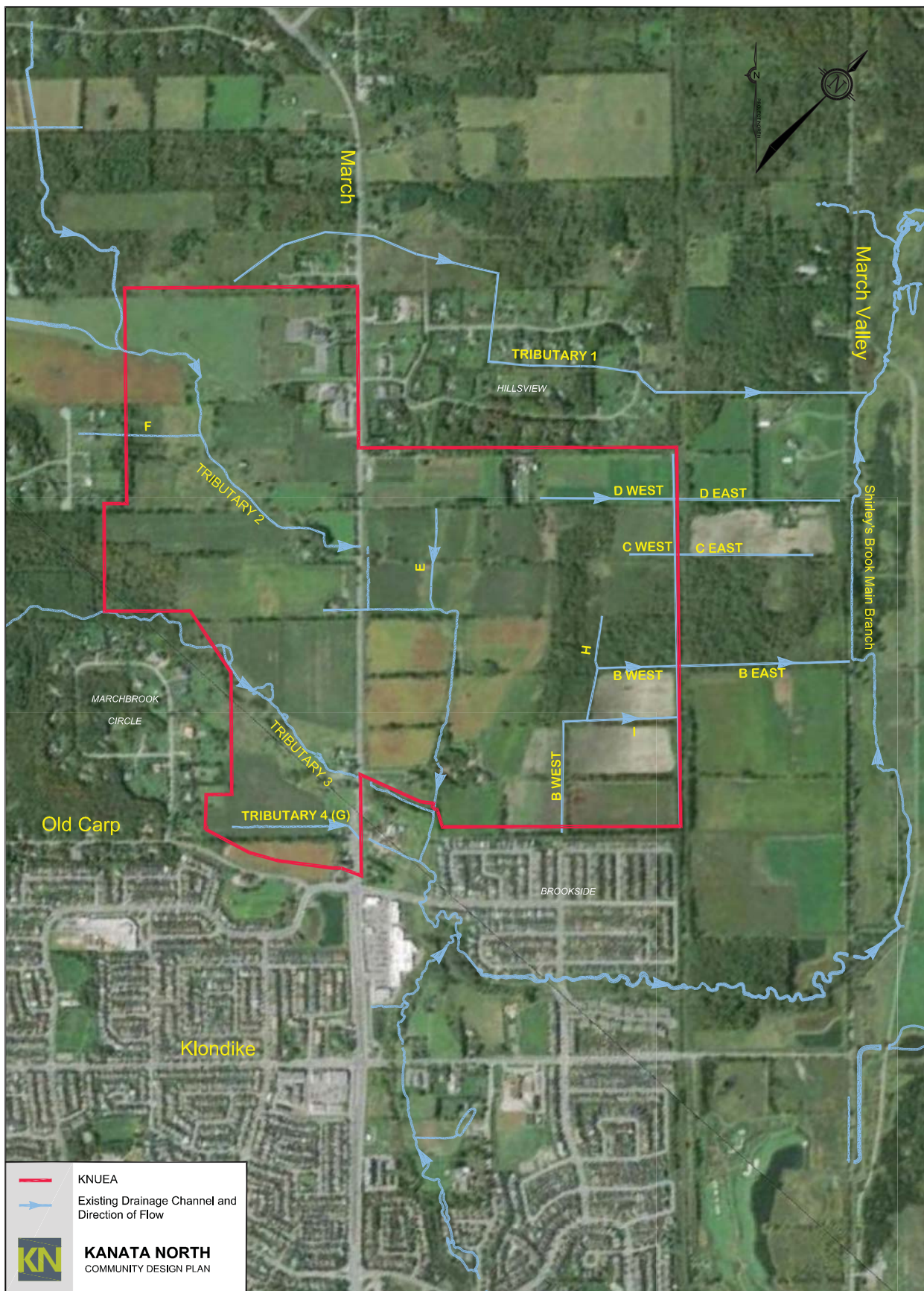
This watercourse has a drainage area of approximately 17 hectares upstream of the KNUEA and serves as the drainage outlet for approximately 11 hectares of the CDP lands west of March Road.

#### MINOR DRAINAGE CHANNELS

In addition to the major branches of Shirley's Brook, there are a number of smaller headwater drainage features throughout the KNUEA, identified as channels B through H on Figure 6. Headwater drainage channels can provide a variety of ecological and hydrologic functions in a watershed including potentially providing important sources of food, sediment, water, nutrients and organic matter for downstream reaches.

The headwater drainage features in the vicinity of the KNUEA were assessed in accordance with the Headwater Drainage Features Guidelines (CVC, January 2014). Recommendations for conservation or mitigation were developed for each headwater channel and are provided in the EMP.





**FIGURE 6** | Naming Conventions for Water Channels

## 2.7.2 FISH HABITAT

The extent of fish habitat within the study area, along with information on existing fish communities was assessed during multiple field visits in the summer of 2009, the spring and summer of 2013, and in 2014 and 2015. Both Tributary 2 and Tributary 3 of Shirley's Brook were assessed, along with various other, agricultural channels and ditches on both sides of March Road. Based on the fish sampling and fish habitat assessments, Tributary 2 and Tributary 3 were found to support fish habitat.

A total of eight species were captured during the sampling periods. All of the fish species captured are commonly found in cool and warm water fish habitats in eastern Ontario.

## 2.7.3 TERRESTRIAL FEATURES AND HABITAT

Several wooded areas and hedgerows can be found throughout the site, especially on the east side of March Road and beyond the CN rail line. Existing terrestrial features and habitat are shown on Figure 7. These areas are populated by a variety of trees, and provide habitat to several species. Wildlife and vegetation surveys were completed by Muncaster Environmental Planning between December 2012 and August 2015. Butternut health assessments were completed during the summer of 2013.

Three larger wooded areas, identified as S12 (Southwest Wooded Area), S20, and S23 in the Shirley's Brook and Watt's Creek Subwatershed Study (Dillon 1999), are found within or adjacent to the study area.



## SOUTHWEST WOODED AREA AND WOODLOT S12

Woodlot S12 is located west of the Marchbrook Circle subdivision outside of the KNUEA. It has been evaluated as a significant woodland.

A small portion of a contiguous wooded area, referred to as the Southwest Wooded Area, extends into the northwest quadrant of the KNUEA. This small mixed forest is dominated by white pines, with smaller green ash, white elm, and white cedar also present. This area has been historically disturbed by agriculture and until relatively recently had only scattered tree cover.

A small portion of the southwest wooded area that extends into the KNUEA along the western edge of the northwest quadrant, and which appears to be contiguous with the larger woodlot S12, will be retained as part of the natural heritage system. The remainder of the southwest wooded area, outside of the creek corridor, was not recommended for retention as part of the natural heritage system.

## WOODLOT S20

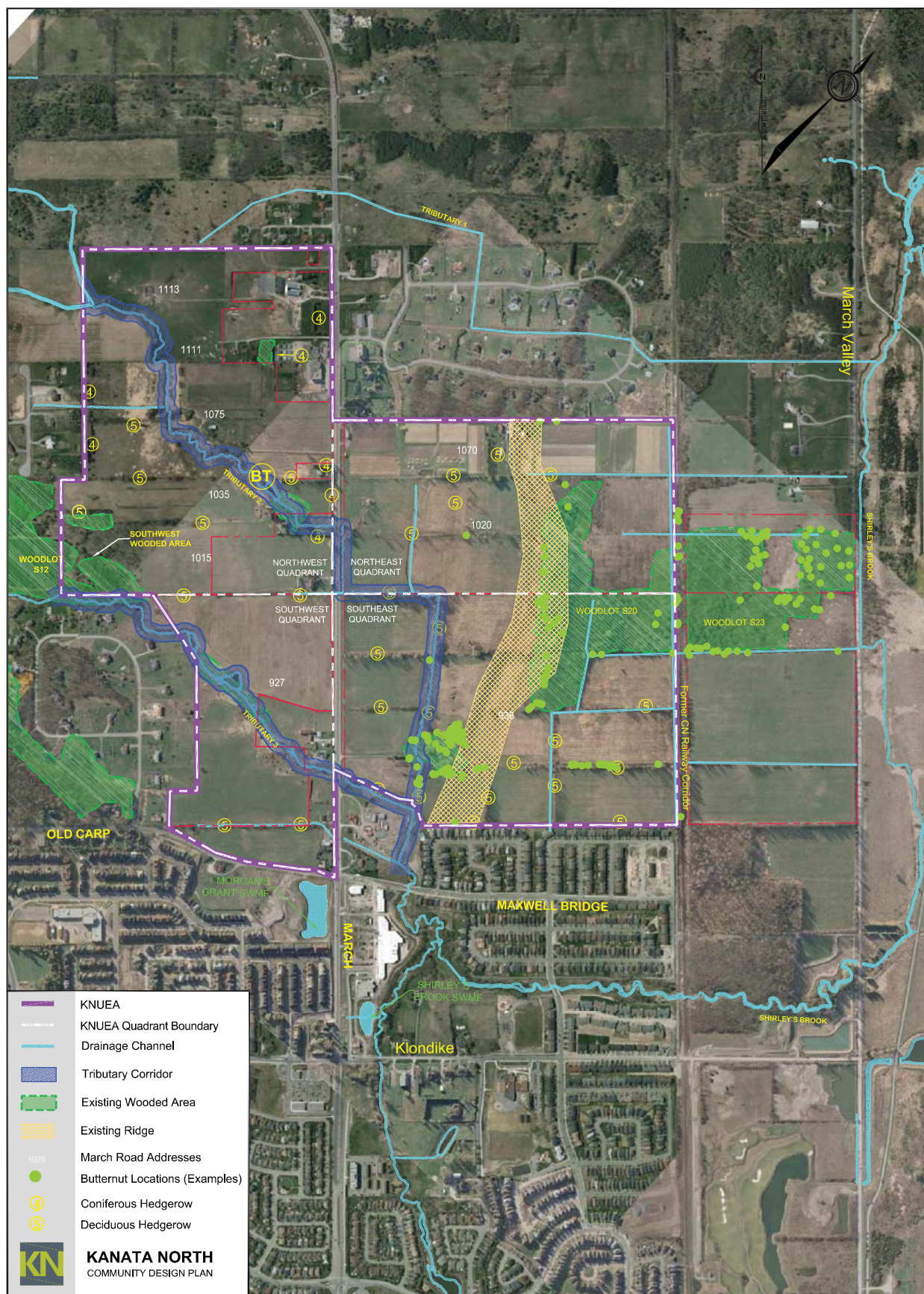
Woodlot S20 is an area of forest habitat of approximately 8 hectares in the eastern half of the study area. The woodlot is dominated by young white cedar trees, with white elm and trembling aspen common along portions of the periphery. The north portion of the wooded area contains older trees including several mature, healthy white cedar trees and trembling aspens.

Woodlot S20 was designated in the Shirley's Brook and Watt's Creek Subwatershed Study (Dillon 1999) as a "Natural Area Not Protected from Development." It is not considered to be a significant woodland as it does not meet the criteria established by the City and the Ministry of Natural Resources and Forestry set out in the Natural Heritage Reference Manual (2010). The woodlot scored low for overall size, biodiversity, and hydrological features and was also noted to be severely fragmented with no interior forest or linkage potential.

## WOODLOT S23

Woodlot S23 is a wooded area covering approximately 11 ha located east of the KNUEA, between the CN Rail corridor and March Valley Road. This woodlot is offsite, but located on land owned by two of the sponsoring landowners. The woodland is somewhat fragmented, with successional fallow fields and meadows located in the clearings along its north and south perimeters.





**FIGURE 7** | Existing Terrestrial Features and Habitat

The forests within Woodlot S23 are generally dominated by deciduous trees, with some scattered coniferous trees. Green ash is dominant in both the northeast and north-central deciduous forests, with ash and poplar trees being dominant in the northwest forest. Many large pine and bur oak were also found within Woodlot S23. Most of the trees in the woodlot are in good condition, with the exception of some of the butternuts having poor leaf-out and canker, and a few of the ash having trunk decay.

Evaluation of woodlot 23 concluded that it is likely a significant woodland due to the older tree structure present, some interior forest habitat and presence of a drainage feature; however, the functions of the northeast forest component of Woodlot S23 are reduced due to the dominance of ash and poplar in many areas, disturbed and very thick understorey, ground flora dominated by non-native and/or invasive flora, the lack of forest interior potential, road noise and open canopy in many areas.

#### 2.7.4 SPECIES AT RISK

Correspondence with the Ministry of Natural Resources identified several potential species at risk in the general area including butternut trees, Blanding's Turtle, bobolink, barn swallows, whip-poor-will, and eastern meadowlark. Several surveys were completed throughout the study area to determine the presence of habitat for these species within the KNUEA.

##### BREEDING BIRD SURVEYS

Breeding bird surveys were completed by Muncaster Environmental Planning during the summer of 2013. A total of 49 species were observed within the study area. A detailed list of the species observed is included in the Kanata North Environmental Management Plan.

Three Species at Risk, the barn swallow, bobolink, and eastern meadowlark were observed flying around or over the site. Most of the agricultural fields were ploughed in 2013 and do not represent potential habitat for grassland species such as bobolink and eastern meadowlark.

Barn Swallow nests were found in several derelict farming structures within the western part of the KNUEA lands. Compensation habitat in the form of artificial Barn Swallow nesting structures have been built northwest of the KNUEA lands following the Ontario Endangered Species Act regulatory guidelines.

##### BLANDING'S TURTLE

A population of Blanding's turtle inhabits the South March Highlands Conservation Forest, which is located southwest of the CDP Lands. This turtle population is part of a larger population in the surrounding areas of northwest Ottawa. A single Blanding's Turtle was observed within the KNUEA in a small farm pond west of March Road in the spring of 2014. It is understood that the turtles may use Shirley's Brook and its tributaries for passage between habitats.

A study of the Blanding's turtle population (South March Highlands Blanding's Turtle Conservation Needs Assessment) was completed by Dillon Consulting Limited in January, 2013. The assessment determined that the Blanding's turtle population in this area is considered to be at a high risk of decline, and faces eventual extirpation if specific actions to limit turtle mortality are not incorporated into proposed development in the area.

Compensation for potential impacts on Blanding's Turtle habitat is summarized in Section 5.3 and discussed in detail in the EMP.

##### BUTTERNUT TREES

Assessments of each of the identified woodlots within and adjacent to the KNUEA were completed by Muncaster Environmental Planning Inc. Butternut trees are common within some of the wooded areas of the KNUEA and surrounding area. Many are located within woodlot S23, the wooded area between the CN Rail Line and March Valley Road. Some of the trees are relatively healthy, while others have been significantly impacted by the butternut canker.

Butternut health assessments will be carried out on trees that may be affected by development. Trees anticipated to be lost to development will be subject to normal mitigation practices as set out by the Ministry of Natural Resources and Forestry.



## 2.8 EXISTING TRANSPORTATION CONDITIONS

March Road runs through the centre of the KNUEA and will continue to be the spine of the transportation network for the new community providing the principal north-south connection through Kanata to Highway 417. March Road also connects to other important east-west routes including Terry Fox Drive and Carling Avenue.

March Valley Road and Old Second Line Road provide secondary north-south connections east and west of the KNUEA, respectively, however no new vehicular connections to these roads are proposed. Terry Fox Drive and Huntmar Drive further west provide secondary routes to the 417.

### TRANSIT

The Kanata communities south of the KNUEA are served by daily local and express bus routes. Figure 8 provides an overview of the 2013 road network and transit routes.

### PEDESTRIAN AND CYCLING FACILITIES

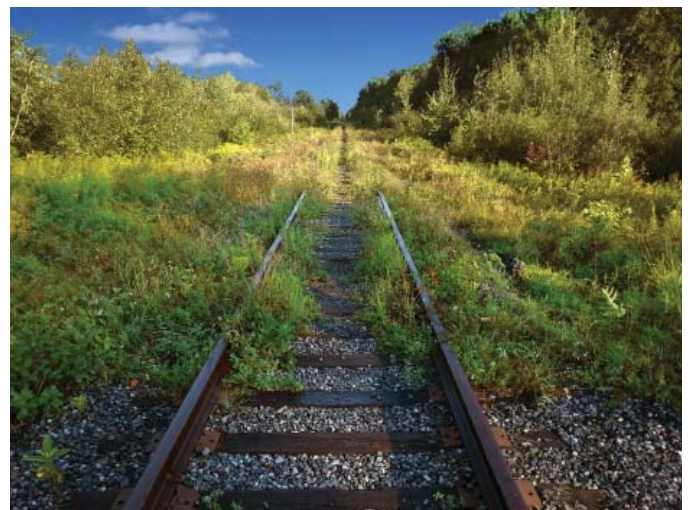
Due to the general rural nature of the existing road network in the vicinity of the proposed community, there are relatively few facilities for pedestrians or cyclists. South of the KNUEA, however, the Morgan's Grant, Brookside and Briarbrook communities contain a network of cycling and pedestrian pathways and linkages. Existing cycling and pedestrian facilities are illustrated by Figures 9 and 10.

### 2013 CITY OF OTTAWA TRANSPORTATION MASTER PLAN

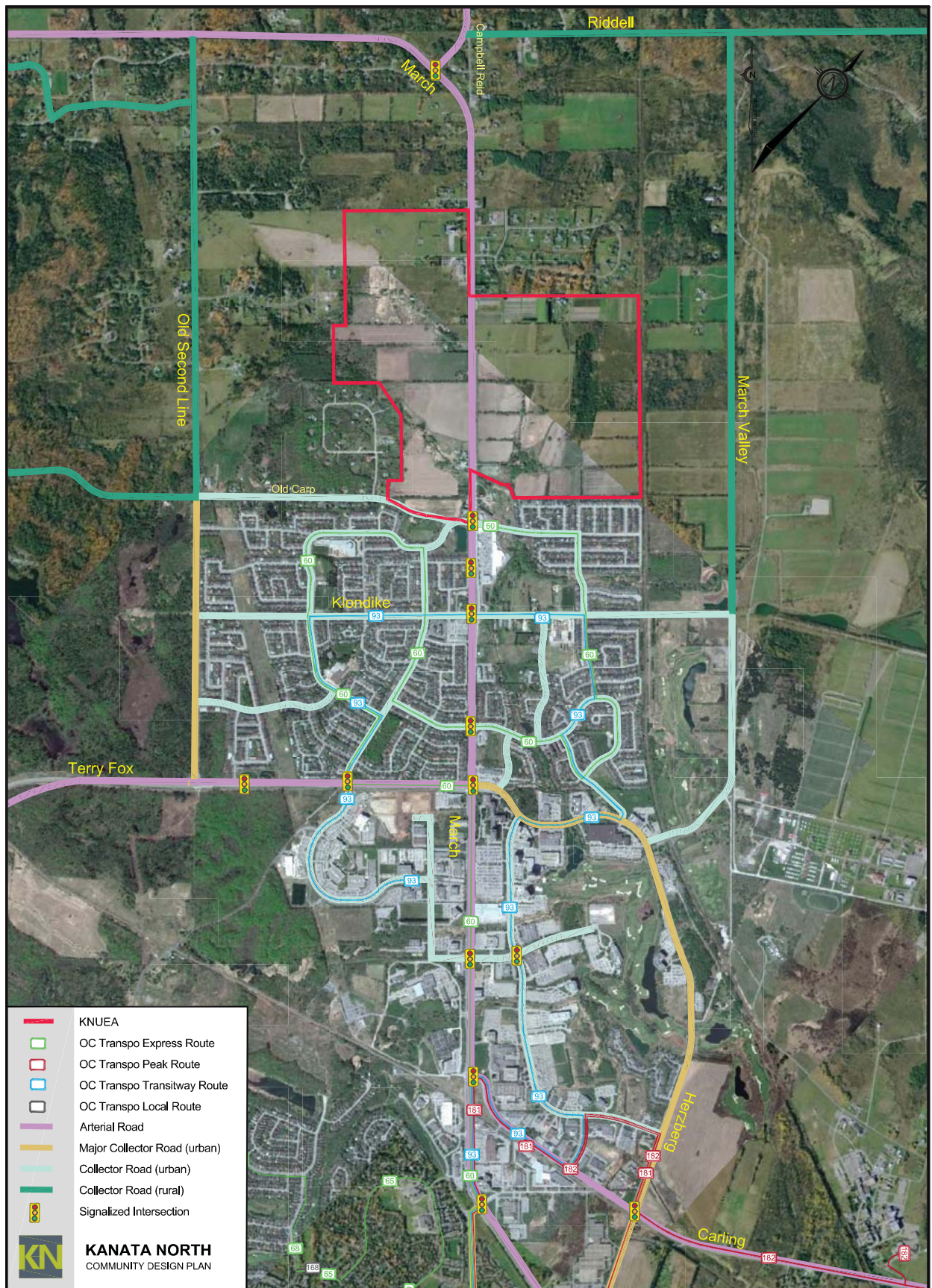
The 2013 City of Ottawa Transportation Master Plan identifies a number of arterial upgrades and rapid transit corridor extensions to service anticipated urban growth in the Kanata North Urban Expansion Area. These include a new Bus Rapid Transit (BRT) corridor in the median of March Road, and widening of March Road, from two lanes to four lanes from Old Carp Road to Dunrobin Road to provide additional vehicular capacity for growth areas in north Kanata.

### FORMER CN RAIL CORRIDOR

The eastern boundary of the KNUEA is delineated by the decommissioned CN Rail Corridor which was formerly part of the Beachburg Subdivision Line running from Ottawa, through Pembroke, Ontario. CN began removing the rail south of Pembroke in 2013, and lifted the tracks through the KNUEA in the spring of 2015.

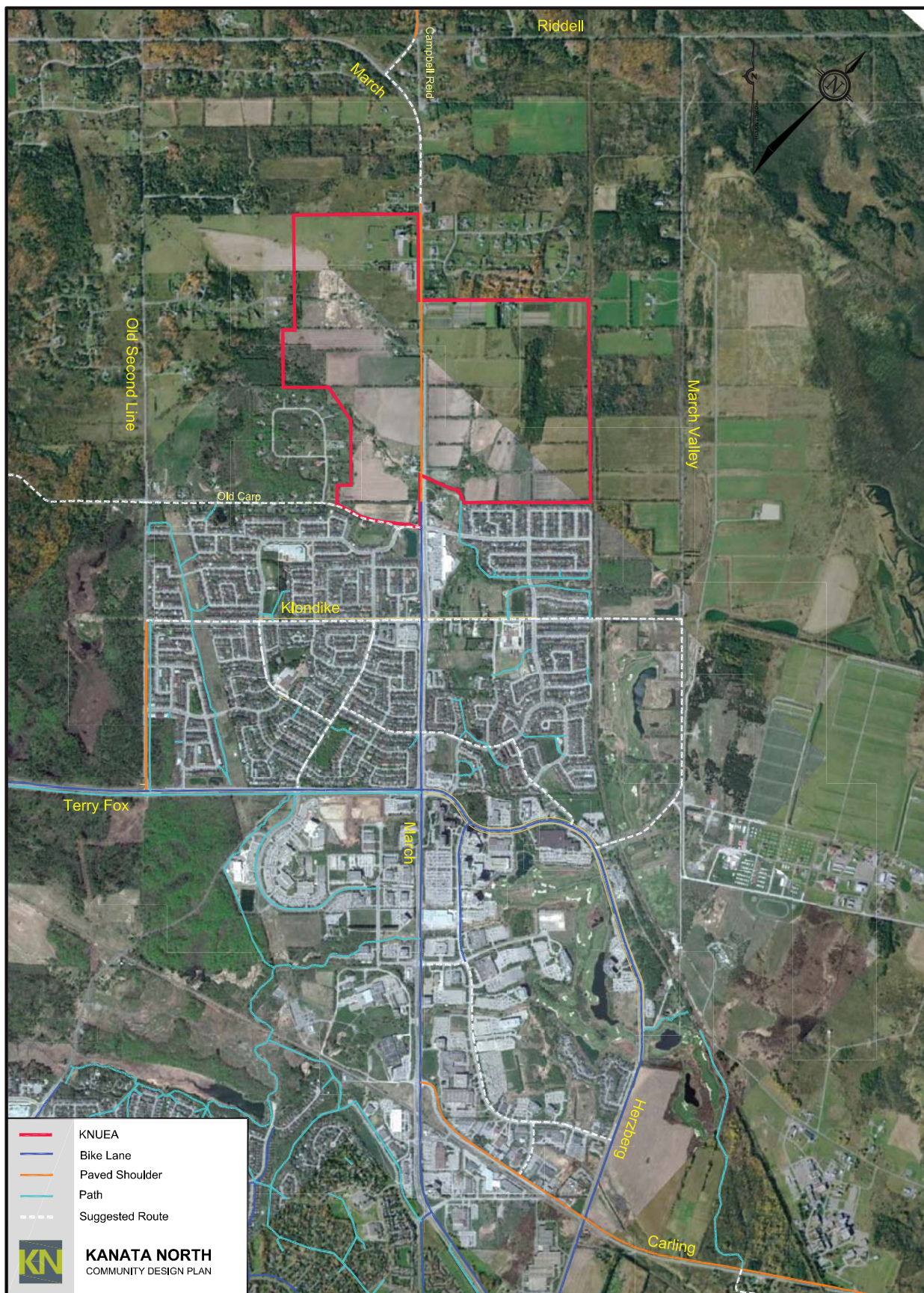






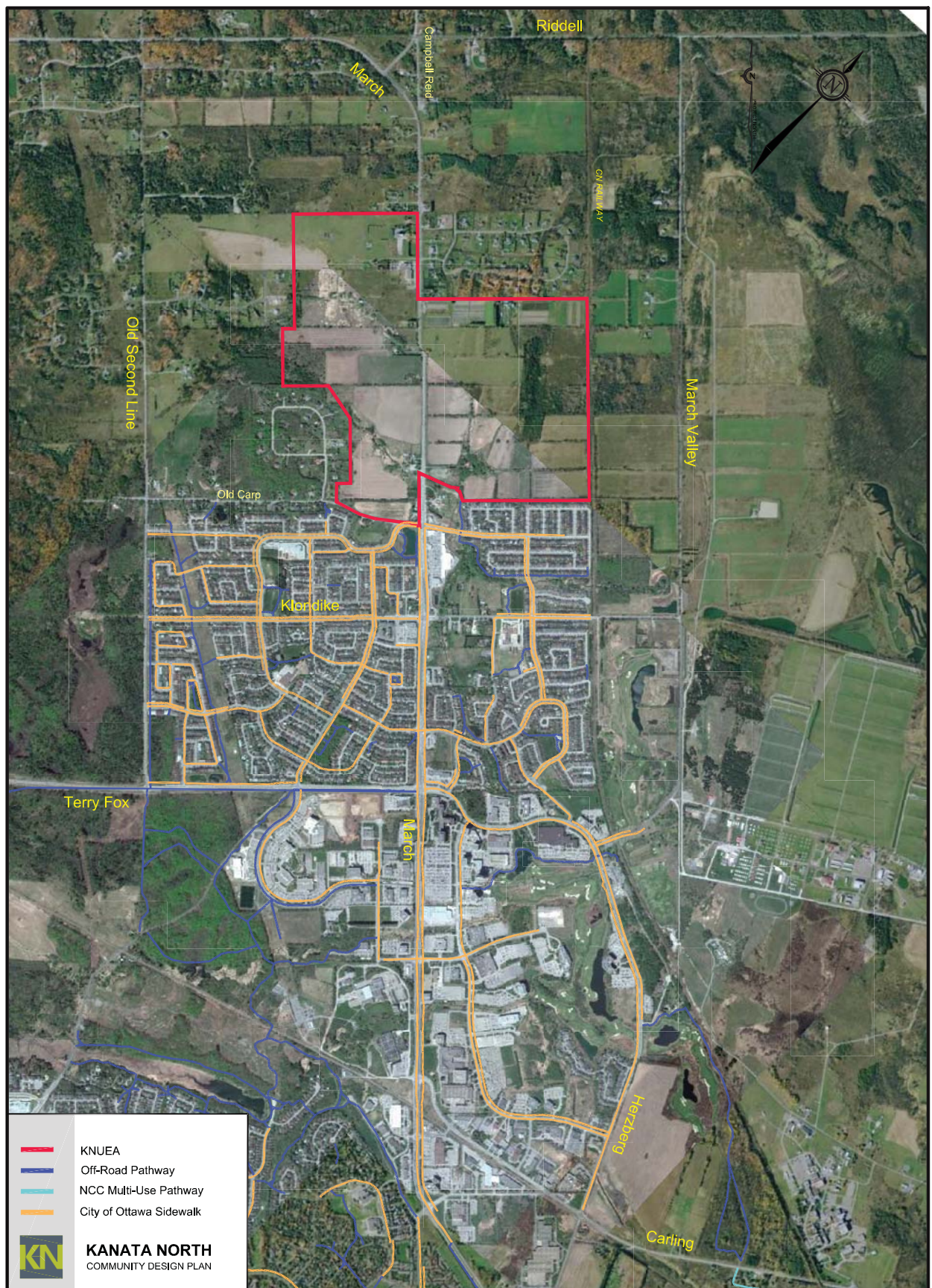
**FIGURE 8** | 2013 Existing Road and Transit Conditions





**FIGURE 9** | Existing Cycling Conditions





**FIGURE 10** | Existing Pedestrian Conditions

## 2.9 EXISTING INFRASTRUCTURE SERVICING

### WATER SUPPLY

The Britannia Filtration Plant and Pumping Station services this community from a large diameter feedermain routed through Bells Corners. A second feedermain was recently constructed through Crystal Beach and the NCC Greenbelt to improve system reliability and capacity. Assisted by the Carlington Heights Pumping Station, these two pumping facilities supply water to the West Urban Community.

A north-south feedermain generally follows the Teron Road / March Road corridor towards North Kanata. Between Shirley's Brook Drive and Klondike Road, the water main is reduced to a 400mm pipe and continues north to Old Carp Road.

### SANITARY SERVICING

There are several trunk sanitary sewers and pump stations servicing the West Urban Community including the East March Trunk, Marchwood Trunk, Kanata Lakes Trunk, North Kanata Trunk, March Pump Station, and Briar Ridge Pump Station. These all drain to the Watt's Creek Relief Sewer which provides service to the entire West Urban Community and empties into the Acres Road Pump Station.

The existing watermain and sanitary trunk sewer network is provided as Figure 11 for reference.

## 2.10 EXISTING COMMUNITY SERVICES

### 2.10.1 PARKS AND RECREATION

Existing major recreation facilities in proximity to the Study Area include:

- March Central Community Centre on Riddell Drive at Dunrobin Road;
- Old Town Hall Community Centre on March Road at Klondike Road;
- Richcraft Recreation Complex on Innovation Drive;
- John G Mlacak Centre on Campeau Drive; and
- South March Highlands Conservation Forest.

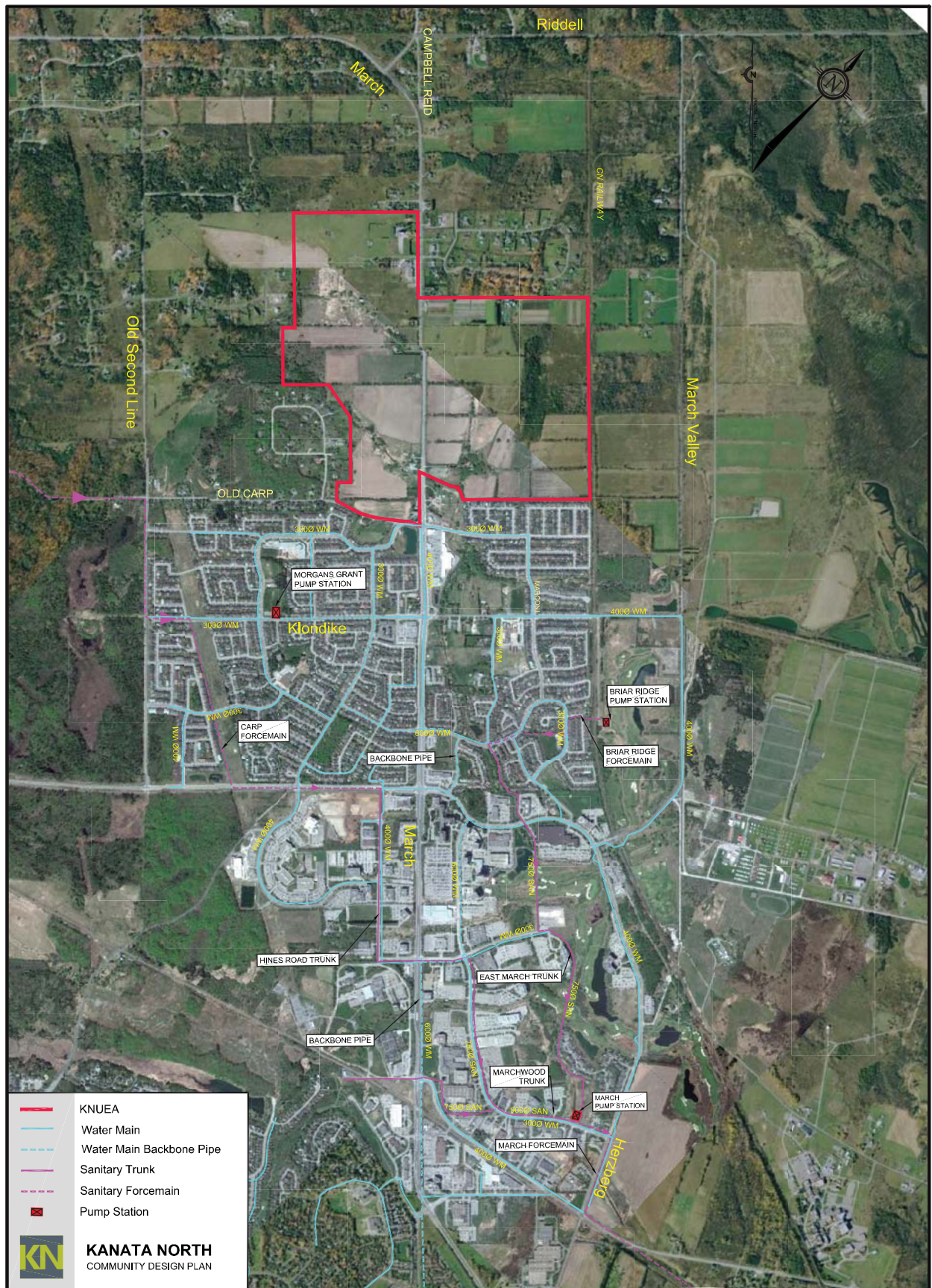
### 2.10.2 EMERGENCY SERVICES

Existing protective services in the vicinity of the study area include:

- Fire Station 45 – March (EMS) (1030 Riddell Drive); and
- Fire Station 42 - Beaverbrook (1021 Teron Road).

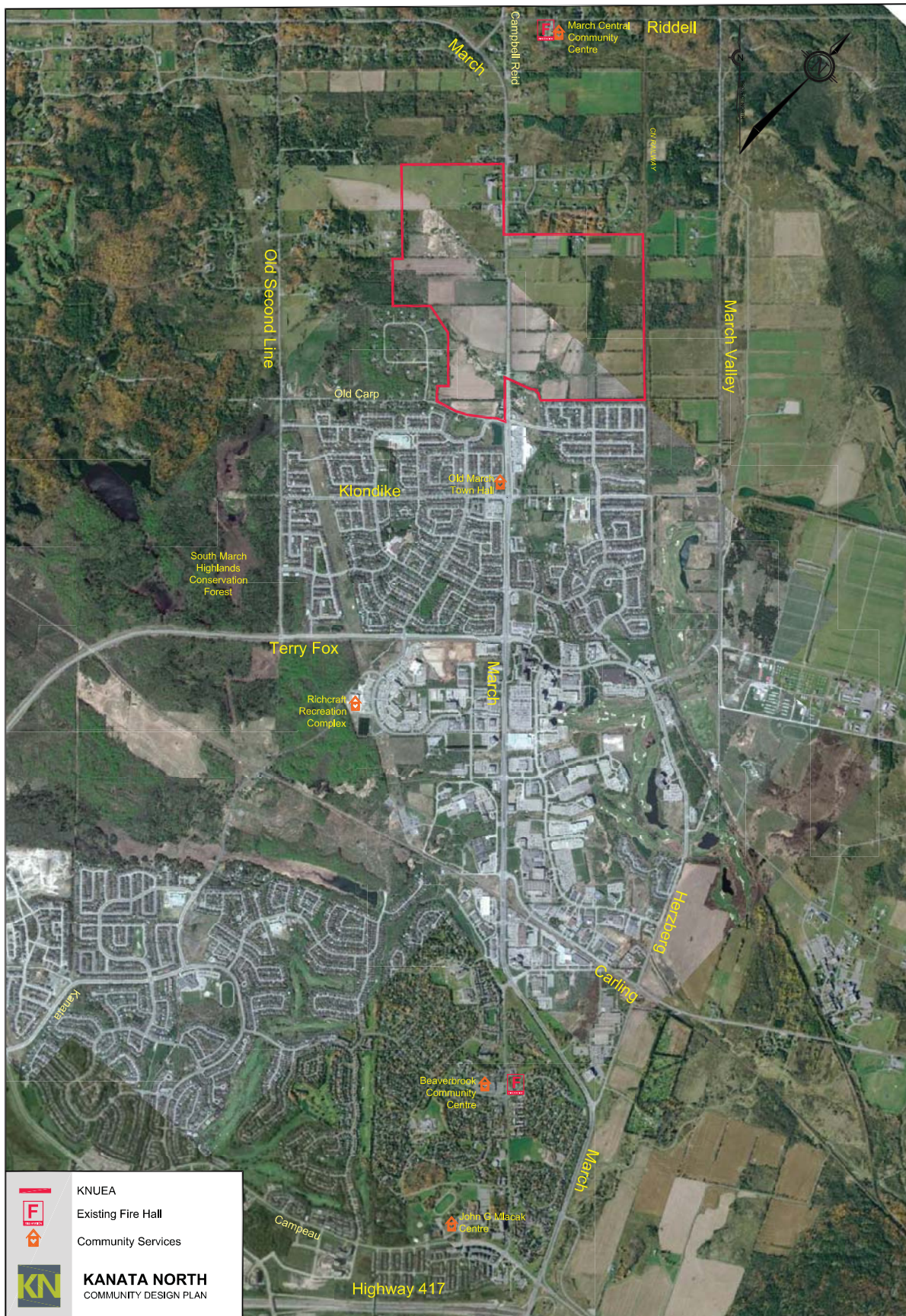
Locations of existing community facilities are shown in Figure 12.





**FIGURE 11** | Existing Servicing





**FIGURE 12** | Existing Community Services





## 3.0 PLAN DEVELOPMENT

This section describes the process for the development of the Land Use Plan for the KNUEA, based on existing conditions, the formulation of guiding principles, feedback from TAC meetings, and the public consultation process.

### 3.1 PUBLIC CONSULTATION PROCESS

As part of the integrated OPA and EA process, a series of public meetings and a workshop session were held between June 2013 and June 2016 at key points in the process. As briefly discussed in Section 1.4, the public consultation process was an essential component of the CDP development. These meetings were used both to disseminate information and to gather feedback from the community and public-at-large as the plan progressed.

#### OPEN HOUSE NO. 1, JUNE 26, 2013

Approximately 90 members of the public attended the first open house which provided the opportunity to meet with City Staff and the consulting team working on behalf of the sponsoring landowners and to review the CDP process, existing conditions and background information. Attendees were provided with comment sheets and asked to review and rank guiding principles for the CDP. The guiding principles



that came out of this process were used to establish the qualitative principles for both the development of preliminary concept plans and later the evaluation of these alternatives to arrive at the preferred Land Use Plan.

#### PUBLIC WORKSHOP, OCTOBER 24, 2013

The second community session was a facilitated workshop where participants were encouraged to develop concept plans for the KNUEA. Approximately 80 citizens participated in the workshop, held in the community hall of Saint Isidore Church. Staff from the City of Ottawa, Ottawa Public Health, and Novatech acted as table facilitators and technical advisors.

Participants were divided into tables of four to seven and provided with a toolkit of items including an airphoto base plan of the study area, shown as Figure 13 in Section 3.2.1, tracing paper, markers and pencils.



A menu of facilities required in the new community was provided to participants, as shown in Figure 14. These facilities included stormwater management ponds, schools, a public library, parks and recreational facilities, a park-and-ride facility, retail/commercial space and the location of lower and higher density housing. Cut-outs of the facilities (to-scale) were included in each toolkit. Additionally, each table was provided with a blank booklet and participants were encouraged to write or draw their ideas to give more detail to their concepts.

Over the allotted two hours, participants collaborated to produce 13 different concepts and booklets. These were recorded and compiled by the project team. In order to assess and identify commonalities between different tables' plans, an assessment chart was created to analyse the location of community components and their relationship to existing uses or to other required facilities.

The format of the public workshop was also independently replicated by students at Jack Donohue Public School and South March Public School in early February 2014. An additional seventeen concept plans and booklets prepared by the students were provided to the Project Team for consideration.

The analysis contributed to the development of the four concept plan options presented for discussion at Open House No. 2.



OPEN HOUSE NO. 2, FEBRUARY 26, 2014

Following the workshop, a second open house was held meeting the requirements of the integrated Planning Act and Environmental Assessment Act process for the Kanata North Community Design Plan (CDP). Four alternative land use options, developed based on analysis of the concepts produced at the public workshop, were presented and discussed.

Alternative options for water and sanitary servicing and stormwater management were also shared. Comment sheets were provided for participants to rank preferred aspects of the concept plan alternatives, looking at individual components of each plan rather than the four options as a whole.



OPEN HOUSE NO. 3, MARCH 30, 2016

A third public meeting was held to present the Land Use Plan and draft Master Plans to the Community. Close to 200 members of the public joined City Staff and representatives from the Project Team at the community hall of Saint Isidore Church. Panels were set up around the perimeter of the hall to give attendees an opportunity to review the preferred solutions and informally ask questions. A presentation summarizing the process to date and describing the evolution of the plan was followed by a question and answer session. Comment sheets were provided to collect feedback that were considered in preparing the final CDP, MSS, EMP and TMP.

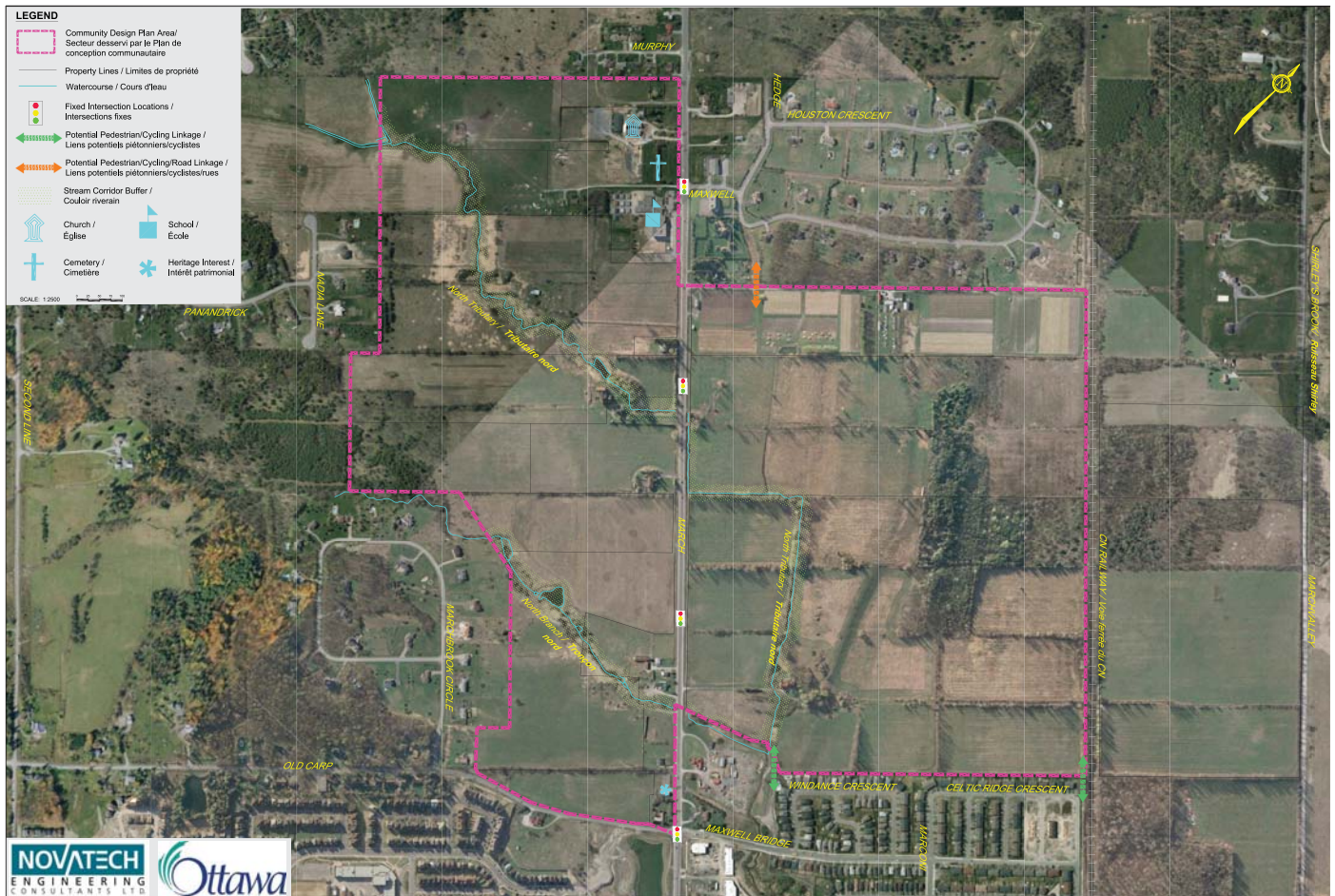
STATUTORY PUBLIC MEETING, JUNE 28, 2016

The Statutory Public Meeting was held to present the CDP, Official Plan Amendment (OPA), and Master Plans at Planning Committee. Following consideration by Planning Committee, the CDP, OPA, and Master Plans proceeded to Council for approval.

## 3.2 STRUCTURING ELEMENTS

Based on the existing conditions research discussed in Section 2, a number of factors came to be common elements in all or many of the preliminary land use options. These are elements of the plan that, due to the findings of the existing conditions reports or requirements of the City of Ottawa became underlying assumptions about the development of the CDP and were considered essential components of the land use plan.





**FIGURE 13** | Public Workshop Base Plan

### 3.2.1 DEVELOPMENT FRAMEWORK

#### CREEK CORRIDORS

A protected naturalized buffer along the existing watercourses was determined to be a structuring element of the CDP from the outset. Riparian corridors represent transition zones adjacent to watercourses where the stream and the land interact in a way that is mutually beneficial. Riparian corridors serve an important role in maintaining water quality and provide habitat and connectivity for the various species that live within the area. Within the KNUFA, creek corridors to be protected were established with the objective of maintaining and enhancing fish, Blanding's turtle and aquatic habitats.

Water features to be preserved and the required widths for the riparian corridor were determined through field investigations and discussions with the appropriate technical agencies. Tributary 2 and Tributary 3 of Shirley's Brook were identified for protection and restoration.

The minimum riparian corridor width to support stream functions was established based on the sensitivity of the fish habitat and geomorphic characteristics including meander belt widths, floodplain, and slope stability. A riparian corridor width of 40 meters will be provided for both Tributary 2 and Tributary 3.

## TRANSITIONS AND BUFFERING OF EXISTING RESIDENTIAL

Respecting existing communities and neighbourhoods by creating an appropriate transition to the adjacent Brookside, Marchbrook Circle, Hillside Subdivision, and Panandrick Subdivisions was considered a structuring element of the CDP and seen as essential for successfully integrating the new development with the existing community.

Representatives from the community associations of the adjacent subdivisions sat on the Public Advisory Committee (PAC), and all community members had the opportunity to participate and comment through the public meetings and workshops. Additionally, a series of neighbourhood meetings and kitchen table sessions were held separately with each community to discuss questions and concerns specific to each context.

A variety of options for providing a transition were considered including deeper lots adjacent to existing development, a buffer consisting of existing and enhanced vegetation, and the potential for linear parkland along existing property lines, where appropriate.

## INTERSECTION LOCATIONS

Initially, four signalized intersections along March Road were fixed as a component of all concept options. These included two existing intersections at the southern and northern limits of the KNUEA:

- the existing signalized intersection on March Road at Maxwell Bridge Road and Halton Terrace; and
- the existing intersection on March Road at Maxwell Drive and the gravel road between St. Isidore's School and the existing cemetery.

Additionally, two new signalized intersections, roughly evenly spaced between the existing intersections, were proposed based on initial traffic analysis.

Additional intersections or crossing points were evaluated as the concept plan evolved.

## EXISTING INSTITUTIONAL USES

Existing institutional uses within the KNUEA will continue to be an important element of the new community. St Isidore Roman Catholic Church, school and cemetery have been recognized as an integral part of the planned community.

Feature	Site Design Criteria			
Stormwater Management (SWM) Ponds	<u>Option 1A</u> <ul style="list-style-type: none"><li>2 ponds west of March Road (1.4 Ha &amp; 2.2 Ha)</li><li>1 pond east of March Road (3.6 Ha)</li></ul> <u>Option 1B</u> <ul style="list-style-type: none"><li>2 ponds west of March Road (1.4 Ha &amp; 2.2 Ha)</li><li>2 ponds east of March Road (1.9 Ha &amp; 1.9 Ha)</li></ul>	<u>Option 2A</u> <ul style="list-style-type: none"><li>1 pond west of March Road (3.3 Ha)</li><li>1 pond east of March Road (3.6 Ha)</li></ul> <u>Option 2B</u> <ul style="list-style-type: none"><li>1 pond west of March Road (3.3 Ha)</li><li>2 ponds east of March Road (1.9 Ha &amp; 1.9 Ha)</li></ul>		<u>Option 3A</u> <ul style="list-style-type: none"><li>1 pond east of March Road (6.0 Ha)</li></ul> <u>Option 3B</u> <ul style="list-style-type: none"><li>2 ponds east of March Road (3.6 Ha &amp; 3.6 Ha)</li></ul>
	School Sites	<u>Ottawa-Carleton District School Board (OCDSB)</u> <ul style="list-style-type: none"><li>Elementary school</li><li>7 acre (2.83 Ha) site</li><li>Rectangular lot</li><li>Along "Neighbourhood" collector road (min. 115m frontage)</li><li>Good pedestrian access</li><li>Away from major transit ways &amp; SWM ponds</li></ul>	<u>Ottawa Catholic School Board (OCSB)</u> <ul style="list-style-type: none"><li>Elementary school</li><li>7 acre (2.83 Ha) site</li><li>Rectangular, corner lot</li><li>Along "Neighbourhood" collector road (min. 160m frontage)</li><li>Good pedestrian access</li><li>Away from major transit ways &amp; SWM ponds</li></ul>	
		<u>Conseil des écoles catholiques du Centre-Est (CECCE)</u> <ul style="list-style-type: none"><li>Elementary school</li><li>5 acre (2.02 Ha) site</li><li>Rectangular (3:1), corner lot</li><li>Not on a major collector road</li></ul>		
Public Library (standalone branch)	<ul style="list-style-type: none"><li>Size: 2-3 acre (0.8-1.2 Ha)</li><li>Corner lot preferable</li><li>Near other community uses</li></ul>			
Parks & Recreational Facilities	<u>Community Park</u> <ul style="list-style-type: none"><li>1 park</li><li>Size: 4.2 Ha (10.4 acres)</li></ul>	<u>Neighbourhood Park</u> <ul style="list-style-type: none"><li>3 parks</li><li>Size: 1.4 Ha (3.5 acres) each</li></ul>		<u>Parkette</u> <ul style="list-style-type: none"><li>2 parks</li><li>Size: 0.8 Ha (2 acres) each</li></ul>
	Park-and-Ride Facilities	<u>Option 1</u> <ul style="list-style-type: none"><li>300 parking spaces (with bus turn around area)</li><li>Size: 1.6 Ha (4 acres)</li></ul>		<u>Option 2</u> <ul style="list-style-type: none"><li>500 parking spaces (with bus turn around area)</li><li>Size: 2.5 Ha (6.2 acres)</li></ul>
Retail/Commercial Space				

**FIGURE 14** | Public Workshop "Building Blocks" Table

### 3.2.2 "BUILDING BLOCKS"

A number of common land uses were determined to be required for a complete and functional CDP. These "building blocks" were determined in consultation with various City departments, school boards, and other agencies. A list of these "building blocks", shown in Figure 14, was provided to participants of the public workshop in October 2013, and was used to produce preliminary land use concepts.

#### STORMWATER MANAGEMENT PONDS

For the large drainage areas within the KNUEA, wet ponds were considered the most viable stormwater management option for providing water quantity, quality, and erosion control.

Given the topography of the KNUEA which slopes toward the Ottawa River in the east, it was understood that at least one storm pond would be required on the east side of March Road, below the ridge running north-south across the site. March Road creates a barrier to drainage areas as well as carrying major stormwater infrastructure. It was generally assumed that at least one pond would be required on either side of the arterial road.

Options considering locating all ponds within the KNUEA were considered as well as locating a pond outside the KNUEA on adjacent lands owned by sponsoring landowners.

#### SCHOOLS

The four area schoolboards (OCDSB, OCSB, CEPEO, and CECCE) each requested a school site in the Kanata North Community. Each board has specific requirements for the size of the school site, location, and surrounding land uses. The preliminary concept plans considered different options while making every effort to meet these requests.

The location and size of these school sites were selected to respect the wishes of the four school boards:

- The general locational criteria of the respective School Boards;
- The minimum school site area required by each School Board;
- The minimum lot frontage and site configurations standards of each School Board; and,
- An attempt to co-locate parks and schools



## PUBLIC LIBRARY

A public library was originally included as a requirement for the new community and treated as a distinct land use. A 2 to 3 hectare lot was set aside on the initial concept plans.

Evolving discussion led to a decision that co-locating the public library with a school or within the commercial core area would be preferable to reserving a specific location through a standalone land use designation in the CDP. This change explains why a library is shown as a land use on the preliminary land use concepts but is not shown on the Land Use Plan. A library within the CDP Area is still contemplated and discussion with schoolboards, landowners and potential commercial partners will continue as the KNU EA develops.

## PARKS AND RECREATIONAL FACILITIES

The distribution of parkland between the four quadrants of the KNU EA was a structuring element of the land use plan. Location and sizes of park blocks was determined through extensive consultation with the City, based on parkland dedication policies of the Official Plan (Section 4.10), the Parks and Pathways Manual (2012), and priorities of the Parks and Recreation department.

It was initially determined that the following hierarchy of public parks be accommodated in the KNU EA:

- One Community Park with an area of approximately 4.2 hectares;
- Three Neighbourhood Parks with an area of approximately 1.4 hectares each
- Two Neighbourhood Parkettes with an area of approximately 0.8 hectares each.

As the Land Use Plan evolved, details of the parks hierarchy evolved with it. The location of parkland is intended to ensure that all residential areas are well served by neighbourhood and community parks. Parkland was distributed to each quadrant in order to provide convenient access for all residents.



## PARK AND RIDE

Kanata North was identified as the favoured location for a Park and Ride facility serving the immediate community and surrounding rural area to the north and west. Capacity of the park and ride was determined through consultation with the City and OC Transpo. It was determined that the park and ride should have a minimum of 500 parking spaces, to meet the projected demand likely to be generated by development within the KNU EA, and to account for additional demand from the surrounding rural area. It was determined that a parcel of 2.5ha would be sufficient to develop a park and ride containing approximately 500 parking spaces.

## RETAIL AND COMMERCIAL LAND

A Retail Market Demand and Feasibility Study was prepared by Shore-Tanner and Associates (2014) as a component of the background research and existing conditions reports for development of the KNU EA. The report strongly recommended a community shopping centre in the range of 30,000 to 40,000 m<sup>2</sup> to meet projected market demand based on population projections, locational characteristics, access and planned future developments in the Kanata North Urban Expansion Area.

The report describes a community shopping centre as being anchored by a junior department store (10,000 to 15,000 m<sup>2</sup>) and a supermarket (5,000 to 8,000 m<sup>2</sup>). The report recommends a location on the east side of March Road which is the direction of homebound traffic travelling north on March Road.

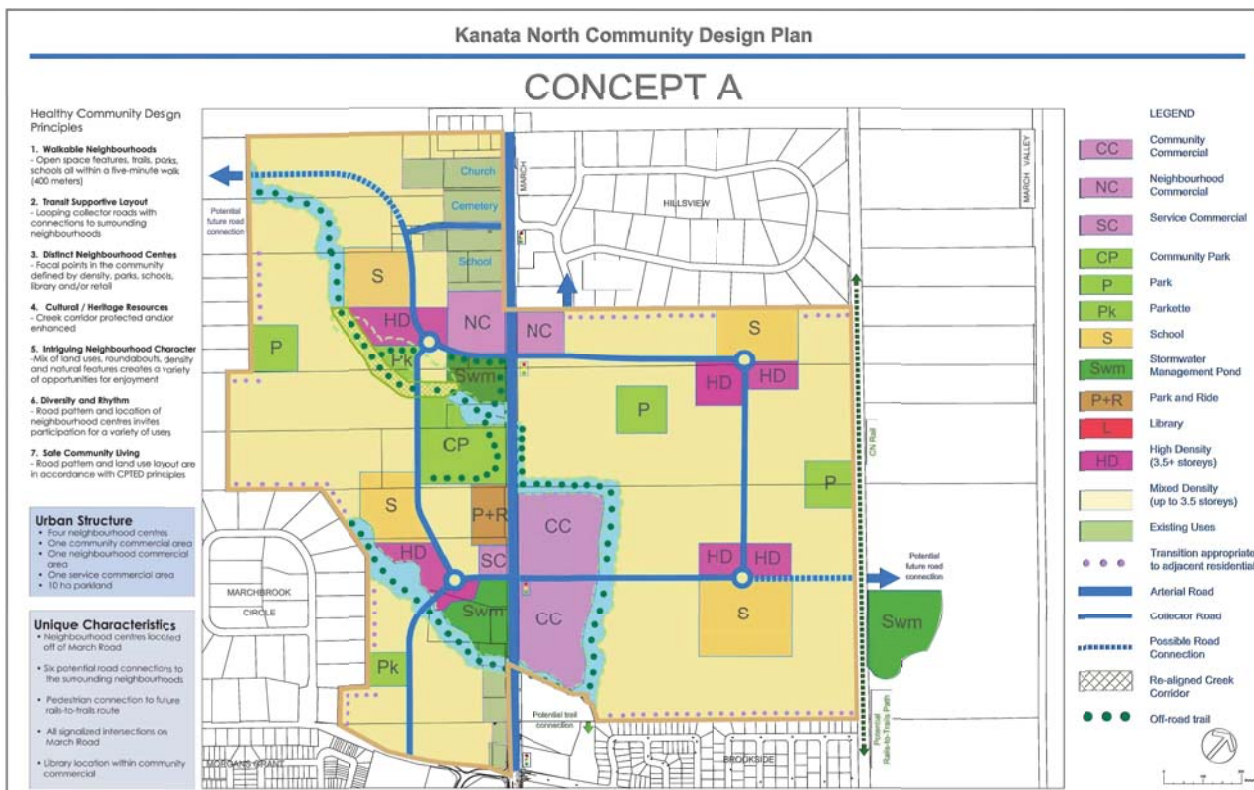
The report also recommended that there will be support for more shopping facilities within the KNU EA about five to ten years after the development of the community shopping centre. It therefore recommended that sufficient land be set aside for a neighbourhood-type centre of up to 10,000 m<sup>2</sup>. in addition to the community shopping centre.

## 3.3 PRELIMINARY LAND USE CONCEPTS

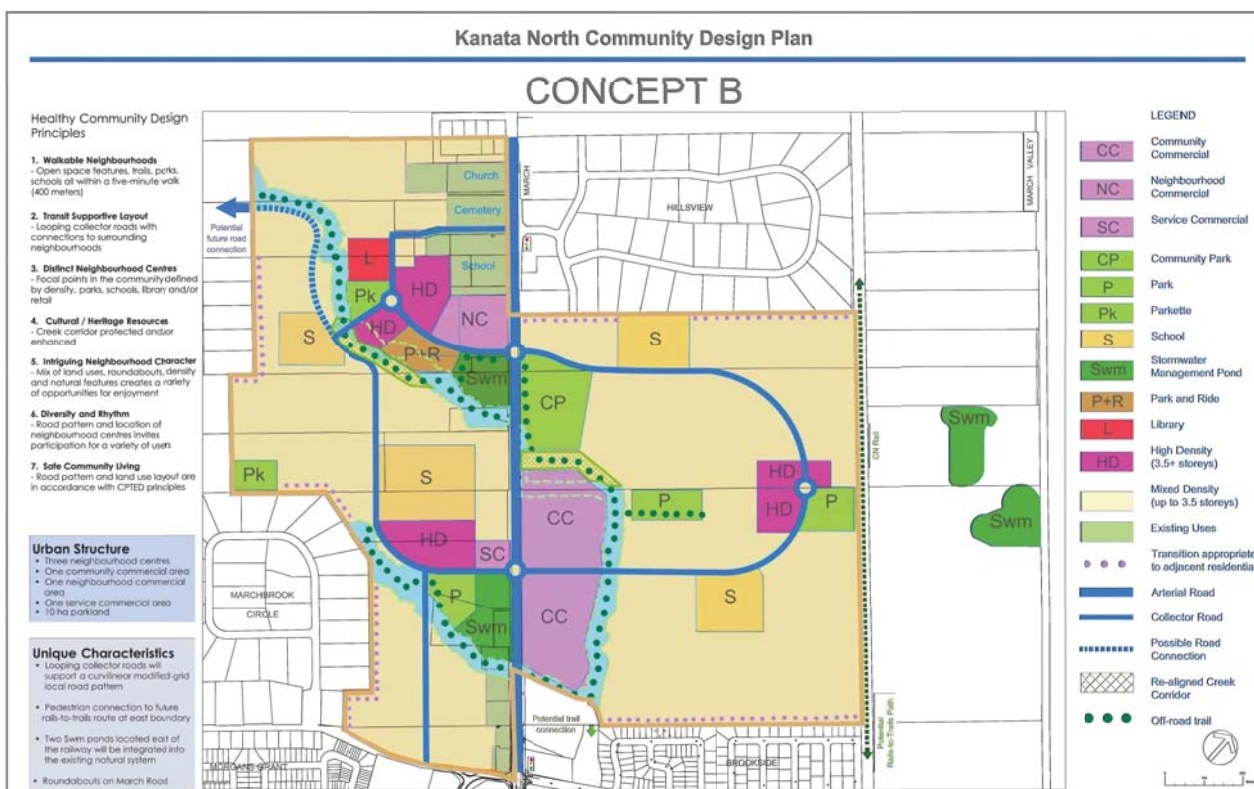
Evaluation of the concepts prepared at the public workshop and further discussion with the CPT, TAC and PAC led to the development of four preliminary land use concepts, Concepts A-D shown in Figure 15. These concepts were presented to the public at Open House No. 2.

Following the review of the four alternative land use concepts, a number of plans were advanced which reflected comments received at the public meetings and further technical analysis and negotiation with the PAC, TAC, and technical experts.

The culmination of this process resulted in the Land Use Plan for Kanata North presented in Chapters 4, 5 and 6.



Community Meeting # 3 - February 26, 2014  
PANEL # 3



Community Meeting # 3 - February 26, 2014  
PANEL # 4



**FIGURE 15A** | Preliminary Land Use Concepts

# CONCEPT C

## Healthy Community Design Principles

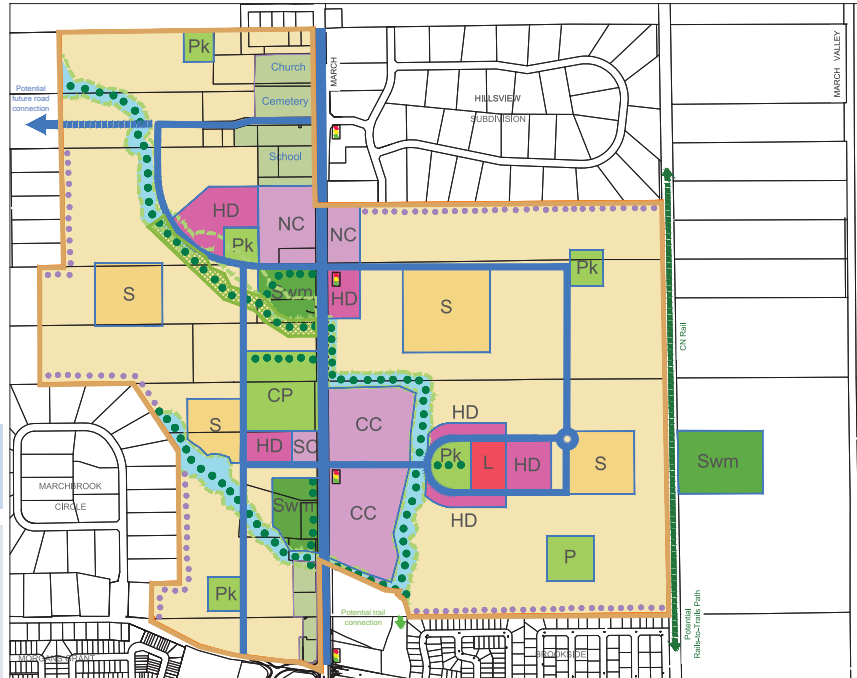
- 1. Walkable Neighbourhoods**
  - Open space features, trails, parks, schools all within a five-minute walk (400 meters)
- 2. Transit Supportive Layout**
  - Looping collector roads with connections to surrounding neighbourhoods
- 3. Distinct Neighbourhood Centres**
  - Focal points in the community defined by density, parks, schools, library and/or retail
- 4. Cultural / Heritage Resources**
  - Creek corridor protected and/or enhanced
- 5. Intriguing Neighbourhood Character**
  - Mix of land uses, roundabouts, density and natural features creates a variety of opportunities for enjoyment
- 6. Diversity and Rhythm**
  - Road pattern and location of neighbourhood centres invites participation for a variety of users
- 7. Safe Community Living**
  - Road pattern and land use layout are in accordance with CPTED principles

## Urban Structure

- Two neighbourhood centres
- One community commercial area
- One neighbourhood commercial area
- One service commercial area
- 10 ha parkland

## Unique Characteristics

- Main area of interest is on the collector road east of March Rd.
- Mix of land uses and built form on a looping road with library at one end and park on the other establishes a unique identity.
- Park and ride located off-site
- All signalized intersections on March Road



## LEGEND

- CC Community Commercial
- NC Neighbourhood Commercial
- SC Service Commercial
- CP Community Park
- P Park
- Pk Parkette
- S School
- Swm Stormwater Management Pond
- P+R Park and Ride
- L Library
- HD High Density (3.5+ storeys)
- Mixed Density (up to 3.5 storeys)
- Existing Uses
- Transition appropriate to adjacent residential
- Arterial Road
- Collector Road
- Possible Road Connection
- Re-aligned Creek Corridor
- Off-road trail

Community Meeting # 3 - February 26, 2014  
PANEL # 5



# CONCEPT D

## Healthy Community Design Principles

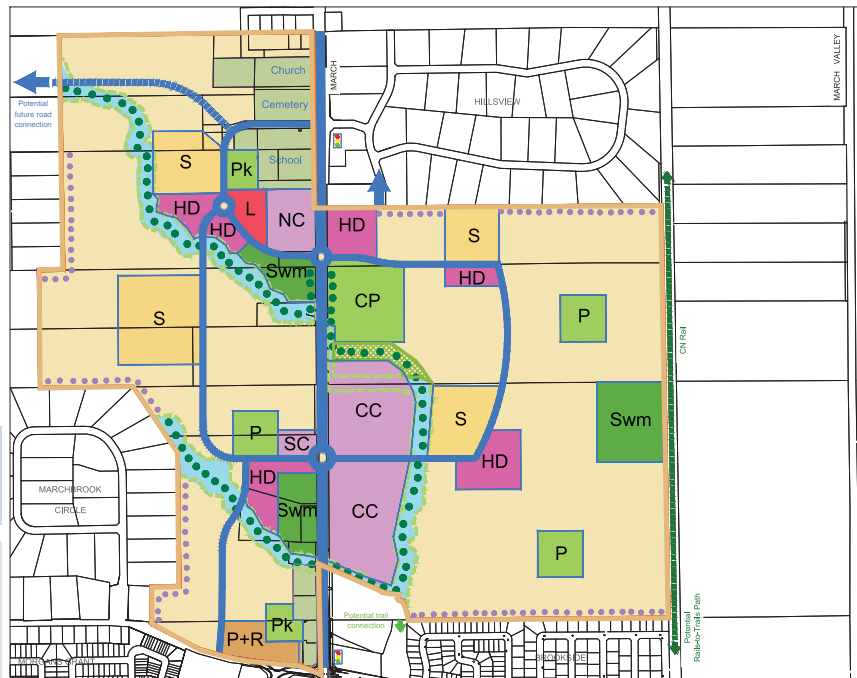
- 1. Walkable Neighbourhoods**
  - Open space features, trails, parks, schools all within a five-minute walk (400 meters)
- 2. Transit Supportive Layout**
  - Looping collector roads with connections to surrounding neighbourhoods
- 3. Distinct Neighbourhood Centres**
  - Focal points in the community defined by density, parks, schools, library and/or retail
- 4. Cultural / Heritage Resources**
  - Creek corridor protected and/or enhanced
- 5. Intriguing Neighbourhood Character**
  - Mix of land uses, roundabouts, density and natural features creates a variety of opportunities for enjoyment
- 6. Diversity and Rhythm**
  - Road pattern and location of neighbourhood centres invites participation for a variety of users
- 7. Safe Community Living**
  - Road pattern and land use layout are in accordance with CPTED principles

## Urban Structure

- Two major, one minor neighbourhood centres
- One community commercial area
- One neighbourhood commercial area
- One service commercial area
- 10 ha parkland

## Unique Characteristics

- Collector road on top of ridge
- Parkette adjacent to heritage building northwest of March Rd and Old Camp Rd could become a heritage park
- High density on ridge could have views to Ottawa River
- Two roundabouts on March Rd



## LEGEND

- CC Community Commercial
- NC Neighbourhood Commercial
- SC Service Commercial
- CP Community Park
- P Park
- Pk Parkette
- S School
- Swm Stormwater Management Pond
- P+R Park and Ride
- L Library
- HD High Density (3.5+ storeys)
- Mixed Density (up to 3.5 storeys)
- Existing Uses
- Transition appropriate to adjacent residential
- Arterial Road
- Collector Road
- Possible Road Connection
- Re-aligned Creek Corridor
- Off-road trail

Community Meeting # 3 - February 26, 2014  
PANEL # 6



FIGURE 15B | Preliminary Land Use Concepts





## 4.0 KANATA NORTH COMMUNITY DESIGN PLAN



The Land Use Plan for Kanata North is shaped by policies of the Official Plan, the unique existing environmental and social context of the area, and is the result of an extensive consultation process with the CPT, TAC, PAC and the public.

### 4.1 VISION FOR KANATA NORTH

The proposed Kanata North Community is envisioned as a contemporary master-planned community, with a range of housing options and a vibrant, well-defined mixed-use core. Design of this community is rooted in an integrated open space system embracing the existing natural heritage features and structured around the creek corridors. Protection and restoration of Shirley's Brook and its tributaries will both contribute to ensuring the continued function of the natural system, and create a significant amenity for the community.

The community is structured around a transit supportive street network laid out as a modified grid. March Road functions as the spine of the community

which will connect the community to the wider road and transit network. Currently a two lane rural cross-section, March Road will eventually accommodate four vehicle travel lanes and two bus only lanes in the median (Bus Rapid Transit), pedestrian sidewalks and a cycle track along both sides of the road.

Neighbourhoods will be connected by a comprehensive pathway system providing additional connectivity to transit and community facilities. Each neighbourhood will have a park, school and other amenities within walking and cycling distance. Well-designed streetscapes and built form will be responsive to the context, location and intensity of land uses throughout the community.

## 4.2 GUIDING COMMUNITY PRINCIPLES

Guiding Principles were prepared through a consultative process involving the Core Project Team (CPT), Technical Advisory Committee (TAC), Public Advisory Committee, (PAC) and the public at-large through feedback gathered at the first Open House. The Guiding Principles establish the qualitative framework for the Land Use Plan.

Guiding principles for the Kanata North Community are as follows:

Respect existing adjacent communities and neighbourhoods

- New development should be sensitive and responsive to existing communities surrounding the CDP Area.
- Ensure that water quality and quantity of adjacent wells on rural properties will not be impacted by development.
- Provide appropriate buffers between new and existing development.
- Ensure the character and qualities of existing communities are not diminished by development within the KNUFA.

Create a sustainable, resilient, healthy and livable community

- Recognize the interconnection of society, culture, the economy and environment and position Kanata North for long term prosperity as part of a sustainable City of Ottawa.
- Promote pedestrian, cycling and transit usage in order to reduce energy consumption and promote health and wellbeing.
- Create a well-connected community with access to parks and pathways, mixed use centres and transit.

Respect existing significant natural heritage features

- Seek to minimize negative impacts on the environment and lead towards a restorative approach for natural systems of water, air and soil.
- Protect and enhance Shirley's Brook and its tributaries.
- Provide connections to and links between the greenspace network.
- Consider opportunities to leave parks in a natural state.
- Recognize the environmental value, active/passive recreational value, and contribution of the natural heritage system to creating a healthy community.

Create distinct, yet interconnected, livable neighbourhoods within Kanata North

- Design distinct neighbourhoods around identifiable focal points such as parks, schools, or mixed use centres.
- Distribute amenities throughout the community to be accessible both on foot or bicycle.
- Design a pathway network connecting greenspaces and community facilities.

Provide an opportunity for a mix of residential housing types and densities

- Design liveable, human scale, urban neighbourhoods.
- Provide a range of housing options and opportunity for a choice of housing tenure.
- Meet the diverse needs of people of different incomes and lifestyles, at various stages in the life cycle.
- Ensure a rich variety of architectural styles, with attention to detail – building massing, proportion, facade articulation, and materials.
- Create successful interfaces between private and public spaces.

Ensure timely and efficient of phasing of future infrastructure

- Make effective use of existing infrastructure.
- Provide new servicing infrastructure in an efficient and optimal manner.
- Consider alternative development standards where such standards can achieve a quality community while maintaining appropriate operating and maintenance standards.
- Ensure that servicing infrastructure proceeds in concert with development.
- Consider opportunities for alternative means of financing.

Provide a development pattern and efficient transportation system that accommodates and encourages walking cycling, and transit over automobile use

- Accommodate all modes of transportation within a development pattern that emphasizes walking, cycling and transit over automobile travel.
- Design a modified grid road system, with a high degree of permeability and accessibility throughout the community.
- Support a diverse range of land uses and modes of transportation.
- Provide road and pathway links to important roads around the community and with the wider pedestrian and cycling network.
- Extend public transit (including bus rapid transit) to support and serve the community.

## 4.3 LAND USE DESIGNATIONS

The Kanata North Land Use Plan includes a mix of street oriented and multi-unit residential land uses, commercial, institutional and open space land uses to create a balanced community where residents can live, work, learn and play.

The Land Use Plan is organized into thirteen distinct land use designations:

- Residential Street Oriented;
- Residential Multi-Unit;
- Community Mixed Use;
- Neighbourhood Mixed Use;
- Service Mixed Use;
- Community Park;
- Park;
- Natural Feature;
- School;
- Institutional;
- Park and Ride;
- Fire Hall; and
- Stormwater Management.

The Land Use Plan is provided as Figure 16.

### 4.3.1 RESIDENTIAL LAND USES



#### RESIDENTIAL STREET ORIENTED

Residential Street Oriented areas make up the majority of the Land Use Plan. Residential Street Oriented dwellings will have a maximum height of three storeys and will have individual entrances oriented to the public street. Areas designated as Residential Street Oriented may include:

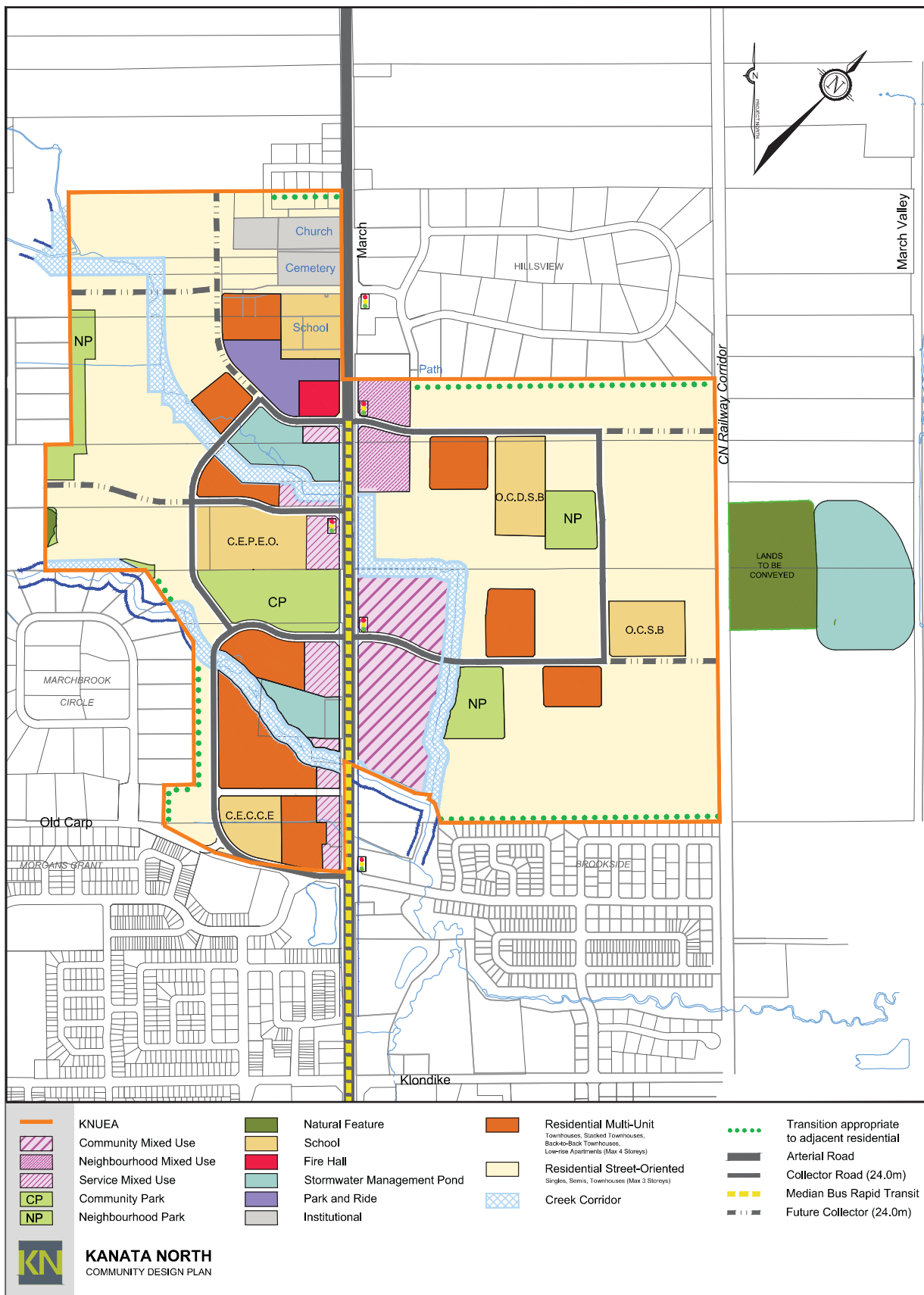
- Single detached dwellings;
- Semi-detached dwellings; and
- Townhouse dwellings.



#### RESIDENTIAL MULTI-UNIT

Residential Multi-Unit land uses will be distributed throughout the community to provide a variety of housing types, creating diverse and attractive neighbourhoods. Multi-unit dwellings will be encouraged to address the public street and may also include planned-unit-developments on private streets.





**FIGURE 16** | Land Use Plan

Dwellings within the Multi-Unit Residential designation will have a maximum height of four storeys and may include:

- Townhouses;
- Stacked Townhouses;
- Back-to-Back Townhouses; and
- Low Rise Apartments.

#### Uses Permitted in All Residential Land Use Designations

The Official Plan establishes a range of uses that are permitted in all residential areas. These uses will be permitted in all residential designations:

- Bed and Breakfast;
- Secondary dwelling units (including garden suites);
- Group homes;
- Retirement homes;
- Care facilities;
- Home-based businesses; and,
- Home-based day care.

## 4.3.2 MIXED USE

### COMMUNITY MIXED USE

The Community Mixed Use designation is intended primarily for community wide commercial uses such as a shopping centre in the range of 30,000 to 40,000 square metres to meet projected market demand based on population projections, locational characteristics, access and planned future developments in the KNUA.

Due to its prominence as the community core of the KNUA, a master concept plan for the Community Mixed Use area, showing the proposed development and connections to adjacent land uses, will be required at the time of Site Plan approval. Site Plan applications for the Community Mixed Use designation may be subject to review by the City's Urban Design Review Panel (UDRP).

Commercial uses permitted within the Community Mixed Use designation include such uses as, but not limited to:

- Banks or other financial services;
- Business, medical and professional offices;
- Community uses such as a library or community centre;
- Drive through;
- Gas bar;
- Institutional uses such as hospitals, retirement homes, residential care facilities or medical facilities;
- Office type uses;
- Personal service uses;
- Recreational and athletic facilities;
- Restaurants;
- Retail and convenience stores;
- Service and repair uses; and
- Shopping centre.

In combination with the permitted uses listed above, the following residential uses will be permitted within the Community Mixed Use designation, in standalone buildings or in mixed use buildings above ground floor commercial:

- Townhouses;
- Stacked townhouses;
- Back-to-Back townhouses; and
- Low rise apartments.

## NEIGHBOURHOOD MIXED USE

The Neighbourhood Mixed Use designation is intended to provide local commercial services primarily to residents of the area. The Neighbourhood Mixed Use designation has been located on the east side of March Road at the intersection of the northern collector. This location at the north end of March Road will balance the Community Mixed Use located in the southern portion of the community.

Commercial uses permitted within the Neighbourhood Mixed Use designation include such uses as, but not limited to:

- Banks or other financial services ;
- Business, medical and professional offices;
- Community uses such as a library or community centre;
- Drive through;
- Gas bar;
- Office type uses;
- Personal service businesses;
- Restaurants;
- Retail and convenience stores; and
- Shopping centre.

In addition to the permitted uses listed above, the following residential uses will be permitted within the Service Mixed Use designation, in standalone buildings or in mixed use buildings above ground floor commercial:

- Townhouses;
- Stacked Townhouses;
- Back-to-Back Townhouses; and
- Low Rise Apartments.

## SERVICE MIXED USE

The Service Mixed Use designation is intended for local convenience commercial uses serving residents and the travelling public., The Service Commercial designation has also been used to recognize existing commercial uses along the west side of March Road and has been applied on the west side of March Road at intersections with collectors.

Commercial uses permitted within the Service Mixed Uses include such uses as, but not limited to:

- Banks or other financial services;
- Business, medical and professional offices;
- Gas bar;
- Office type uses;
- Personal service businesses;
- Restaurants; and
- Retail and convenience stores.

In addition to the permitted uses listed above, the following residential uses will be permitted within the Service Mixed Use designation, in standalone buildings or in mixed use buildings above ground floor commercial:

- Townhouses;
- Stacked townhouses;
- Back-to-Back townhouses; and
- Low rise apartments.

### Uses Permitted in all Mixed-Use Designations

The following uses shall also be permitted in all Mixed-Use designations contained within the Kanata North Community Design Plan:

- Places of worship;
- Day care facilities;
- Diplomatic missions; and
- Public utilities and wireless telecommunications infrastructure.

### 4.3.3 INSTITUTIONAL LAND USES

#### SCHOOLS

The Land Use Plan will accommodate three new elementary schools and a high school which may be JK to grade 12, as requested by each of the four area School Boards (OCDSB, OCSB, CEPEO, CECCE). If a school block is unable to be secured in the general location shown on the Land Use Plan, subject to the needs of the school board, an alternative location in the CDP area may be required.

The location and size of these school sites have been conceptually illustrated on the Land Use Plan and reflect:

- The general locational criteria of the respective School Boards;
- The approximate area required by each School Board; and
- The minimum lot frontage and site configuration standards of each School Board.

The Building Better and Smarter Suburbs Document (BBSS) encourages the co-location of parks and schools to facilitate sharing of facilities and allow for a more efficient use of land. The Conseil des écoles publiques de l'Est de l'Ontario (CEPEO) expressed an interest in co-locating the proposed high school with the Community Park. The Ottawa Carleton District School Board (OCDSB) elementary school site has been co-located with the neighbourhood park in the northeast quadrant. Design guidelines for school sites are provided in section 6.2.2.

School sites shall be zoned for both institutional and residential use in order that, in the event that no School Board acquires a school site, the lands shall be developed for residential land uses. The type and range of residential uses shall be in accordance with the Street Oriented and Multi-Unit Residential land use designations as described in Section 4.2.1. Undeveloped school sites may be given priority for non-profit affordable housing.

#### EXISTING INSTITUTIONAL

St Isidore Roman Catholic Church, school and cemetery in the northwest quadrant of the KNUFA will continue to be an important element of the new community.

### 4.3.4 COMMUNITY FACILITIES

#### PARK AND RIDE

The Park and Ride facility is shown on the Land Use Plan in the northwest quadrant of the Land Use Plan. An approximately 2.5 hectare (6.2 acre) parcel of land is provided to accommodate about 500 parking spaces. This location was selected to capture ridership from the rural area, and to allow the Park and Ride to function as the terminus of the BRT along March Road. A lay-by will be incorporated for buses at the beginning or end of their route.

#### FIRE STATION

The Fire Station designation sets aside land for a 0.83 hectare (2 acre) site at the northwest quadrant of the intersection of March Road and the northwest collector.

The fire station location was selected to allow for full movement access to a collector road with easy access to a signalized intersection on March Road. It has also been located adjacent to the Park and Ride with the understanding that there may be opportunities for the Fire Services and OC Transpo to share staff facilities.

### 4.3.5 STORMWATER MANAGEMENT

The Stormwater Management designation provides lands to accommodate stormwater management infrastructure requirements.

This designation includes three stormwater management ponds, two located west of March Road within the KNUFA, and one located east of the CN rail line on adjacent land:

- Pond 1 will outlet to Tributary 2 just upstream (west) of March Road;
- Pond 2 will outlet to Tributary 3 just upstream (west) of March Road;
- Pond 3 will outlet to the Main Branch of Shirley's Brook at March Valley Road.

Ponds 1 and 2 will provide water quality, erosion, and peak flow control for the development area west of March Road. The preservation and enhancement of Tributary 2 and Tributary 3, along with the existing topography and depth to bedrock were factors in determining the number and location of stormwater facilities required for servicing this area. Both facilities have been sized to control outflows to match the existing flows in each of the tributaries.





The optimal location for Pond 3 was found to be off site, east of the CDP boundary, between the core area of Woodlot S23 and March Valley Road. This location allows the pond to outlet directly into the main branch of Shirley's Brook, which runs along the west side of March Valley Road in this location. This location for Pond 3 was made possible because the lands are owned by sponsoring landowners.

Recreational pathways will be permitted within the Stormwater Management designation.

#### 4.3.6 NATURAL FEATURES

The Natural Feature designation applies to the area of woodland north of Marchbrook Circle in the southern portion of the northwest quadrant of the KNUEA, and to offsite woodlot S23.

##### SOUTHWEST WOODLAND

A small wooded area contiguous to the offsite Woodlot S12 is located north of Marchbrook Circle in the northwest quadrant of the CDP. This woodlot is identified as a part of the natural heritage system of the City of Ottawa and will be preserved.

A portion of the southwest wooded area will also be retained as part of the 40 metre riparian corridor along Shirley's Brook Tributary 3.

##### WOODLOT S23

Offsite Woodlot S23 is shown on the Land Use Plan between the former CN rail corridor and the proposed stormwater management Pond 3 adjacent to March Valley Road.

The proposed location of the stormwater management facility is east of the core area of S23, adjacent to March Valley Road. Due to the proximity of this proposed storm pond to the core area of Woodlot 23, additional field work was conducted to evaluate the woodlot and ensure that the storm pond could be integrated without interfering with the core functions of the woodland. Some tree clearing will be required for the proposed storm pond, but the core area of the woodland will remain intact. The balance of Woodlot S23 will be conveyed to the City for preservation as part of the natural heritage system. Setbacks for the protection of the core woodlot (including its existing butternut trees and headwater feature) will be established as part of the combined Environmental Impact Statements-Tree Conservation Reports required to support the development review process for the plans of subdivision that will be served by Pond 3.

Pathway linkages will be constructed from the KNUEA and around the storm pond to provide service access and as an amenity for the community.

#### 4.3.7 CREEK CORRIDORS

The existing watercourses provide initial structuring elements to an open space network through the KNUEA. Not only do these corridors have environmental value, they also provide open space and safe active and passive recreational amenities and will contribute to a healthy community.

Tributaries 2 and 3 of Shirley's Brook will be protected by a 40m wide corridor providing a 20m setback from the centreline of the watercourse. In some locations, an additional 6m outside of the creek corridors will accommodate a recreational pathway, as shown on Figure 17.

Design Guidelines for development adjacent to creek corridors are provided in Section 6.2.5.



#### 4.3.8 PARKS

The distribution of parkland is intended to ensure that all residential areas are well served by neighbourhood and community parks. A hierarchy of parks designations has been established as follows:

- A Community Park serving the entire KNUEA with a range of passive and active recreational uses.
- Three Neighbourhood Parks distributed through the community so that the majority of residences will be within a 5-minute walk of a park.

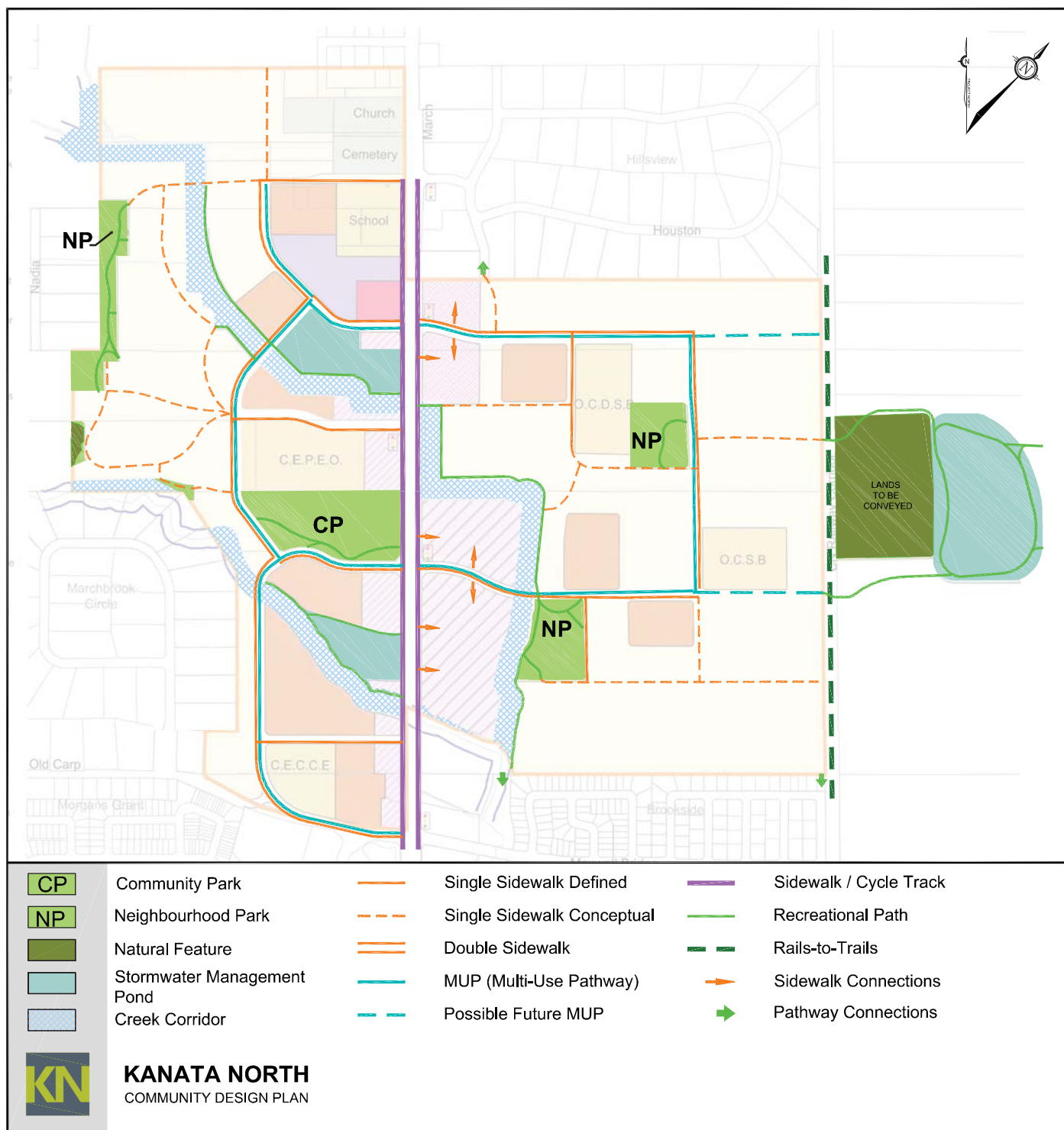
A Parks and Pathways Plan is provided as Figure 17 highlighting the park locations and conceptual pathway linkages within the KNUEA. All parks must have open frontage on at least 2 streets.

Functions and facilities to be contained within all parks have been outlined in the Area Parks Plan, provided as Appendix A. Park Fit Plans have been prepared to demonstrate how facilities could be arranged within the proposed parks to ensure that a preferred list of amenities (defined by the City) can be accommodated. The amenities and park design will be confirmed through the subdivision process in collaboration with the City.

##### COMMUNITY PARK

The Community Park is located on the west side of March Road, adjacent to the high school, with frontage on the southern and western collectors. This location recognizes that users may come from a geographic area larger than the immediate neighbourhood. The central location of the Community Park ensures that it will be located within a 10-minute walking distance of most residential areas. The park will include a combination of active and passive recreation facilities.

Recreational pathways along the creek corridors, multi-use pathways and sidewalks along the collector roads, and signalized intersections with pedestrian crossings will ensure good connectivity to the Community Park for residential areas on both sides of March Road.



**FIGURE 17** | Parks and Open Space Plan



#### NORTHWEST QUADRANT NEIGHBOURHOOD PARK

The location of the park in the northwest quadrant evolved in response to comments from the community and an opportunity to preserve existing large trees. Residents of the Panandrick Subdivision adjacent to the KNUEA expressed interest in a linear park as a buffer between existing and proposed development. Numerous mature white pines in this area could be integrated into the park design.

The linear nature of this park also provides excellent opportunities for walking. This park will complete a recreational loop for pedestrians and cyclists, as shown conceptually on Figure 17. The park also provides a destination for several forms of active recreation.

#### NORTHEAST QUADRANT NEIGHBOURHOOD PARK

The northeast quadrant neighbourhood park is located along the ridge running north south through the eastern half of the KNUEA and will afford unique views toward the Ottawa River. The park has frontage on a collector road and is co-located with the OCDSB elementary school site.

Although it is not a significant woodland under the MNRF criteria, preservation of a portion of Woodlot S20, was often raised as a comment during public consultation. Pursuing opportunities to retain stands of mature trees or woodlots in parks is also a recommendation of the City's Building Better and Smarter Suburbs (BBSS) initiative. As discussed in Section 4.1.3, there is a stand of mature, healthy white cedars along the ridge toward the north end of woodlot S20. The park will be designed with both active recreational facilities and passive recreational areas while protecting the mature cedars.

#### SOUTHEAST QUADRANT NEIGHBOURHOOD PARK

In the southeast quadrant, the neighbourhood park has been located adjacent to the creek corridor, the southeast collector, and a multi-use pathway to benefit from connectivity to the pathway system and to feature the creek corridor as a unique amenity of the Kanata North community.

### 4.3.9 PATHWAY SYSTEM

As shown on Figure 17, an integrated network of multi-use pathways, recreational pathways, cycling facilities, sidewalks and pathway corridors will facilitate pedestrian and cyclist movement throughout the Kanata North community and provide connections to adjacent communities.

#### MARCH ROAD

Sidewalks and raised cycle tracks will be provided along both sides of March Road as part of the planned widening from two to four lanes. This will provide improved connectivity to the existing pedestrian and cycling network south of the KNUEA.

#### COLLECTOR ROADS

Multi-Use pathways (MUPs) and sidewalks along the internal collector roads will encourage the use of active modes of transportation for utilitarian trips such as shopping, attending school, visiting neighbours, or accessing parks. Signalized crossings on March Road at each of the collector roads will connect the communities on the east and west sides of March Road.

#### CREEK CORRIDORS

Recreational pathways along the creek corridors will provide access to open space, integrate the natural heritage system into the community, and will connect with the existing pathway in the Brookside Community to the south. Traffic calming measures such as road narrowings and signage will be provided where a recreational pathway crosses the collectors.

A 6 metre wide pathway block will be provided outside of the 40m creek corridors where pathways are to be provided. Recreational pathways along the creek corridors will connect with recreational pathways through the stormwater management blocks.





## PATHWAY BLOCKS

Pathway blocks providing direct pedestrian and cyclist connections throughout the community will be located through the subdivision process to increase the permeability of the street grid.

A pathway corridor leading to the adjacent Hillview Subdivision will serve to connect the new community with the existing residential area to the north. This connection should be wide enough to accommodate access by emergency vehicles.

## ABANDONED RAIL CORRIDOR

The former CN rail line along the eastern boundary of the KNUEA may be acquired by the City and converted to a recreational pathway providing connectivity to the communities and areas to the north and south. Pathway linkages across the rail-line will facilitate east-west connections and provide access to pathways through woodlot S23 and around the integrated stormwater management facility.

The Official Plan includes policies (2.3.1.25) that the City will make efforts to acquire surplus or abandoned railway corridors for use as future transportation and utility corridors, as well as provision made for recreational uses, wherever possible. An example of this is the recreational corridor through the Fernbank CDP which became a structuring element of that community, and is now part of the Trans Canada Trail.

Future use of this corridor as a recreational trail would be an excellent amenity for Kanata North and would enhance north-south connectivity. Pathway linkages are envisioned across the corridor to provide access to pathways through the S23 woodlot and around the stormwater facility east of the rail corridor.

As the tracks have been lifted from the corridor and it has been declared abandoned by CN Rail, no additional setbacks will be required from this former rail corridor.





## 5.0 DEMONSTRATION PLAN

The Land Use Plan sets out the land use designations, parks, pathways and natural features and collector road network. The Demonstration Plan, provided as Figure 18, is based on the Land Use Plan and adds an additional level of detail to illustrate one way in which the Land Use Plan could be implemented through development approvals.

The Demonstration Plan includes an example of a possible internal road network and lot pattern. This road network and lot layout provides the basis for an updated estimate of the potential dwelling units that could be accommodated within the community.

The Demonstration Plan does not require landowners to develop their lands precisely as shown. The purpose of the Plan is to:

- Provide an illustration as to how the Kanata North community could develop over time;
- Provide guidance for addressing specific development forms and character;
- Illustrate how the specific City of Ottawa and Kanata North CDP objectives could be achieved; and,
- Provide a means for establishing and monitoring development targets.

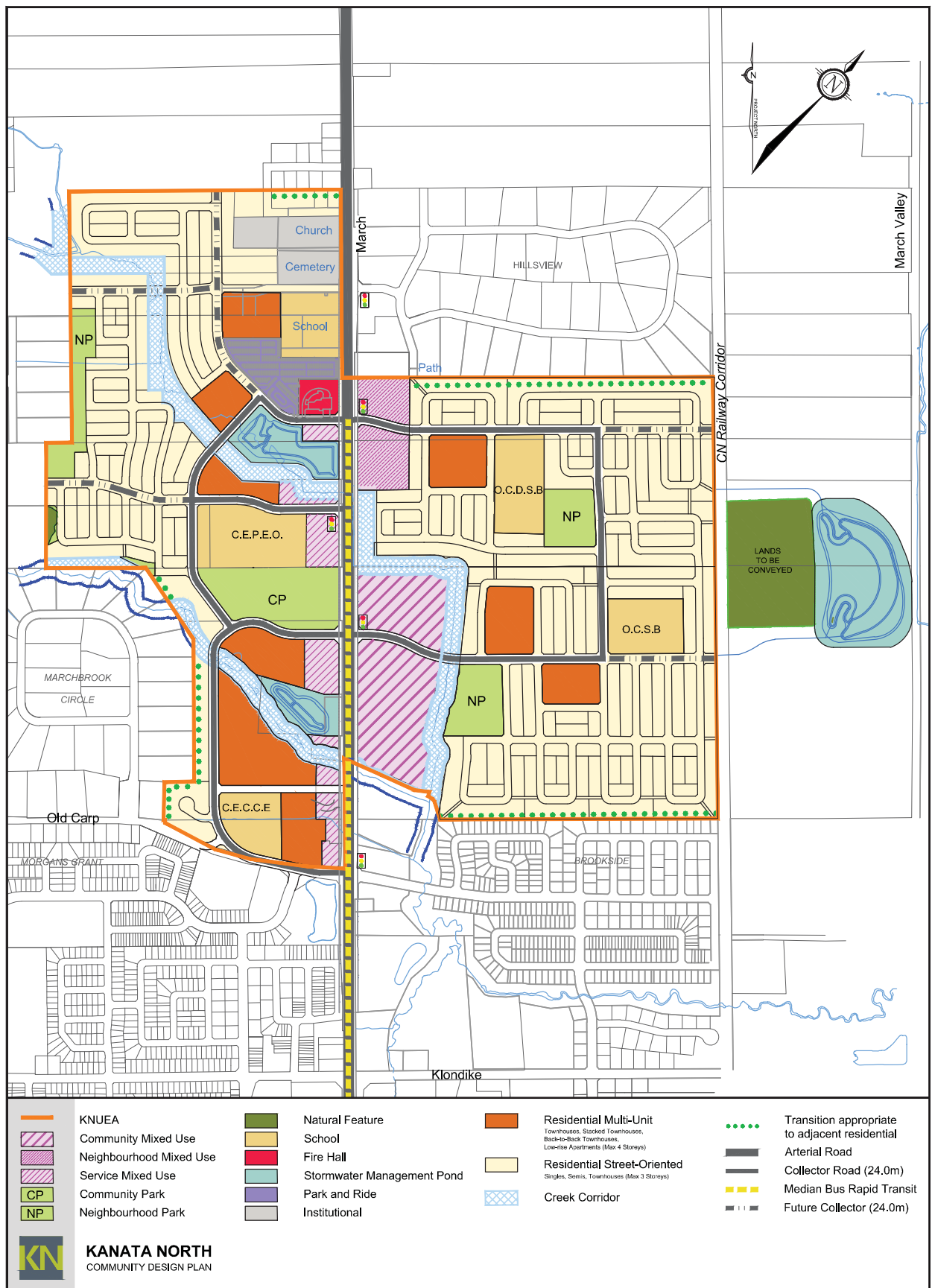
The Demonstration Plan is intended to provide guidance for the implementation of the Land Use Plan. The Demonstration Plan is conceptual and the lands do not have to develop precisely as shown. Changes that respect the overall vision and intent of the CDP can be made without the need for an Official Plan Amendment or update to the CDP.

### 5.1 LAND USE DISTRIBUTION

#### 5.1.1 RESIDENTIAL DENSITY AND UNIT MIX

The Master Plan documents (EMP, TMP, MSS) used unit count and population estimates generated from the Demonstration Plan as the basis for calculating infrastructure requirements such as servicing capacity, sewer locations, and traffic projections.

Official Plan policy requires that developing communities in Urban Expansion Areas establish a mix of residential dwellings with at least 45% single detached but not more than 55% single-detached, at least 10% apartment dwellings, and the remainder being multiple dwellings other than apartments (Section 3.11). This unit distribution does not reflect current market trends which indicate a declining demand for single detached dwellings, and an increasing demand for apartments. An alternative benchmark of a minimum of 30% single detached dwellings has been set for the KNUA.



**FIGURE 18** | Demonstration Plan



Recognizing that the reduced target for single detached dwellings will result in increased density, the minimum average residential density for the KNUEA has been increased from the Official Plan minimum of 34 units per net hectare to a minimum of 36 units per net hectare. Based on the land use distribution and street pattern described in the Demonstration Plan, the total net residential area for the KNUEA is 80.10 ha. To achieve 36 units per net hectare, the demonstration plan must accommodate a minimum of 2,884 dwelling units.

Subject to meeting the unit type distribution discussed above, based on lot configuration potential and an assumed lot width required for each unit type, the total number of units that could develop according to the Demonstration Plan is estimated to be 2,965 dwelling units.

To calculate an estimate of the total population, the following assumptions were made regarding household sizes for each dwelling type, based on industry standards:

- Single detached: 3.3 people per unit
- Street Townhouse: 2.7 people per unit
- Multi-Unit Residential: assumed 50% ground oriented units at 2.7 people per unit and 50% apartments at 1.8 people per unit for an average of 2.25 people per unit

The estimated population within the Kanata North Expansion Area is 8,107 residents.

A summary of the estimated unit distribution and projected population for the KNUEA is summarized in Table 1.

In order to be conservative in calculating traffic and servicing requirements, a contingency of 10% has been added to ensure that the community could accommodate anywhere between 2,900 and 3,300 units.

### 5.1.2 MIXED-USE COMMERCIAL LANDS

The CDP recognizes the benefit of integrating commercial uses with residential areas to create complete communities and promote active transportation. Mixed Use designations are located along March Road both for reasons of access, and as a buffering land use between the arterial road and BRT corridor and residential uses.

The location and amount of land allocated for Mixed-Use Commercial areas is based on the Retail and Commercial Land Feasibility Study prepared by Shore-Tanner and Associates discussed in Section 3.2.2.

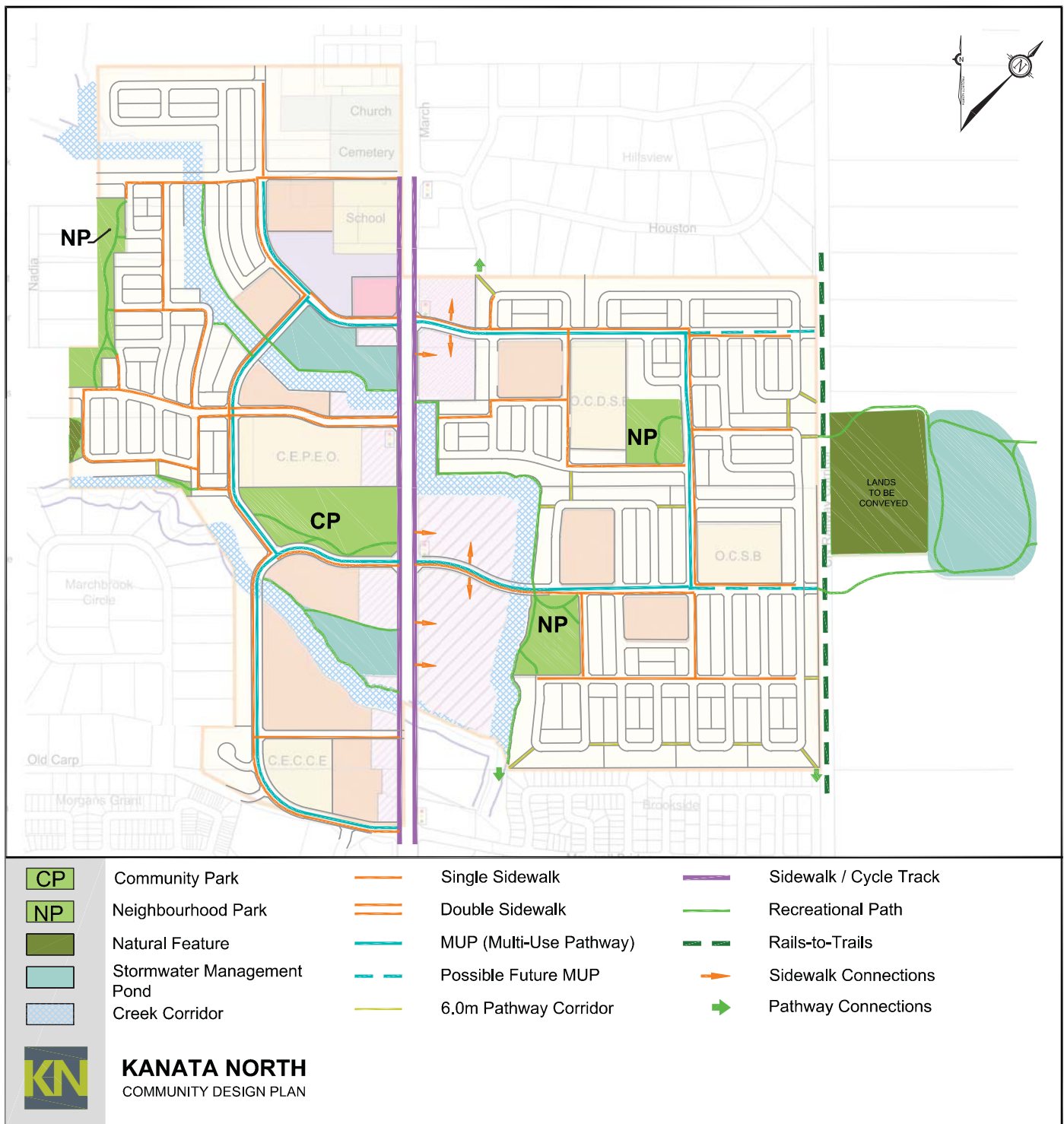
The land area allocated for each of the Mixed-Use designations is provided in Table 2.

UNIT TYPE	POTENTIAL UNIT DISTRIBUTION	HOUSEHOLD SIZE (PEOPLE PER UNIT)	POPULATION
SINGLE DETACHED (33%)	960 UNITS	3.3	3,168
STREET TOWNHOUSES (32%)	950 UNITS	2.7	2,565
OTHER MULTIPLE DWELLING (36%) (ESTIMATED AS 50% GROUND ORIENTED AND 50% APARTMENTS)	1,055 UNITS	2.25	2,374
<b>TOTAL</b>	<b>2,965 UNITS</b>		<b>8,107 RESIDENTS</b>

**TABLE 1** | Residential Unit Distribution and Population Estimate

MIXED USE DESIGNATIONS	AREA
COMMUNITY MIXED USE	8.80 Ha
NEIGHBOURHOOD MIXED USE	3.10 Ha
SERVICE MIXED USE	4.01 Ha
<b>TOTAL</b>	<b>15.91 Ha</b>

**TABLE 2** | Mixed Use Land Areas



**FIGURE 19** | Parks and Pathways Demonstration Plan

CDP DEMONSTRATION PLAN		OFFICIAL PLAN TARGET	PARKLAND AREA
RESIDENTIAL UNIT COUNT	2965 UNITS	1 HA/ 300 UNITS	9.88 HA
TOTAL MIXED USE AREA	15.91 HA	2% OF TOTAL	0.32 HA
<b>TOTAL PARKLAND REQUIRED</b>			<b>10.20 HA</b>

**TABLE 3** | Parkland Dedication Requirements

CDP DEMONSTRATION PLAN	PARKLAND AREA
COMMUNITY PARK (SOUTHWEST QUADRANT)	4.23 HA
NORTHWEST QUADRANT LINEAR PARK	2.11 HA
NORTHEAST QUADRANT NEIGHBOURHOOD PARK	1.72 HA
SOUTHEAST QUADRANT NEIGHBOURHOOD PARK	2.12 HA
REMNAANT OPEN SPACE ADJACENT TO NATURAL FEATURE AND CREEK CORRIDOR	0.20 HA
<b>TOTAL PARKLAND PROVIDED</b>	<b>10.37 HA</b>

**TABLE 4** | Demonstration Plan Parkland Proposed

## 5.2 PARKS AND PATHWAYS

The greenspace network is comprised of all open space, natural features, parks, and stormwater management facilities, and the pathways and other linkages tying these areas together into an integrated system.

Figure 19 illustrates the parks and pathways network forming a part of this system that could be achieved through the implementation of the Demonstration Plan.

### 5.2.1 PARKLAND AREA CALCULATION

Section 4.10 of the City of Ottawa Official Plan sets out the parkland dedication requirements for new development:

- for residential areas, 1 hectare for every 300 dwelling units when densities exceed 18 units per net hectare; and
- 2 per cent of the area of land that is developed or redeveloped for industrial or commercial purposes.

Based on these requirements and the estimated density and unit estimates for the KNUEA Tables 3 and 4 demonstrate how this target could be met based on the Demonstration Plan. For planning purposes, Mixed Use areas have been calculated as if they will be developed solely for commercial uses. As set out in Section 4.3.2, both commercial and residential uses are permitted. Residential uses within the Mixed-Use Areas will require additional parkland contribution or cash-in-lieu if they increase the overall residential unit count.

The final determination of parkland contribution, in accordance with the Planning Act and the City's Parkland Dedication By-law, will occur through the development approvals process. The parkland areas shown on Table 4 may ultimately vary based on the specific number of residential units and/or commercial land areas advanced through specific development approvals. The 10.37 hectares calculated based on the Demonstration Plan is a minimum. Compensation will not be provided by the City of Ottawa for over dedication of parkland. The inequitable distribution of parkland and any additional contribution required by an increase in density from what is proposed in the Demonstration Plan will be addressed through a Parkland Cost Sharing Agreement amongst the landowners.

GREENSPACE BY TYPE	AREA	PERCENTAGE
NATURAL HERITAGE FEATURES (CREEK CORRIDOR AND WOODLAND)	12.46 HA	30.9%
STORMWATER MANAGEMENT AREAS (ONSITE)	4.08 HA	10.1%
PARKS	10.37 HA	25.7%
SCHOOLS	13.46 HA	33.3%
<b>TOTAL GREENSPACE</b>	<b>40.37 HA</b>	<b>100%</b>
<b>PERCENTAGE OF GREENSPACE TO TOTAL GROSS LAND AREA (181 HA)</b>		<b>22.43%</b>

**TABLE 5** | Greenspace Area

The location and configuration of parkland was reviewed and evaluated, to ensure that the parkland is appropriately distributed across the new community. A list of parks facilities was prescribed based on the Parks and Pathways Development Manual (2012) and consultation with Parks and Recreation staff to ensure that the needs of the community will be met in terms of providing specific recreational facilities, such as playing fields, children's and toddler's play areas, skating rinks, water play, tennis courts etc. Facilities Fit Plans, provided in the Area Parks Plan (Appendix A), were prepared to demonstrate how such facilities could be provided within the proposed parks. At the time of the final park design for the Community Park, consideration shall be given to the provision of a field house to provide a community meeting space and facilities, subject to funding. Final park designs will be prepared through the development approvals process.

## 5.2.2 GREENSPACE CALCULATION

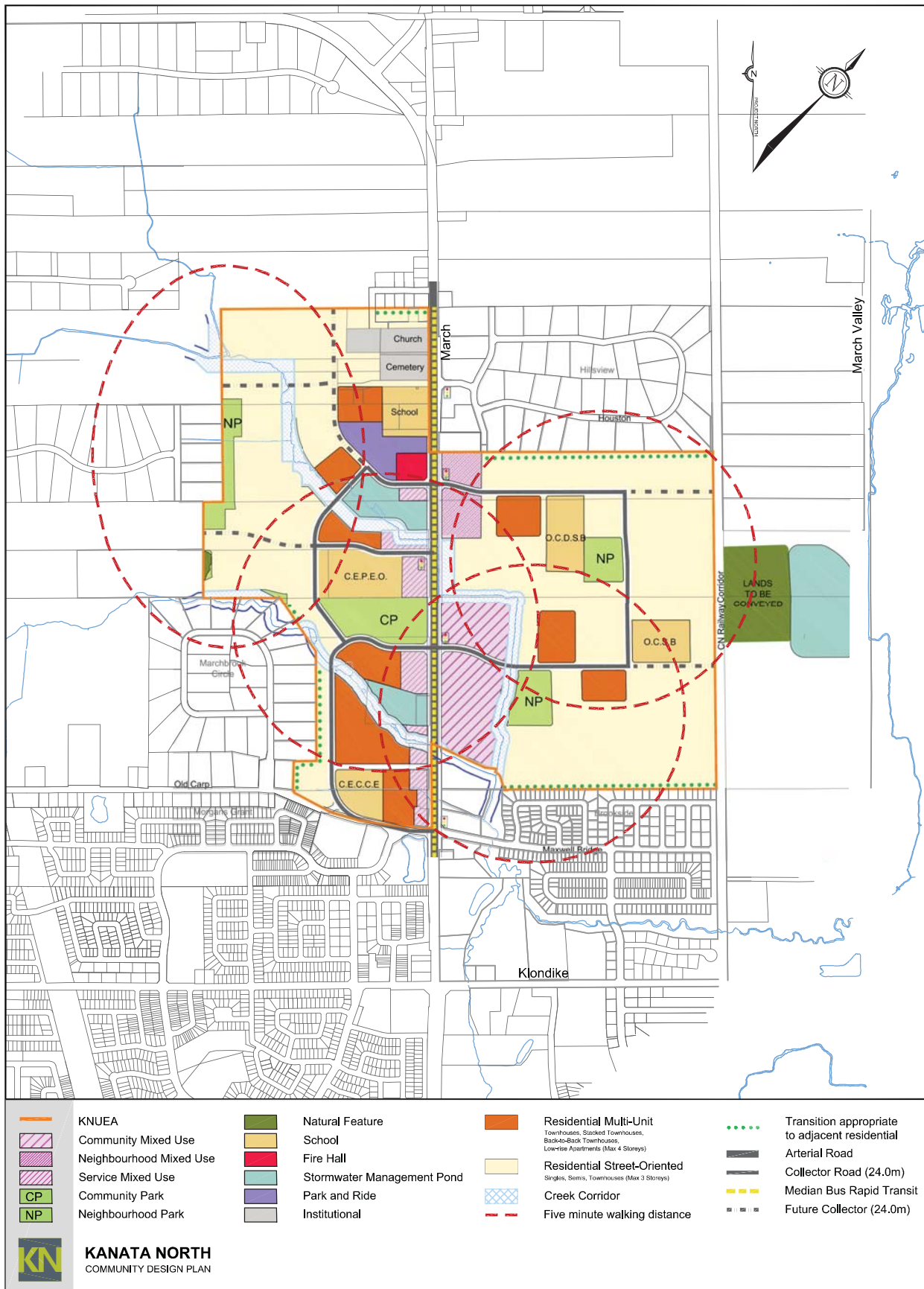
The Official Plan (Section 2.4.5) also identifies a target for total public greenspace of 4.0 hectares per 1000 population, or approximately 16-20% of gross land area (including stormwater management facilities, pathways, schools, flood plains, hazard lands, parks, natural heritage areas, utilities corridors, etc.). For the KNUFA 16 to 20% of the Gross Land Area (181 ha) is approximately 28 to 36 hectares. With an estimated population of 8400 residents, 4.0 hectares per 1000 population would be approximately 34 hectares.

Table 5 provides a summary of the total area of the greenspace system achieved by the Demonstration Plan.

Approximately 40.37 hectares, or 22.43% of the total land area within the CDP will be provided as greenspace, which exceeds the Official Plan target of 16-20%. The offsite stormwater management pond and woodlot S23 adjacent to the KNUFA east of the abandoned rail corridor will provide an additional 11.7 hectares of greenspace as an amenity for the community.

The Official Plan also directs that all residential areas are to be located within 400 metres of such greenspaces. Figure 20 demonstrates that the majority of residential areas are located within reasonable walking distance (approximately 400 metres) of the community and neighbourhood parks.





**FIGURE 20** | 5 Minute Walking Distance/400m Radius From Parks

### 5.3 ENVIRONMENTAL MANAGEMENT PLAN

The purpose of the Environmental Management Plan (EMP) is to document the existing natural conditions for the KNUEA and develop recommendations for mitigating any environmental impacts associated with the proposed development. The results of the existing conditions analysis and evaluation of post-development impacts formed the basis for the recommended environmental management strategy set out in the EMP.

The EMP serves as the Environmental Assessment document for the proposed stormwater management infrastructure and for realignment, enhancement or modification of watercourses within the KNUEA. The EMP satisfies the requirements of Phase 1 and 2, and where required Phases 3 and 4, of the Integrated EA & Planning Act Process. The projects identified in supporting studies of the EMP are also subject to the class EA process.

Figure 21 summarises the recommended Environmental Management Plan for the KNUEA.

#### STORMWATER MANAGEMENT

The Environmental Management Plan has identified recommended locations and conceptual sizes for SWM facilities to service the proposed development. They have been oversized to provide flexibility in the design of the ponds, as well as to allow flexibility in any future changes to the land use plan.

Stormwater management ponds will provide quality, quantity and thermal control for post development runoff before releasing stormwater back into Shirley's Brook.

The locations of the proposed SWM facilities are shown on Figure 21 and on the Land Use and Demonstration Plans.

#### NATURAL HERITAGE FEATURES

The creek corridors and retained portion of the Southwest Wooded Area (S12) in the northwest quadrant will be transferred to the City as part of the Natural Heritage System. The offsite Woodlot S23 east of the CN rail corridor will be conveyed to the City once the detailed design of the storm pond has been approved.

#### REALIGNMENT OF SHIRLEY'S BROOK NORTHWEST BRANCH TRIBUTARY 2

The channel along most of the length of Tributary 2 through the northwest quadrant of the KNUEA is poorly defined and has been degraded by cattle grazing. As part of the proposed works this channel will be improved. The alignment will also be shifted to better fit the land use plan. The overall result will be an improvement to the stream habitat, as illustrated in the stream channel cross-sections provided as Figures 35 to 39 in Section 6.6.1.

#### REALIGNMENT OF SHIRLEY'S BROOK

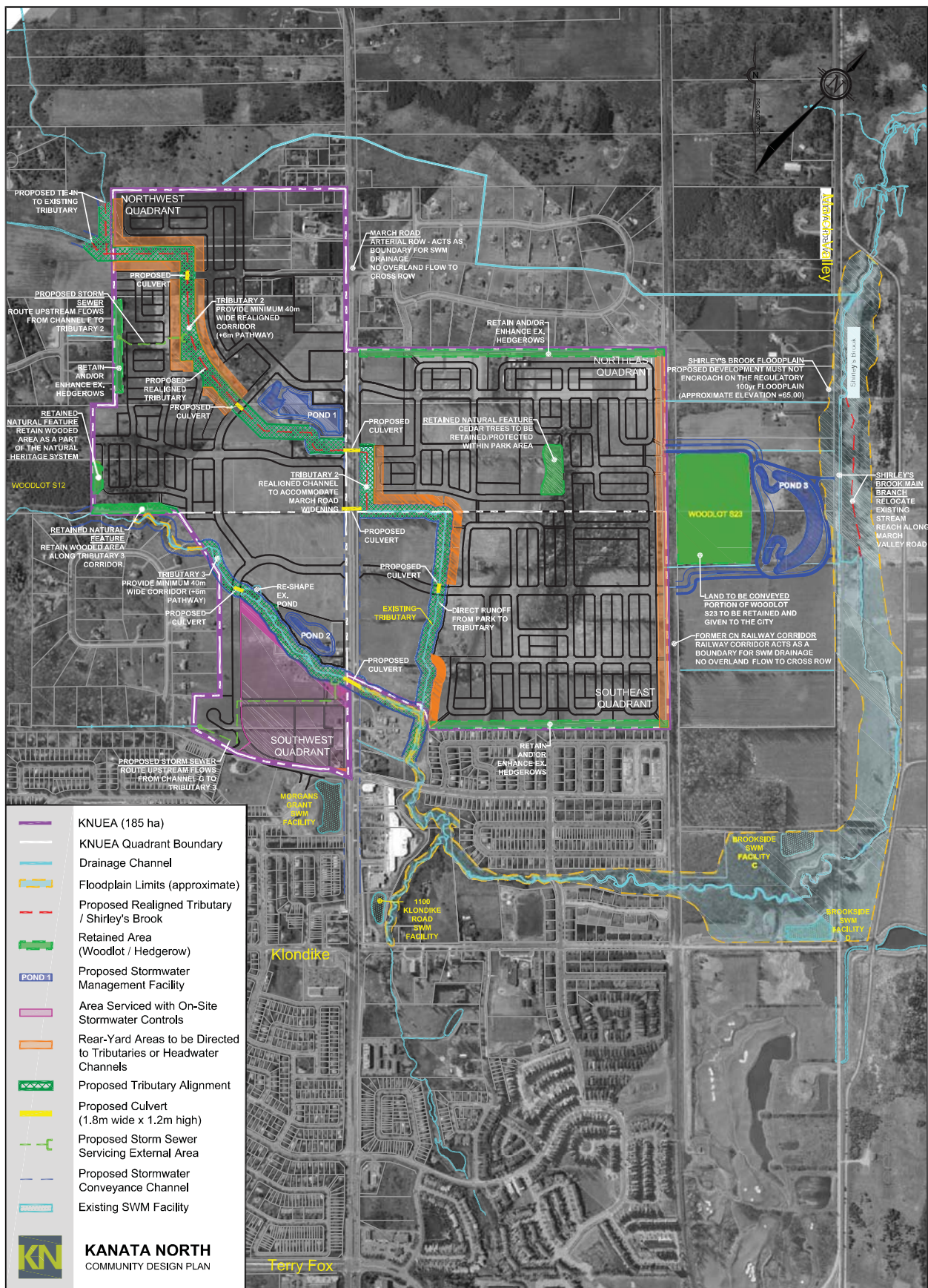
It is proposed that Pond 3 will outlet to the Main Branch of Shirley's Brook where it flows parallel to March Valley Road. Currently, a portion of the Main Branch flows parallel to March Valley Road as a road-side ditch.

Pond 3 has been designed such that outflows will match pre-development, and should not increase the potential for erosion within the Main Branch; however, to improve the existing watercourse and to mitigate any potential increase in erosion caused by the Pond 3 outlet, it has been proposed that a portion of the Main Branch of Shirley's Brook be re-aligned within the Department of National Defence (DND) lands, east of March Valley Road.

The relocation provides an opportunity to re-align the watercourse using natural channel design techniques to restore Shirley's Brook to its original alignment and enhance the riparian habitat. Moving the channel further from March Valley Drive will have additional environmental benefits, such as reducing road salt contamination and increasing the area of natural habitat. The relocation also opens up the opportunity for future improvements to March Valley Road by relocating Shirley's Brook outside the right-of-way.

The channel relocation represents the best long-term solution and has been approved in principle by the NCC and DND.





**FIGURE 21** | Recommended Natural Heritage System



## COMPENSATION FOR BLANDING'S TURTLE HABITAT

The stream corridors for Tributaries 2 and 3 provide an opportunity to improve existing habitat and connectivity through the creation of new features such as refuge pools and nesting areas. The distribution of these habitat features has been determined on a quadrant basis with the specific locations to be determined through the detailed design process. Details of the design and distribution of recommended Blanding's Turtle habitat compensation features are provided in the EMP.

Following development, the risk of road related mortality will be better controlled and mitigated through the construction of a turtle exclusion fence for Blanding's Turtles that can be installed on both sides of the 40 m creek corridor, except where adjacent to park blocks. The proposed 6 m wide recreational pathway will be within this fencing, so that the fencing will enclose both the 6 m wide pathway and the 40 m creek corridor. The type of fencing used may vary based on location, and will be assessed at the detailed design stage.

There is also opportunity to improve connectivity between the Shirley's Bay and South March Highlands through off-site works such as turtle fencing and a turtle crossing in areas with documented incidents of road kills on March Valley Road.

## PROTECTION OF EXISTING WELLS

Hydrogeological investigations were conducted to characterize existing geological and hydrogeological conditions of the study area and analyze the potential impacts of the development with respect to existing wells, septic systems, and tile drainage systems.

Adverse impacts are not anticipated; however, a monitoring program will be implemented to document any changes to existing wells during and after construction. Monitoring and mitigation will be the responsibility of the developer. If any adverse impacts are reported during and/or after construction, a new water supply well should be constructed or the affected dwelling should be connected to the municipal water supply.

The extent of the area where wells will be tested for a baseline on water quality and the location and number of wells to be monitored for water levels will be confirmed at the time of approval of plans of subdivision.

## LOW IMPACT DESIGN

Where possible, design elements fitting the Low Impact Design (LID) framework should be considered as part of individual site plan and subdivision applications. Design elements may include bioretention facilities, rain gardens, rain barrels, permeable pavers, perforate pipe systems, enhanced grassed swales, soakaway pits/trenches, and vegetated filter strips.



## 5.4 MASTER SERVICING STUDY

The Master Servicing Study (MSS) provides a planning-level functional design for servicing the Kanata North Community and has been completed in accordance with the Municipal Class Environmental Assessment process. The MSS includes an internal servicing design to facilitate future detail design work at the development approvals stage. An expansion and upgrade of the municipal infrastructure system was evaluated as the best servicing alternative to achieve the land use objectives, while minimizing negative impacts to both the social and natural environment. The MSS satisfies the requirements of Phase 1 and 2 of the Integrated EA & Planning Act Process. Projects identified in supporting studies of the MSS are also subject to the class EA process.

The servicing design is based on the Demonstration Plan but is intentionally conservative to permit flexibility in the land use plan and development densities. A contingency of 10% was incorporated to ensure that the community could accommodate between 2,900 and 3,000 units.

Figures 22 and 23 provide the recommended combined infrastructure servicing strategy for the KNUEA.

### STORM DRAINAGE

The MSS has built upon the conclusions of the EMP to develop a storm drainage plan for the study area using a dual-drainage approach. The storm drainage system will consist of:

- Storm sewers (minor system) used for conveyance of runoff for frequent to moderate storm events (up to the 5-year return period);
- An overland flow network (major system) consisting of the road network and other defined overland flow routes designed to provide safe conveyance of runoff from larger storm events.

Detailed drainage area plans are provided in the MSS, however, generally the northeast quadrant will drain to Pond 1, the southeast quadrant will drain to Pond 2, and drainage from March Road and the lands to the east will be conveyed to the offsite Pond 3.

### SANITARY SERVICING STRATEGY

The outlet for the KNUEA is the existing March Pump Station. The existing sanitary sewer infrastructure (trunk sewers and pump stations) were evaluated to determine the preferred off-site servicing option. The proposed development will be serviced by a gravity sanitary sewer network within the road right-of-ways, based on the road patterns shown on the Demonstration Plan.

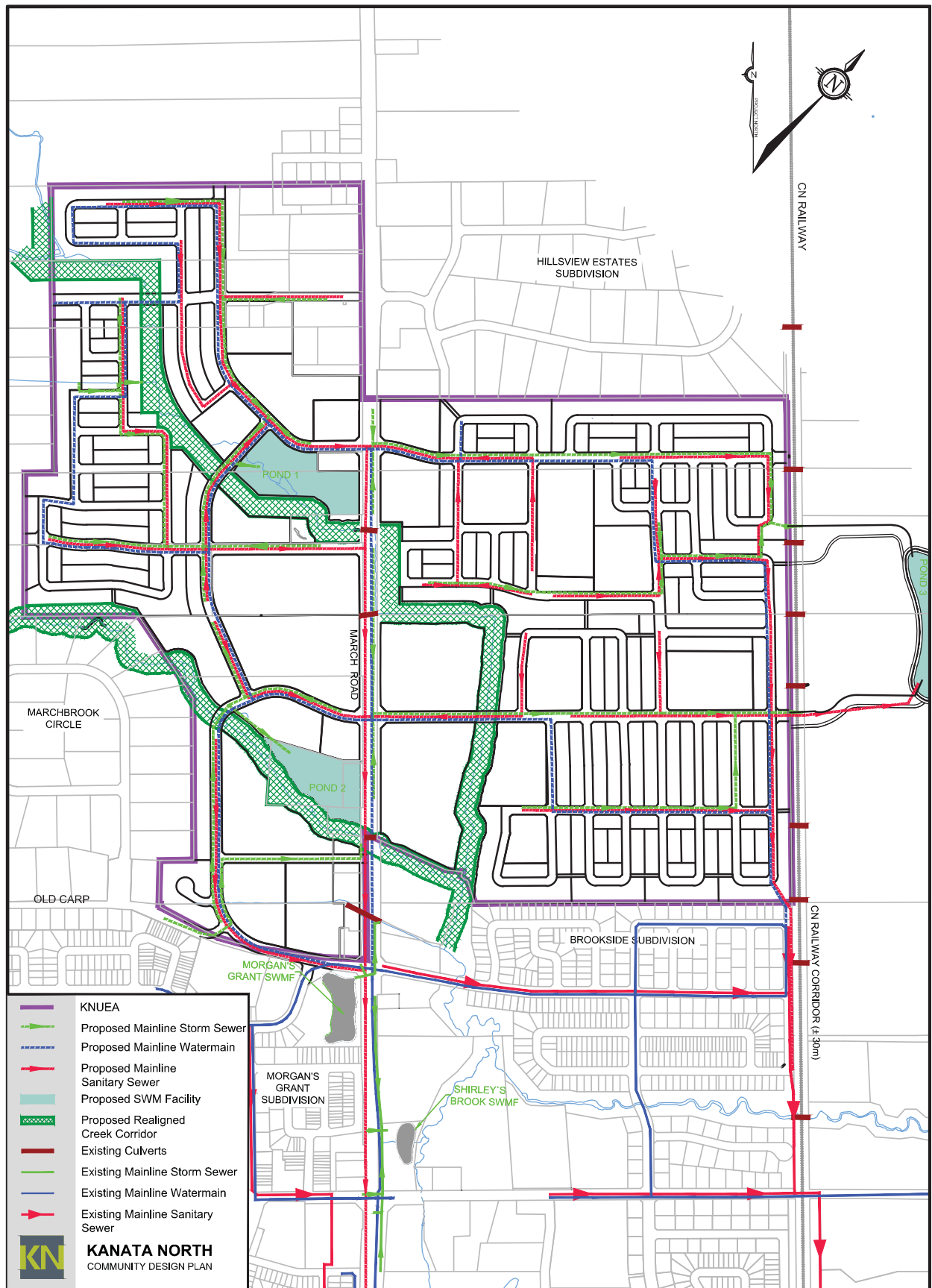
As shown on Figures 22 and 23, lands above the ridge running through the eastern quadrants of the KNUEA will be serviced by a mainline sanitary trunk sewer in March Road, while lands below the ridge will be serviced by a sanitary trunk sewer along the CN rail corridor, leading to the Briar Ridge pump station. An outlet to Stormwater Pond 3 will act as an emergency overflow to provide relief to the existing trunk sewer along the rail corridor and to ensure there are no negative impacts to the adjacent existing development.

Further evaluations were conducted to confirm there are no negative impacts to the downstream system such as a hydraulic analysis. A sensitivity analysis was also completed to ensure the proposed system permits land use flexibility and a moderate degree of intensification with the KNUEA.

Alternative options that result in a more efficient sanitary servicing scenario may be considered through the development review process. This may include some exchange of drainage areas above and below the ridge. These alternative options will be considered minor changes.

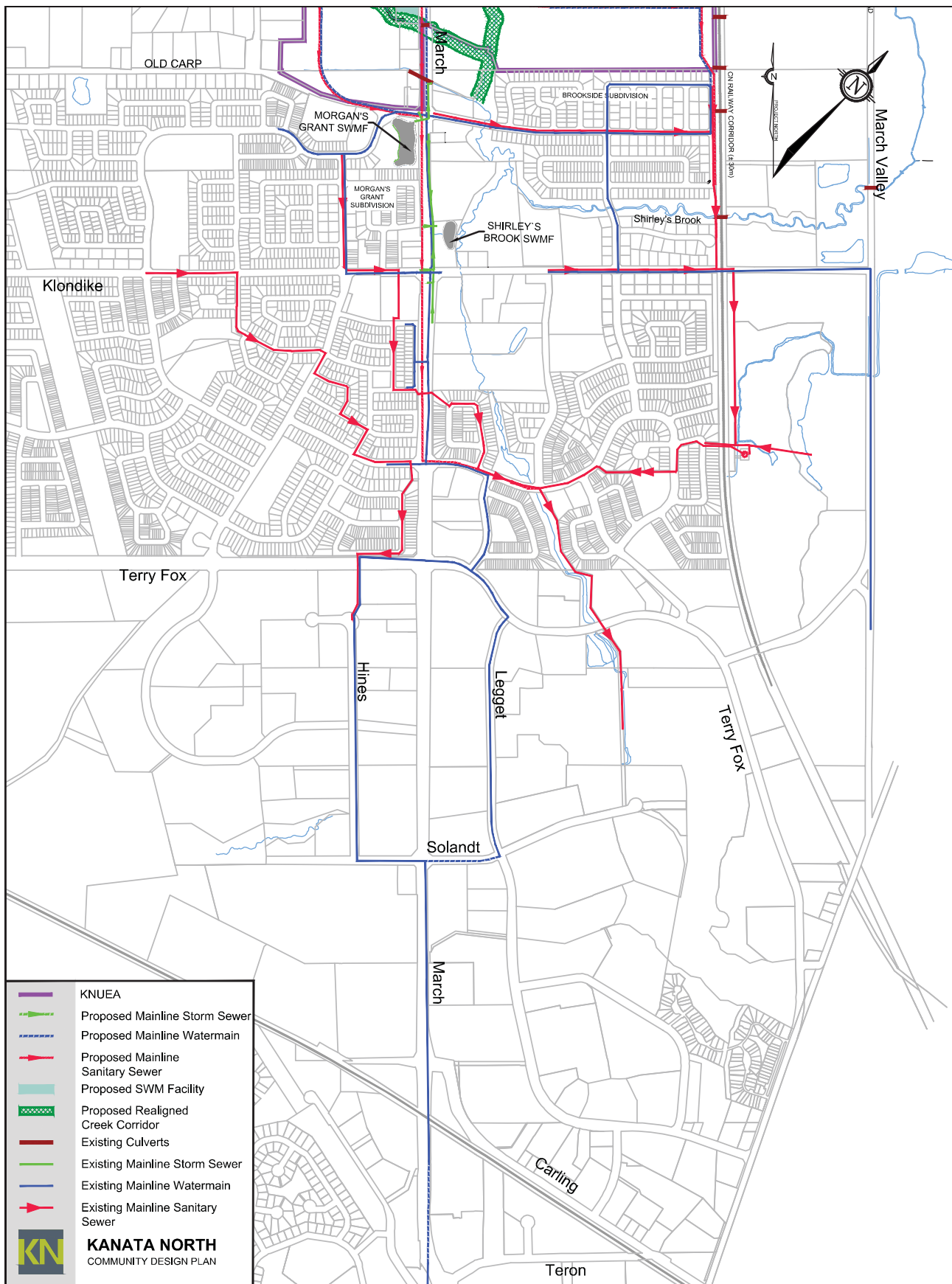
### WATER SERVICING STRATEGY

It is proposed to extend the existing watermain along March Road north to service the KNUEA. Secondary connections to the existing watermain along Old Carp Road at Halton Terrace and at Celtic Ridge should be made to provide redundancy in the system. Figures 22 and 23 show the preliminary proposed watermain system and connection points to the existing system.



**FIGURE 22** | Proposed Combined Infrastructure Onsite





**FIGURE 23** | Proposed Combined Infrastructure Offsite

## 5.5 TRANSPORTATION MASTER PLAN

The Transportation Master Plan (TMP) analyzes the future long-term transportation infrastructure needs of the new community, including the collector road network, access locations, provisions for pedestrian and cycling linkages, and interim and ultimate road cross sections that incorporate the planned widening of March Road and the extension of planned transit facilities.

The TMP identifies the transportation plan for the community in conjunction with the needs already established in the City of Ottawa 2013 Transportation Master Plan. The TMP also serves as the Environmental Assessment document for the proposed transportation and transit infrastructure and satisfies the requirements of Phase 1 and 2 of the Integrated EA & Planning Act Process. The projects identified in supporting studies of the TMP are also subject to the class EA process.

Traffic calculations were based on the Demonstration Plan and include a contingency of 10% to ensure that the road network can accommodate between 2,900 and 3,300 units.

### INTERSECTION LOCATIONS

The Kanata North community will be well served by the adjacent arterial and collector road network, including March Road, Old Carp Road, Second Line Road and Terry Fox Drive. A network of seven collector roads is recommended to safely and adequately distribute traffic throughout the new community. Possible future road connections to the north, east and west allow for future connectivity.

The Land Use Plan includes five signalized intersections along March Road:

- In the south, the existing signalized intersection at March Road and Maxwell Bridge Road;
- In the north, a new signal at the existing intersection of March Road and Maxwell Road across from St Isidore School;
- Two signalized intersections where the proposed collector roads intersect with March Road; and
- A signalized intersection north of the high school to facilitate north bound left turns into the community on the west side of March Road and to provide a second signalized access for the northwest quadrant. The proposed location also provides a pedestrian crossing to maintain the connectivity of the trail system and improve connectivity within the core area of the community, facilitating access to the high school, Community Park and Community Mixed-Use area.

Right-in right-out driveways are assumed for the commercial uses along the east side of March Road.

A full movement intersection on Old Carp Road is also included. In response to concerns from the community about the impact of increased traffic volume and speed on Old Carp Road, the proposed alignment of the collector in the southwest quadrant was revised to have Old Carp Road form a T intersection with the new collector. Halton Terrace will also be realigned to meet the proposed collector at a T intersection.

While the projected amount of development traffic travelling west on Old Carp Road is expected to be minimal, should problems arise, a variety of mitigation measures could be considered to address adverse impacts, including:

- Turn restrictions at Old Carp Road and the proposed north-south collector
- Speed cushions on Old Carp Road

## INTERSECTION CONTROL

The feasibility of roundabout and signalized intersection control along March Road at the proposed KNUEA access intersections was discussed with the TAC and PAC. It was determined that a roundabout would require an outer diameter of 55m to 60m to provide acceptable conditions on all approaches, and that signal control yielded favourable results, assuming optimized signal timing.

In light of the analysis presented, traffic signals are considered the preferred type of control at the March Road access locations for the following reasons:

- The constraints of the 44.5m ROW corridor;
- The need to give greater priority to March Road traffic.

Analysis was also undertaken to determine the preferred type of intersection control at four internal collector/collector intersections within the KNUEA. Alternative control types considered include stop control and a conventional single lane roundabout.

Based on the analysis presented, the collector/collector intersections in the northwest and southwest quadrants could be considered as possible candidates for roundabout control. The collector/collector intersections in the northeast and southeast quadrants should be considered as possible candidates for stop control or mini roundabout. Mini roundabouts are generally small enough to fit within a standard right-of-way.

The form of stop control will be determined at the Draft Plan of Subdivision stage as volume projections may be determined more accurately at that time.

## MARCH ROAD INTERIM AND ULTIMATE

March Road will be widened in two phases to accommodate the increase in vehicular traffic and to extend the future Kanata North Transitway for Bus Rapid Transit (BRT). A 44.5m right-of-way width is recommended along the March Road corridor between the current urban area boundary and the northern limit of the KNUEA. This right-of-way width will provide for the interim four lane widening of March Road and the ultimate widening to accommodate extension of the median BRT system.

Subject to City and Development Charges funding, March Road will be widened to a four lane divided urban cross section. It is recommended that the City examine and implement interim transit priority measures as required through the study area as part of the initial widening from two to four lanes in preparation for the next City of Ottawa TMP update. Transit priority measures typically include dedicated bus lanes, transit signal priority treatments and bus queue jumps.

Road cross-sections for both the Interim and Ultimate March Road are shown on as Figures 27 and 28 in Section 6.2.4.

## BUS RAPID TRANSIT (BRT)

The Kanata North Transitway study proposes to implement a Bus Rapid Transit (BRT) system within the median of March Road. The City of Ottawa's 2013 TMP identifies the median BRT system along March Road between Corkstown Road and Solandt Road in its 2031 affordable rapid transit network. The Affordable Network also identifies isolated transit priority measures along March Rd. between Solandt and Maxwell Bridge/Halton Terrace.

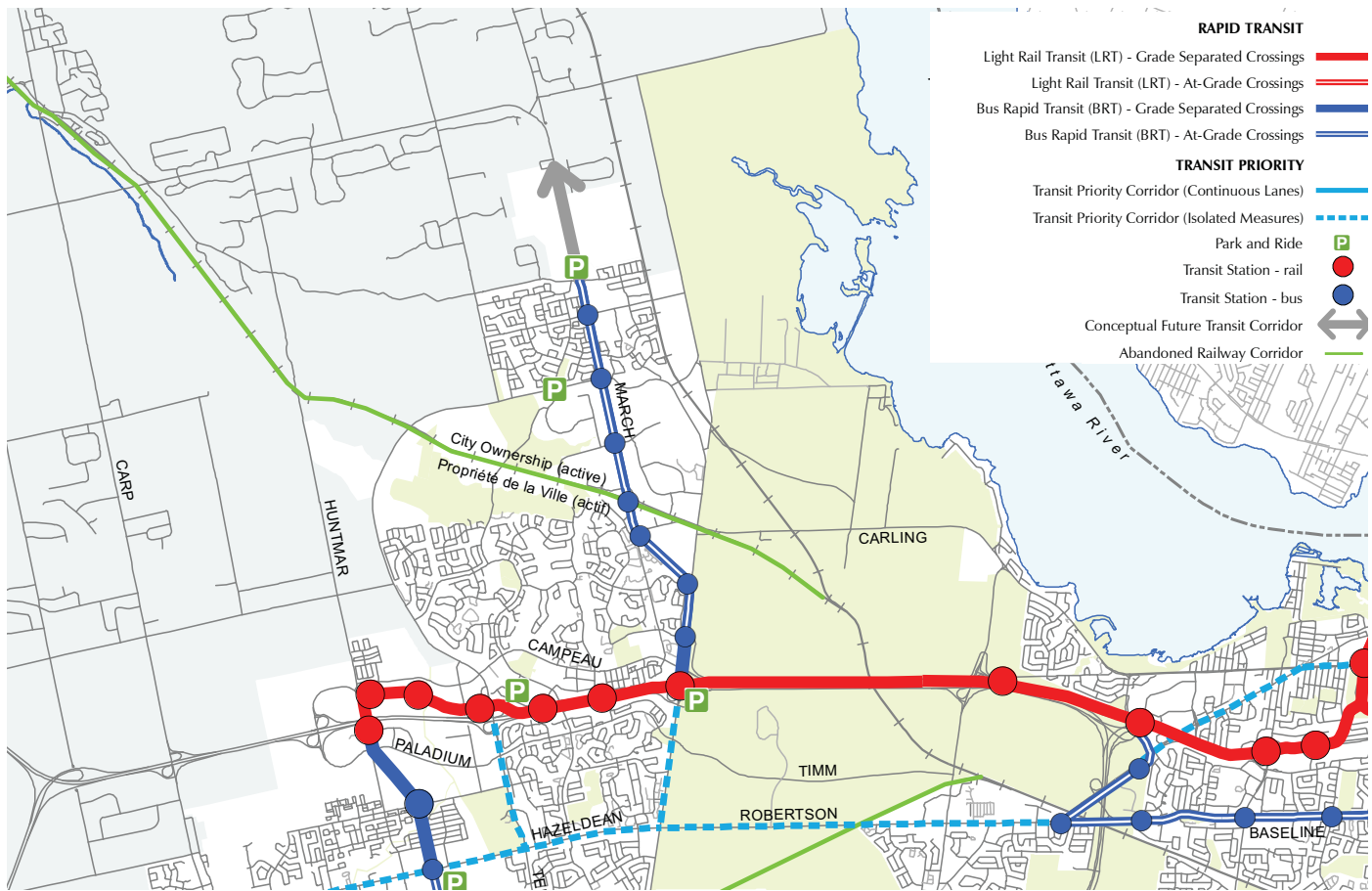
The City of Ottawa's 2013 TMP identifies the median BRT system along March Road between Corkstown Road and Solandt Road in its 2031 Affordable Rapid Transit and Transit Priority Network. The 2013 TMP also identifies the future need to extend the median BRT system to Maxwell Bridge Road/Halton Terrace post 2031, with a conceptual future transit corridor extending further north towards Dunrobin Road.

The Kanata North CDP TMP satisfies the requirements of the Municipal Class EA process for the portion of the conceptual future transit corridor, as shown in the City's 2013 TMP, that extends between Maxwell Bridge Road/Halton Terrace and the North Collector. Additional studies will need to be completed to fulfill the Municipal Class EA requirements for any further extension of the median BRT north of the March Road/North Collector intersection.

Median BRT stations will be identified along the corridor within the KNUEA as development occurs and detailed BRT plans are developed.

When the City of Ottawa extends the median BRT system through the KNUEA lands, the March Road interim cross-section can be widened to the west to accommodate the ultimate median BRT cross-section as shown in Figure 28.





**FIGURE 24** | Rapid Transit and Transit Priority Ultimate Network Concept

Figure 24 is an excerpt from Official Plan Schedule D - Rapid Transit and Transit Priority Network and illustrates the City's Rapid Transit and Transit Priority – Ultimate Network which shows the proposed extension of the BRT through the KNUEA post 2031.

#### PARK AND RIDE

The Kanata North Transitway Environmental Project Report (October 2013) and City of Ottawa 2013 TMP identified a future Park and Ride Lot to be located along March Road north of Maxwell Bridge Road, as shown on the excerpt from Official Plan Schedule D provided as Figure 24. Through the CDP process it was determined that the optimal location for the future Park and Ride facility would be further north, at the northwest corner of the March Road/North Collector Road intersection. This location allows the Park and Ride to be at the end of the line for peak hour transit routes and to allow the Park and Ride to function as the terminus of the BRT along March Road.

The park and ride parcel shown in the Land Use Plan wraps around the proposed fire hall in the northwest quadrant of the March Road intersection. This configuration provides the opportunity for an access on the collector road as well as March Road if desired.

It was determined that the park and ride should have a minimum of 500 parking spaces to account for additional ridership from the surrounding rural areas. It was determined that this could be accommodated on a 2.5ha parcel.

## TRANSIT SERVICING

OC Transpo will provide service on March Road and on the collector roads. OC Transpo will determine the final transit routes through the KNU EA and provide input on the desired stop locations and service frequency as the community builds out. The cross-sections developed accommodate transit amenities, such as bus shelters, on the inbound side of the street. Design and construction of the collector roads will be such that they are appropriate for transit operation. Provision for transit service in early phases of development will be encouraged through the creation of Early Service Agreements between developers and City of Ottawa, OC Transpo. Early transit service will help achieve the projected ridership targets and minimize vehicular site traffic.

## ON STREET PARKING

Parking will be permitted on one side of collector roadways except the Midblock Collector adjacent to the high school, which will permit parking on both sides of the roadway. Parking will be permitted on both sides of all local roadways within the KNU EA.

The following strategies promoted by Building Better and Smarter Suburbs (BBSS) should be considered during the draft plan of subdivision process.

- Construct townhouse blocks with either four or six units (all paired driveways);
- Wide and shallow townhouse lots;
- Multi-unit residential with rear-access parking;
- Multi-unit residential with basement-level parking;
- Communal parking areas;
- Visitor parking areas;
- Increased mixing with singles and townhouses.





## 6.0 COMMUNITY DESIGN GUIDELINES



The following design guidelines provide design criteria for the overall identity and structure of the proposed Kanata North Community, as well as the appearance of new buildings, streetscape, parks and open spaces within the community.

The purpose of design guidelines is to assist developers, builders, designers and City staff in achieving high quality design standards that will be applied consistently throughout the community building process.

These design guidelines, in conjunction with the design policies of the Official Plan, will ensure the final build out of the Kanata North Community to be an attractive, liveable and healthy community.

### 6.1 CITY OF OTTAWA DESIGN GUIDELINES

The City of Ottawa has produced Design Guidelines for various types of development. The following provides a brief overview of the relevant guidelines and direction on when and how each should be considered for development within the Kanata North CDP Area:

#### URBAN DESIGN GUIDELINES FOR GREENFIELD NEIGHBOURHOODS (2007)

The KNUFA is an example of a “greenfield neighbourhood,” which refers to a large area of land that has not previously been developed. These guidelines illustrate the City’s expectations during the development review process for greenfield neighbourhoods within the Urban Area of the City of Ottawa. They provide guidance regarding the relationship between adjacent sites and between a site and the public street, rather than addressing the details of individual properties, such as commercial plazas or parks.

These guidelines should be considered during the subdivision review and zoning processes for all proposed developments within Kanata North.

#### CONSOLIDATED GUIDELINES FOR NEW DEVELOPMENT APPLICATION GATEWAY FEATURES (2011)

Community, Neighbourhood, and Private gateway features or “entrance features” contribute to wayfinding in a community and to creating a sense of identity for a community. The Consolidated Guidelines for New Development Application Gateway Features set out the permitted number of gateway features, provide design guidelines and standards for location, materials and compatibility, and provides a funding structure for initial cost and maintenance.

#### URBAN DESIGN GUIDELINES FOR LARGE-FORMAT RETAIL (2006)

Any large format or “big-box” retail proposed for the Community Mixed Use designation along March Road should consider these design guidelines to achieve interesting, high-quality architectural design, enhance landscaping, public open space, and environmental performance of such developments and create comfortable and attractive pedestrian environments.

## OUTDOOR PATIO DESIGN GUIDELINES

The Outdoor Patio Design Guidelines outline some basic principles for the planning and design of outdoor patios associated with restaurants, bars and nightclubs. Any development applications for businesses incorporating outdoor patios within the Mixed Use designations of the Kanata North CDP should consider these guidelines.

## URBAN DESIGN GUIDELINES FOR DRIVE-THROUGH FACILITIES (2006)

Drive-through facilities may be permitted within the Community Mixed-Use, Neighbourhood Mixed Use or Service Mixed-Use designations. Any drive through facilities should consider these guidelines to ensure appropriate and compatible development.

## URBAN DESIGN GUIDELINES FOR GAS STATIONS (2006)

Gas Stations may be permitted with the Community Mixed-Use, Neighbourhood Mixed Use or Service Mixed-Use designations. These guidelines should be considered to ensure appropriate and compatible development of any proposed Gas Stations within the KNUEA.

## PARKS AND PATHWAY DEVELOPMENT MANUAL (2012)

The Park and Pathway Development Manual is intended to serve as a reference to guide the development of parks and pathways in the City of Ottawa. More specifically, it is designed to assist park planners and other City staff in guiding applicants through the review and approvals process for park development. A design checklist is provided to ensure that mandatory standards for accessibility are included in the design of City of Ottawa parks and pathways.



## REGIONAL ROAD CORRIDOR DESIGN GUIDELINES (2000)

These guidelines focus on the function and design of arterial road corridors in the Urban Area. Their intent is to balance the need for an arterial corridor to function simultaneously as a public space, an access provider, a multi-modal route, and a service and utility route. The guidelines also reinforce a preference for walking, cycling and transit use.

In conjunction with the road cross sections developed for the CDP and provided in Section 6.2.4, these guidelines should be considered for all development along March Road.

## ROAD CORRIDOR PLANNING AND DESIGN GUIDELINES (2008)

Similar in scope and style to the Regional Road Corridor Design Guidelines which only focusses on Urban Arterial Roads, this document includes design guidelines for Major Collector and Collector Roads in the Urban Area and Villages and Arterial Roads and Collector Roads in the rural areas.

As discussed above, this document should be considered in conjunction with the road cross sections developed for the CDP and provided in Section 6.2.4.

## RIGHT OF WAY LIGHTING POLICY

The Right-of-Way Lighting Policy is an effort to standardize the design and application of roadway and sidewalk lighting within the City of Ottawa boundaries. The policy identifies lighting related issues to be addressed in construction and reconstruction projects and future planning discussions with the public, developers, stakeholders, and City officials.

The intent of the Policy is to provide a uniform structure for the ongoing provision of right-of-way lighting across the city and applies to all roadways and sidewalks within public rights-of-way.

## COMPLETE STREETS IN OTTAWA

Complete Streets incorporate the physical elements that allow a street to offer safety, comfort and mobility for all users of the street regardless of their age, ability, or mode of transportation. A Complete Streets approach uses every transportation project as a catalyst for improvements within the scope of that project to enable safe, comfortable and barrier-free access for all users.

The road network within the KNUEA takes a complete streets approach with pedestrian, cycling and transit infrastructure fundamentally integrated with the road design.

## ENVIRONMENTAL NOISE CONTROL GUIDELINES (2016)

The Environmental Noise Control Guidelines (ENCG), updated and approved by Council in January 2016, are an important tool for implementation of the City's policies on environmental noise contained in the Official Plan. The development approval process requires assessments and studies to be completed to ensure land use compatibility and to protect noise-sensitive land uses. The ENCG provide guidance on how the environmental noise policies in Section 4.8 of the Official Plan will be implemented.

## BUILDING BETTER AND SMARTER SUBURBS (2015)

The draft Building Better and Smarter Suburbs (BBSS) document introduced a set of policies and guidelines for improving the efficiency and functionality of new suburban development.

At the time of preparation of the CDP, this document had not yet been endorsed by Council; however, several of the preliminary recommendations have been taken into account in the development of the demonstration plan.

Examples of BBSS recommendations incorporated in the Land Use and Demonstration Plans include:

- designing the road network as a modified grid to create legible districts and opportunities for a mix of land uses within walking distance from homes;
- locating stormwater management ponds adjacent to parks and integrating pathways into a common network;
- co-locating schools and parks and planning and designing schools sites as part of the open space system; and
- looking for opportunities to retain stands of mature trees or woodlots in parks.

Throughout this document additional BBSS policy and design direction have been incorporated. Other opportunities to incorporate BBSS strategies shall be considered and may be incorporated through the development approvals process.

## 6.2 KANATA NORTH DESIGN GUIDELINES

In addition to the City design guidelines and any future amendments or additions to these guidelines, the following design guidelines provide site specific recommendations to help shape Kanata North as a distinctive and unique place.

### 6.2.1. MIXED-USE COMMERCIAL SITES

In addition to the City's Urban Design Guidelines, the following guidelines provide guidance specific to the context of the Community Mixed-Use, Neighbourhood Mixed-Use and Service Mixed-Use areas of Kanata North.

#### BUILT FORM

- Locate buildings close to the street and create a walkable streetscape.
- Consider opportunities to create a "main street" along the southeast collector through the Community Mixed Use Designation.
- For both the Community and Neighbourhood Mixed Use designations, tie together development on both sides of the collector, both in terms of architectural style and pedestrian access.
- Create opportunities for retail spaces to "spill out" onto open spaces in the form of informal and flexible patio spaces.
- Locate buildings on corner sites close to the street to reinforce their focal role.
- Maintain a minimum visual building height with the ground floor having a higher floor to ceiling height. Office or residential uses above ground floor commercial is encouraged.
- Building entrances should be clearly defined and be visible and accessible from the street.

#### PEDESTRIAN REALM/CONNECTIVITY

- Provide direct, safe, continuous and clearly defined pedestrian access from public sidewalks, parking areas and transit stops to building entrances.
- Connect pedestrian walkways between adjacent properties in order to facilitate circulation between sites.
- Explore opportunities for outdoor seating and patios where appropriate.
- Provide continuous weather protection for pedestrians along the retail and other appropriate frontages;

## LANDSCAPE AND PARKING

- Surface parking areas should be visually softened by introducing trees, planters and clearly defined pedestrian routes.
- Make use of concrete pavers of varying colour and size to clearly demarcate pedestrian, parking and traffic areas and to slow vehicular traffic on internal drive aisles.
- Locate parking to minimize impact on the public realm.
- Provide decorative screening, low walls and landscaping to minimize the visual impact of parking lots on the streetscape.
- Surface parking area should be well lit to ensure public safety.

## LOADING/SCREENING/GARBAGE

- Loading, garbage facilities and other service functions must be screened from the street and from public view.
- Utilities, such as transformers and switching mechanisms, should be enclosed within the building, wherever possible. Where the placement of utilities within the building is not feasible, utility placement will be screened from public view through landscaping and/or other screening mechanisms.
- Rooftop mechanical equipment must be architecturally integrated.
- Blank building walls that are visually prominent are discouraged.



## PROXIMITY TO CREEK

- Establish opportunities for community connections to and enhancement of the creek corridors.
- Locate loading and service areas away from the creek where possible and where not feasible, screen from view with decorative fencing and other appropriate design measures.
- Capitalize on opportunities to animate the creek by orienting outdoor patios and other public spaces to the creek corridor.
- Direct all snow plowing/removal operations to avoid pushing or dumping snow into the creek corridor.

## 6.2.2 SCHOOL SITES

Exploring opportunities for better integration between schools, parks and other City facilities is a priority of the Building Better and Smarter Suburbs (BBSS) initiative. The KNUFA land use plan has been designed to address these priorities with the co-location of the high school and community park, and an elementary school site with the northeast quadrant neighbourhood park.

The following guidelines should be considered as school sites and adjacent sites are developed.

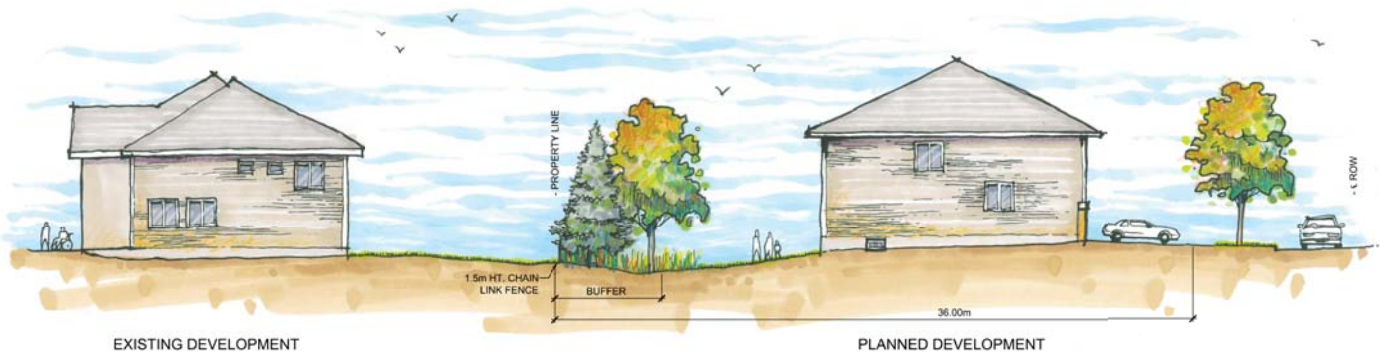
Where schools are co-located with parks:

- Consider the placement of facilities such as playing fields and parking lots, both on the school site and during park design, to facilitate sharing of facilities.
- Explore opportunities to align park pathways and school access points (i.e. gates) to provide direct pedestrian access through parks to abutting school sites and consider opportunities for winter maintenance of pathways.

For all school sites:

- Ensure safe pedestrian crossings to school sites to encourage active transportation.
- Where possible, integrate bus and drop-off lay-bys in the road right-of way adjacent to school sites.
- Primary frontage should be long enough to accommodate bus lay-bys in the right-of-way.
- Where possible, place vehicular pick-up/drop-off on a different frontage from bus bays, preferably in road allowance with pick-up/drop-off directly onto a sidewalk.





**FIGURE 25** | Transition from Street-Oriented Residential to Existing Development

### 6.2.3 RESIDENTIAL TRANSITIONS AND BUFFERS

Respecting existing adjacent communities and neighbourhoods is a guiding principle of the Kanata North CDP. Appropriate transition between the existing residential subdivisions and new development is part of achieving this vision and of successfully integrating the new development with the existing community.

#### STREET-ORIENTED RESIDENTIAL

The street-oriented residential cross-section provided as Figure 25 illustrates measures that will be used to provide transition between the existing residential subdivisions and new street-oriented residential development:

- Deeper lots will be provided adjacent to existing development to accommodate healthy trees and supplemental planting. Average lot depths within the KNUEA will range from 28-32m. Lots adjacent to existing development will range from 34 to 38m to provide deeper rear yards with screening vegetation.
- At the time of subdivision approval, a Tree Conservation Report (TCR) and a landscape plan will be prepared to confirm healthy and sustainable trees that can be retained along the common property line, and to propose supplemental planting where appropriate to create a natural buffer of native vegetation.
- A chain link fence will be provided along the property line between existing and proposed residential uses subject to site conditions.
- Similar housing forms will back onto existing housing, with single detached dwellings backing onto existing singles and townhouses or singles backing existing townhouses.

#### MULTI-UNIT RESIDENTIAL

In the event that there are changes to the land use plan resulting in multi-unit residential being located adjacent to the existing Marchbrook Circle neighbourhood in the southwest quadrant, an increased setback and buffer area will be provided as illustrated in the cross-section provided as Figure 26:

- An enhanced creek corridor along the common property line would provide an appropriate transition to some adjacent lots.
- Where the creek corridor is not located on the common property line, as shown in Figure 26, the Site Plan approval process will provide the opportunity to ensure that there is adequate separation and landscaping to provide an appropriate transition to adjacent lots in Marchbrook Circle. It may include, but not limited to, increased setbacks, enhanced landscaping and naturalized planting.
- Site parking and amenity areas along the rear lot line where possible to increase the building setback from existing lots.
- The potential for light spill over or glare from any lighting source should be avoided or mitigated;



**FIGURE 26** | Transition from Multi-Unit Residential to Existing Development

## 6.2.4 STREETSCAPE GUIDELINES

### MARCH ROAD DESIGN GUIDELINES

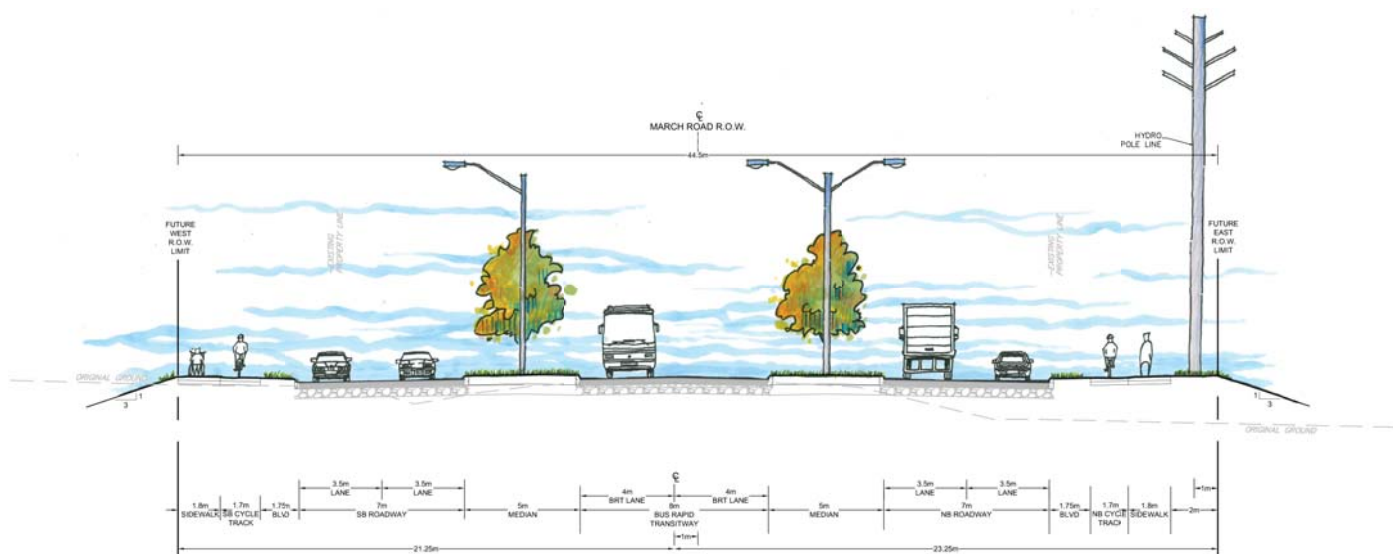
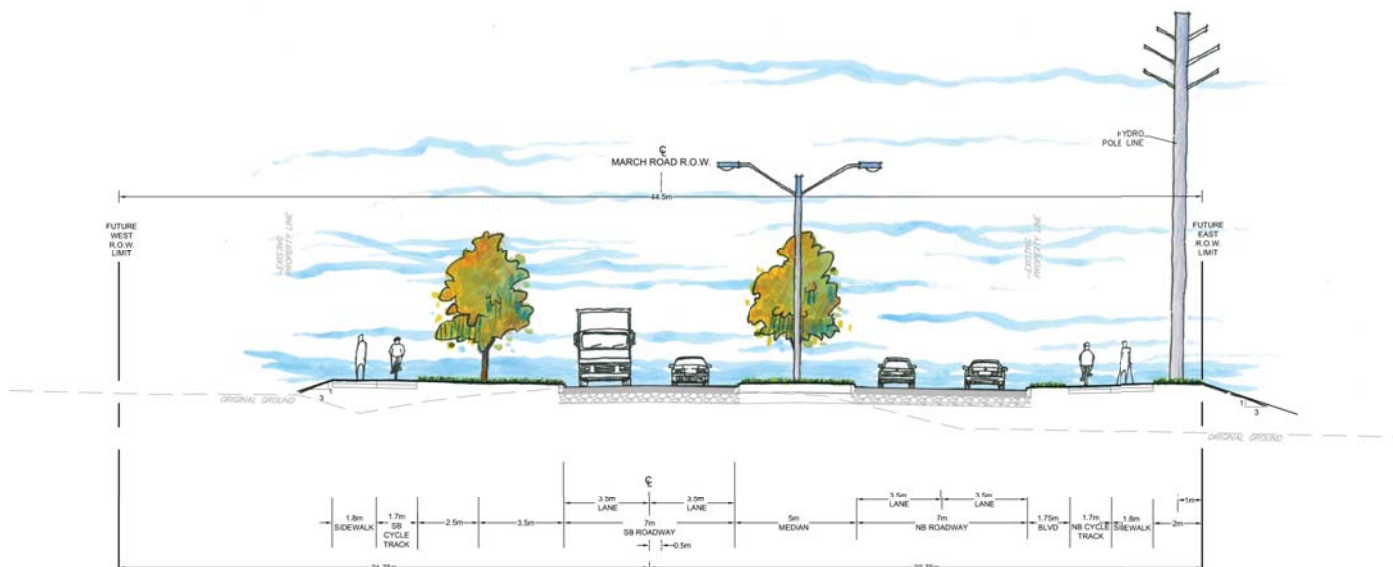
March Road will be widened in two phases to accommodate the increase in vehicular traffic and to extend the future Kanata North Transitway to the new park and ride location.

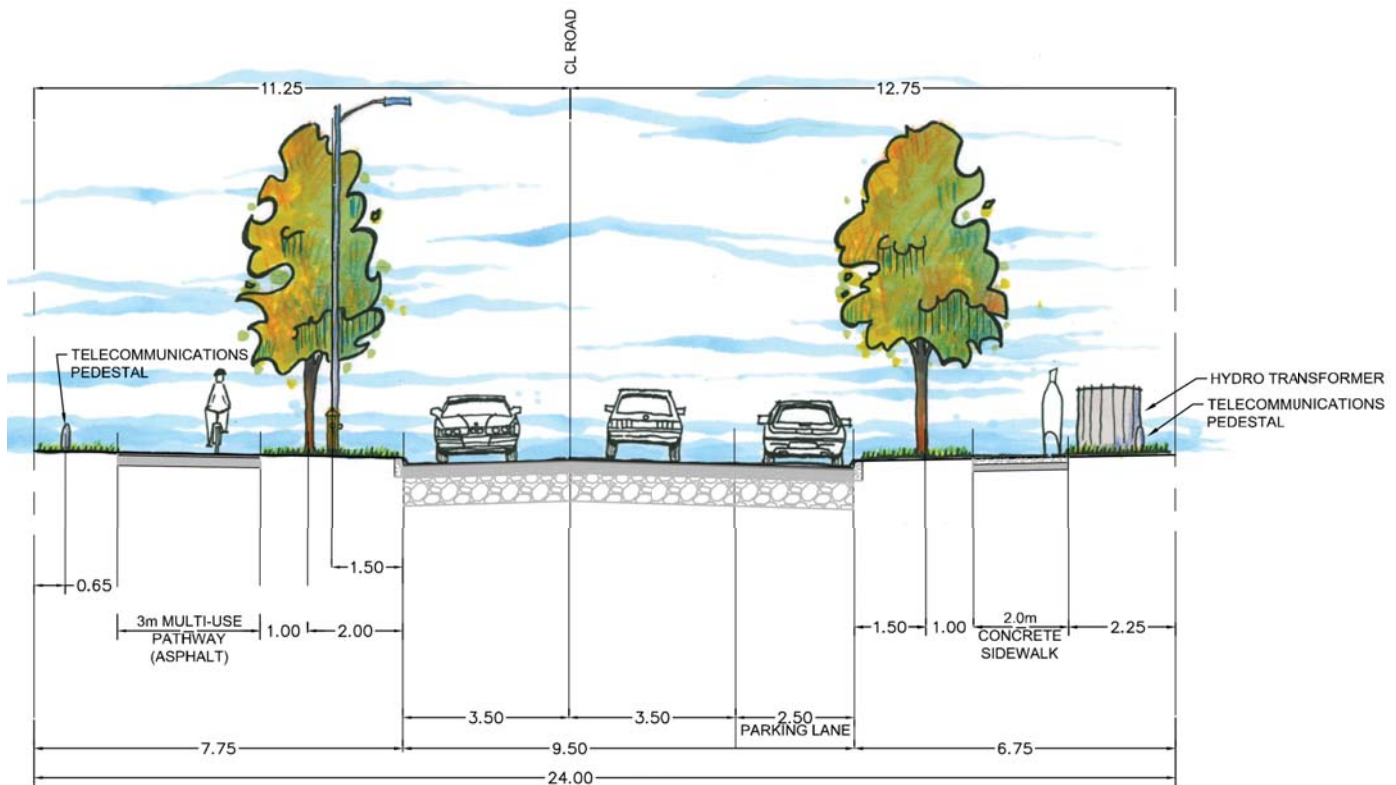
A 44.5m right-of-way width will be protected along the March Road corridor between the current urban area boundary and the north limit of the KNU EA lands. This right-of-way width will provide for the interim four lane widening of March Road and the ultimate widening to accommodate extension of the median BRT system.

Figure 27 shows the proposed interim cross section for March Road following the widening from two to four lanes. As shown, March Road will not be centred within the right-of-way under the interim condition. This will reduce the construction throwaway cost when the City widens March Road to extend the Kanata North Transitway to the north limit of the KNU EA.

When the City of Ottawa extends the median BRT system further north through the KNU EA lands, the interim cross-section can be widened to form the ultimate median BRT cross-section as shown in Figure 28.

- Permeability across March Road will be provided via the four signalized access connections.
- Sidewalks and raised cycle tracks will be provided along both sides of March Road as part of the planned widening from two to four lanes. This will provide improved connectivity to the existing bike lanes and sidewalks along March Road south of the KNU EA.
- Sidewalks and raised cycle tracks should extend to the limit of the urban four-lane cross section and transition to a paved shoulder where the urban section transitions to rural (a point north of the Maxwell Road/St. Isidore intersection).
- March Road will be designed to have an effective operating speed of 60km/hour.





**FIGURE 29** | Typical Collector Road Cross-Section

#### COLLECTOR ROAD DESIGN GUIDELINES

The right-of-way to be protected along all collector roadways within the KNUEA will be 24m. Future collectors, identified with a dashed line on the Land Use Plan will be provided with a 24m right-of-way but will be built as local roads in the short term.

All collector roads, excluding the collector adjacent to the high school in the northwest quadrant, will have a 7m road platform. A 2.5m parking lane and a multi-use pathway will be located on one side and a sidewalk on the other, as shown in Figure 29.

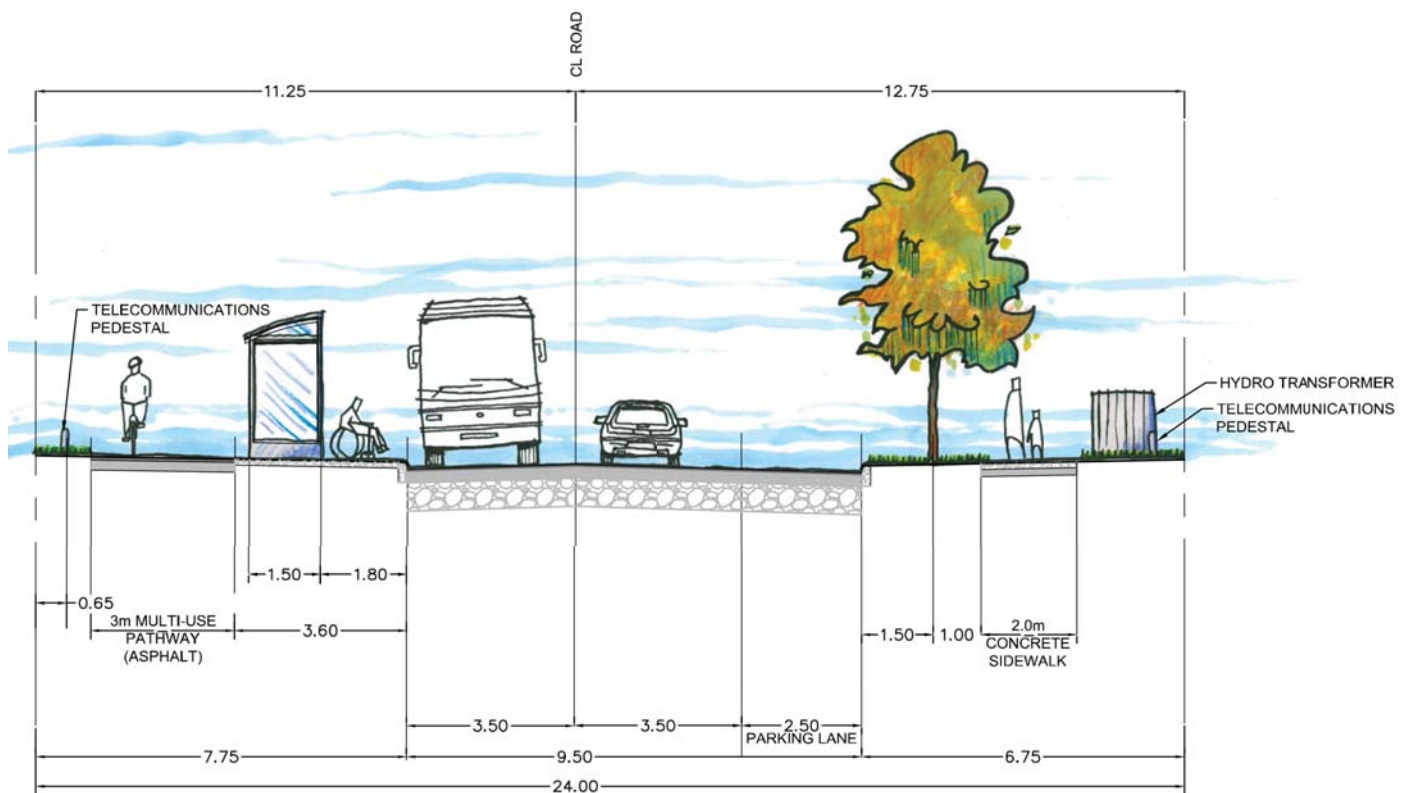
Bus shelters will be located on the multi-use pathway side of these roadways. The multi-use pathway will veer around bus shelters, as shown in Figure 30.

The north-south collector road, between the northern collector and March Road in the southwest quadrant will have a cross section as depicted in Figure 31.

Bus shelters will be located on the sidewalk side of this road. The sidewalk will veer in front of bus shelters, as shown in Figure 32.

The collector adjacent to the high school in the northwest quadrant will be designed to typical City of Ottawa standards for a 24m right-of-way collector roadway. This collector will have an 11m roadway platform and sidewalks on both sides of the roadway.

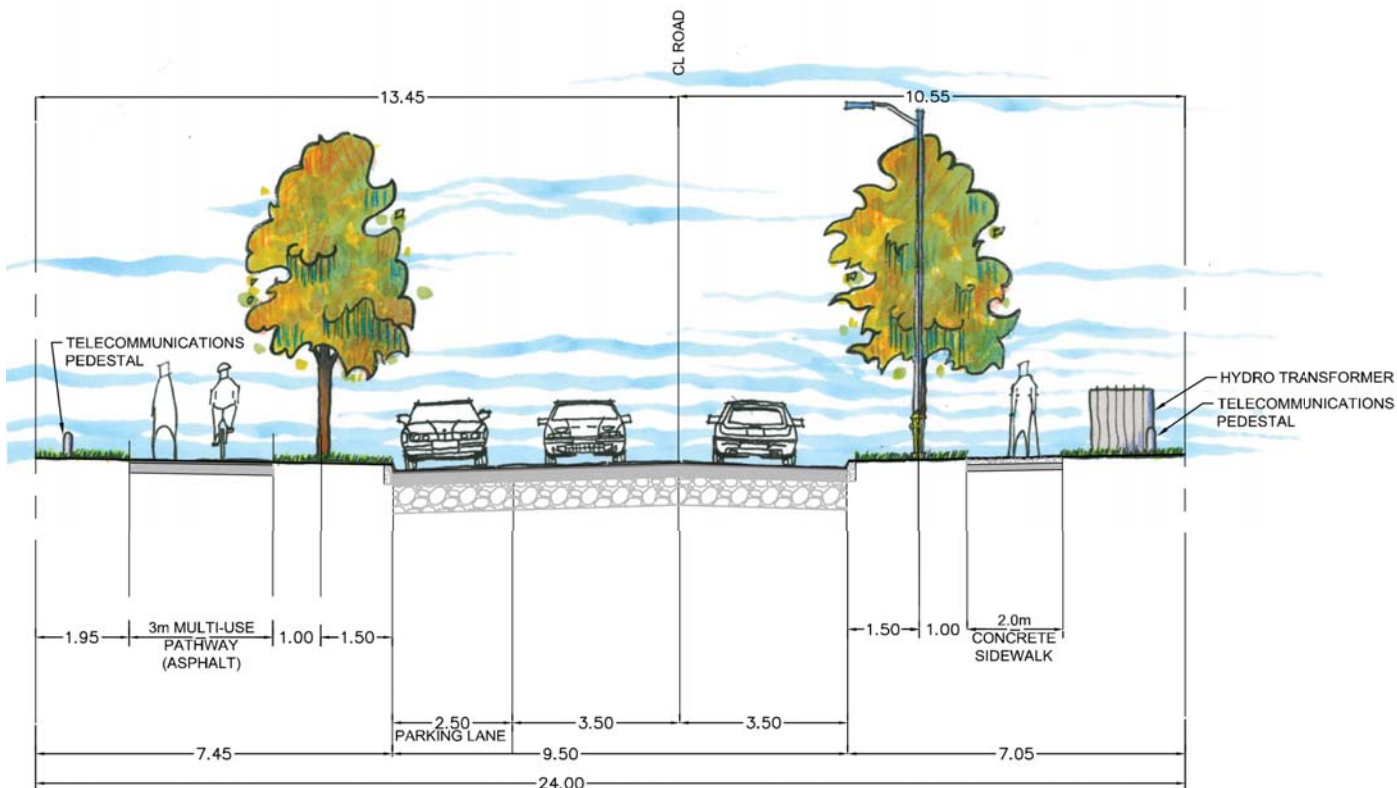




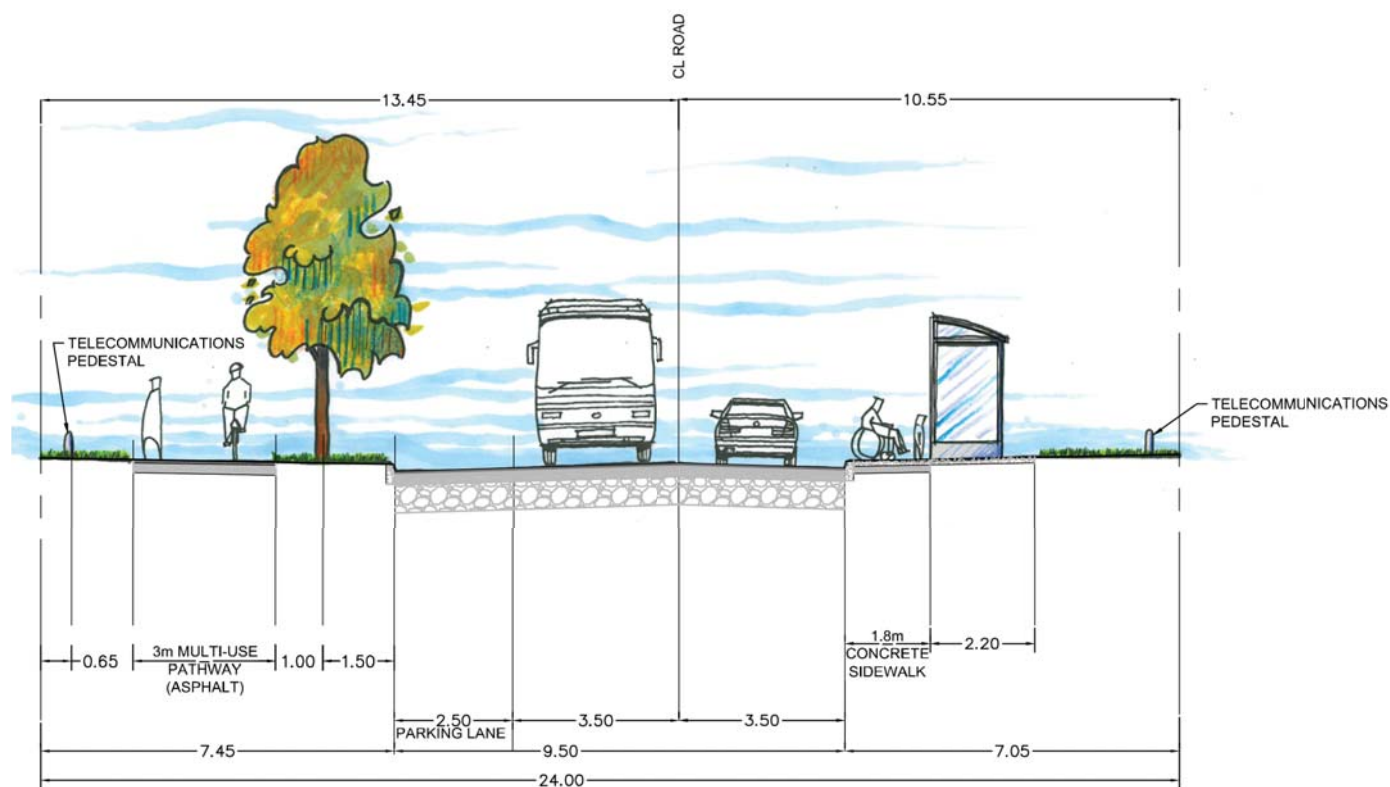
**FIGURE 30** | Typical Collector Road Cross-Section with Bus Shelter

Future collectors, identified with a dashed line on the Land Use Plan and Demonstration will be provided with a 24m right-of-way but will initially be built as local roads. The additional right-of-way will allow for a wider roadway platform and pedestrian facilities on both sides of the roadway if determined to be necessary in the future.

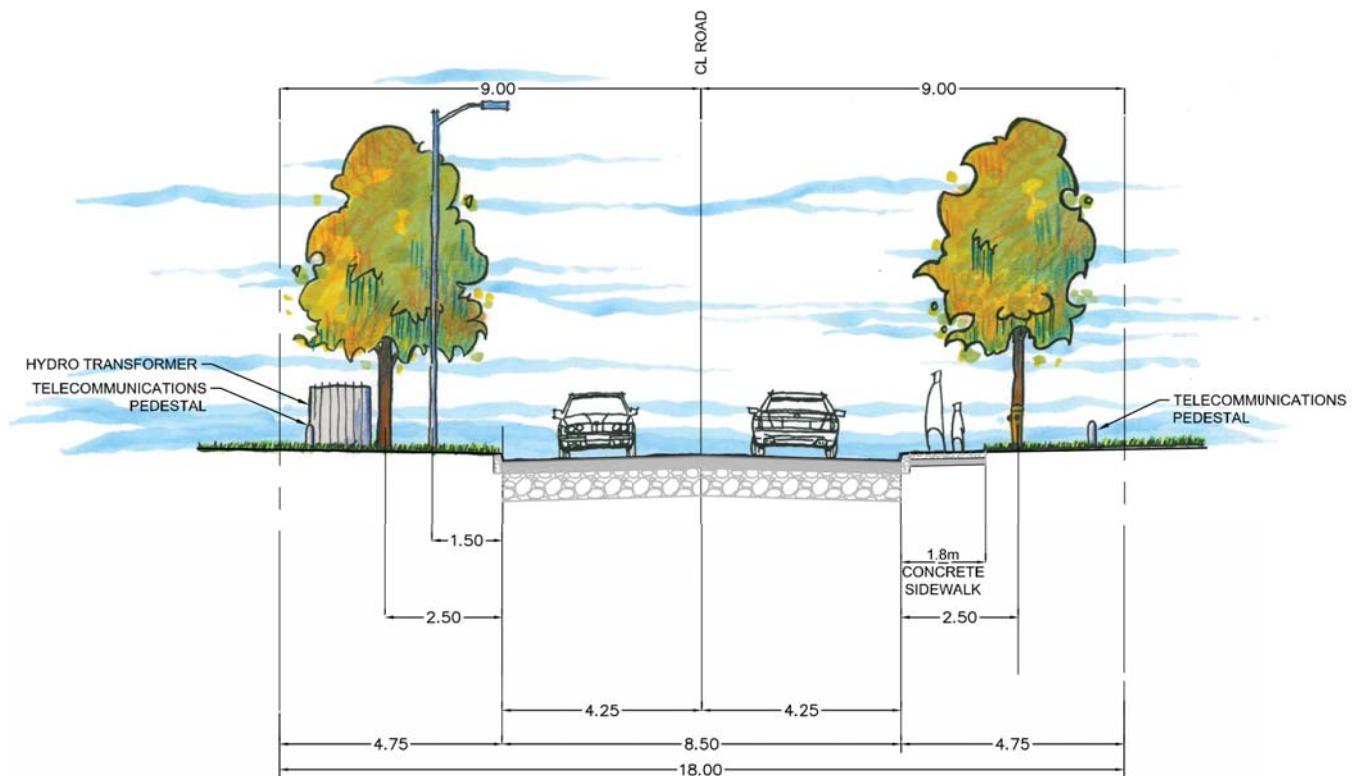
- The internal collector road network will include sidewalks and multi-use pathways (MUPs) to encourage the use of active transportation modes for utilitarian trips such as shopping, attending school, and visiting neighbours.
- Sidewalk will be provided on Old Carp Road along the frontage of the KNUFA, providing improved connectivity to the Morgan's Grant community.
- Create a street system that promotes passive traffic calming and includes traffic calming features, such as bulb outs and pathway crossing signage, built in to the initial designs for local and collector roads.
- Where recreational pathways cross the collector roads, traffic calming measures will be provided. Recommendations of BBSS include bump outs to better define crossing points, shorten the crossing distance, and ensure visibility between parked cars. Signage to warn drivers of pathway crossing locations will also encourage reduced speeds and improve safety.
- Through discussion with the Public Advisory Committee, it was requested that one of the major collector roads in the new development be named after Roger Tomlinson, who was a geographer and the primary originator of modern computerized geographic information systems (GIS). The name Roger Tomlinson has been added to the City's list of pre-cleared street names and has been reserved for use as a new street name in Ward 4 – Kanata.
- Collector roads will be designed to have an effective operating speed of 30-40km/hour.



**FIGURE 31** | North-South Collector Typical Cross-Section



**FIGURE 32** | North-South Collector Typical Cross-Section with Bus Shelter



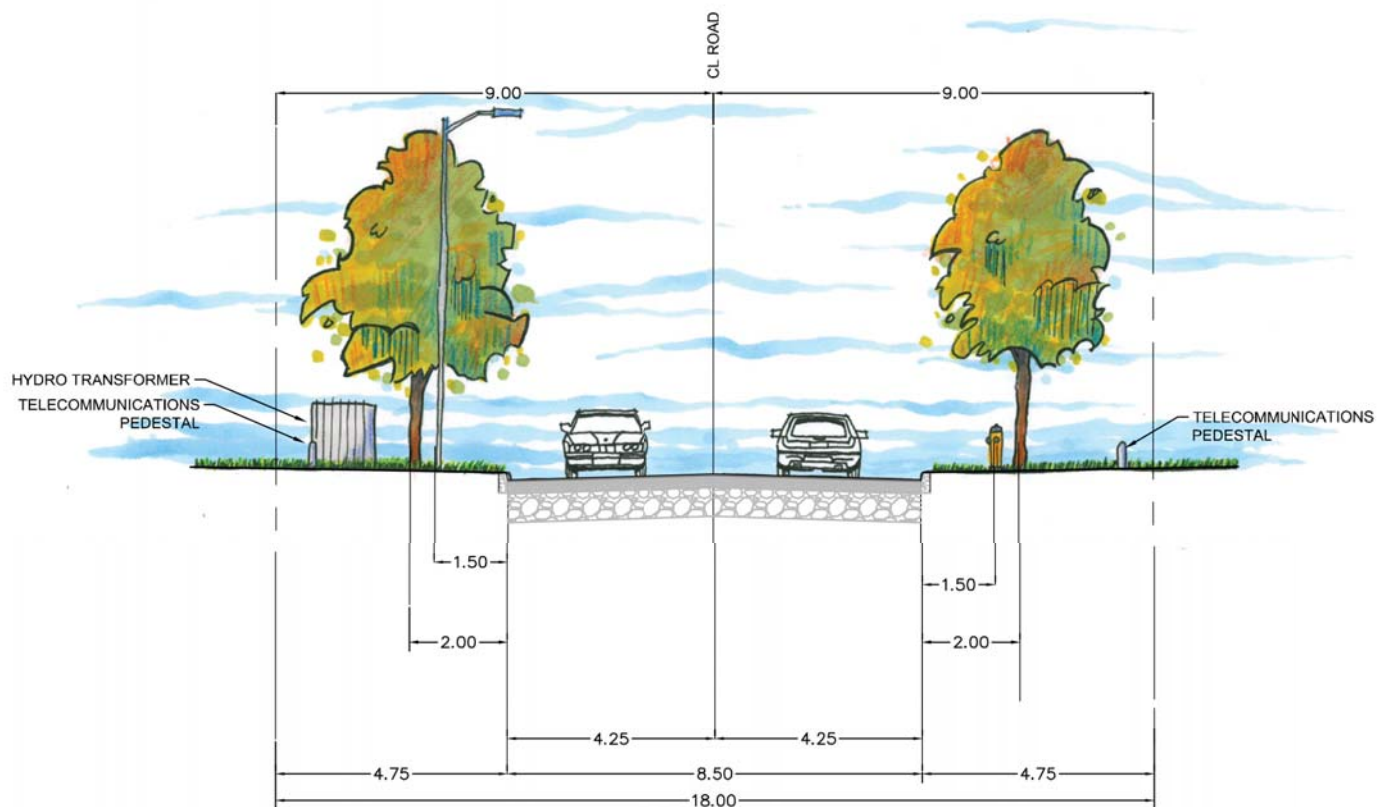
**FIGURE 33** | Local Road - Typical 18m ROW Cross Section with Sidewalk

#### LOCAL ROAD DESIGN GUIDELINES

Local roads will generally have an 18m right-of-way, as per standard City cross sections. The 18m right-of-way widths allow for the provision of sidewalk along local roads leading directly to transit, school, park, institution or retail/commercial/employment land uses, as shown in the Parks and Pathways Plan presented in Figure 17 in Section 4.3.8. A 16.5m right-of-way may only be considered where soil conditions will permit planting of street trees within the reduced right-of-way. A 14.75 or 14m right-of-way width may be used for single loaded roads adjacent to open space.

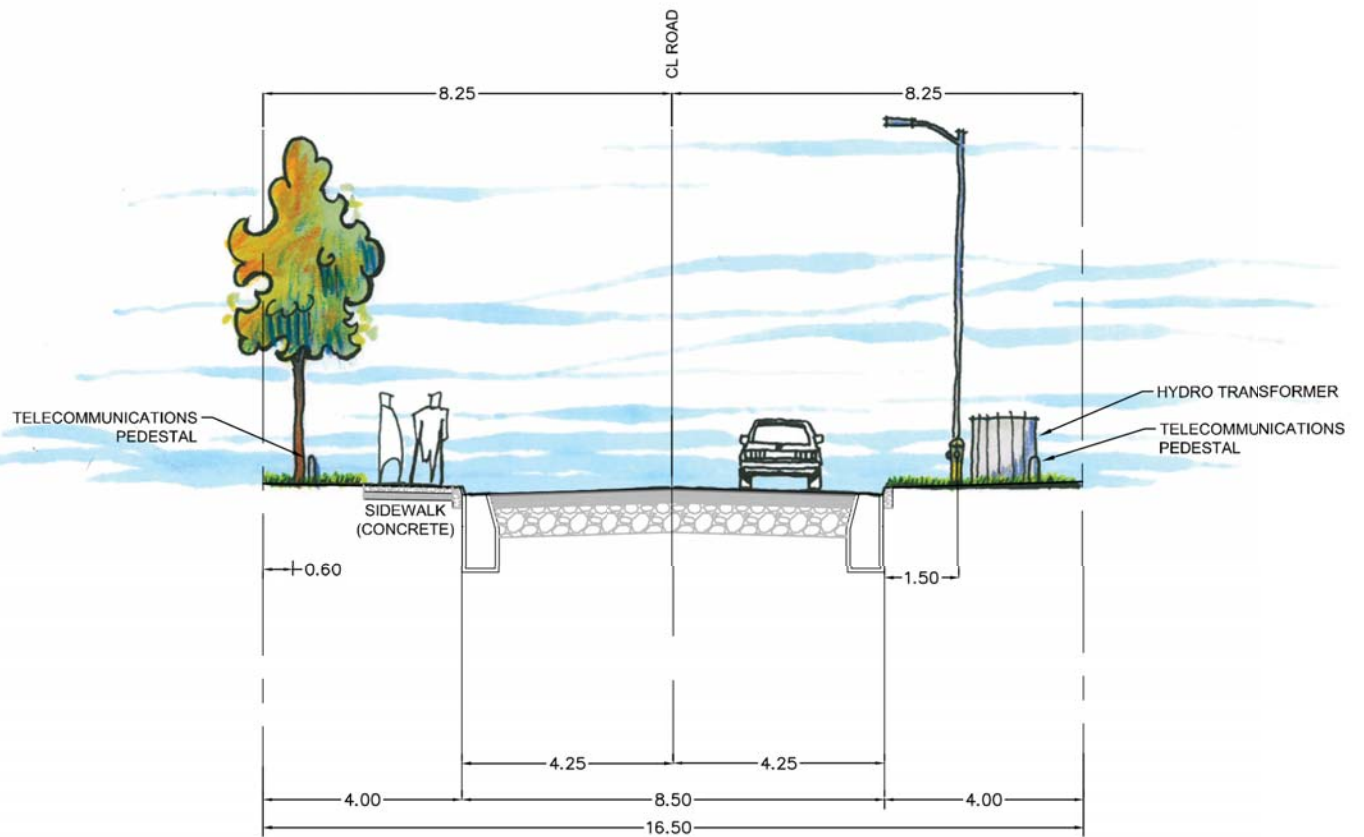
Local roadway cross sections are shown in Figures 33, 34, and 35.

- The local road pattern will be designed as a modified grid.
- Sidewalks will be provided along select local roadways connecting residential areas and other land uses.
- Where crescents or cul-de-sacs interrupt the grid pattern, 6m pathway corridors will be provided to increase permeability and facilitate direct pedestrian and cyclist connections throughout the community.
- Trees will be located in a linear fashion on both sides of the roadway to assist in traffic calming.
- Local roads will be designed to have an effective operating speed of 30-40km/hour.



**FIGURE 34** | Local Road - Typical 18m ROW Cross-Section without Sidewalk





**FIGURE 35** | Local Road - Typical 16.5m ROW Cross Section

### 6.2.5 GATEWAY/ENTRANCE FEATURES

Gateway features provide a sense of arrival and identity and can help to tie together a design theme for the community. All gateway features for Kanata North should have a coordinated design theme determined and agreed upon by the by the Kanata North Landowner's Group.

Figure 36 provides suggested locations for community and neighbourhood gateway features for Kanata North.

#### COMMUNITY GATEWAYS

Community Gateway features should be located along March Road at prominent locations to welcome people to the community. A maximum of two community level gateway features are permitted by the City's Consolidated Design Guidelines for New Development Application Gateway Features.

Community gateways can be located within the March Road right-of-way at the intersection of March Road and the Collector Roads, or at the creek crossing. Gateway features could be integrated with other public facilities such as the stormwater management blocks.

#### NEIGHBOURHOOD GATEWAYS

Neighbourhood Gateway features can be located on collector roads at the entrance to individual neighbourhoods.













## 7.0 IMPLEMENTATION

This section of the CDP describes the processes and mechanisms that will guide the implementation of the Kanata North Community Design Plan in fulfilment of the policies of the Official Plan and the CDP. The principal mechanisms include:

- An implementing Official Plan Amendment;
- Guidance on the interpretation of the CDP;
- Process to amend the CDP and Environmental Assessments;
- Preparation of a financial implementation plan, involving cost sharing agreements;
- Schedule for staging of key infrastructure to service the lands;
- Development monitoring.

As development proceeds within the Kanata North Urban Expansion Area, the implementation mechanisms will guide the timely advancement of municipal infrastructure and community amenities and facilities. Implementation strategies will include the use of front-ending agreements that will allow the developer(s) to advance the construction of certain facilities in accordance with agreed-upon principles. The City will be a party to the front-ending agreements.

Policy 5 of Section 5.3 of the Official Plan permits the use of private agreements among landowners to cost-share major infrastructure projects, associated studies and plans. These agreements may include development of community facilities such as parks. The agreements are initiated by landowners within a defined area and provide for the equitable sharing of costs among the benefiting parties, to complement in some instances or replace the provisions of a Development Charges By-law. These agreements are implemented through the Official Plan Amendment as site specific policies in Section 5.3 of the Official Plan and enforced through conditions of development approval. Section 5.3 of the Official Plan also states, that where such agreements are in place, the City shall require evidence of participation and payment, pursuant to the agreement(s), as a condition of draft approval for plans of subdivision and plans of condominium, and as a condition of approval of severance applications and site plans.

A cost sharing agreement will be developed for the KNUA to establish principles for cost sharing of core services and other shared infrastructure prior to development approval.

A master parkland agreement will also be negotiated for the KNUA to establish a compensation mechanism to equitably share parkland dedication and construction costs, and to ensure that parkland is developed in accordance with the CDP.

## 7.1 OFFICIAL PLAN AMENDMENT

The Kanata North Community Design Plan will be approved by Council. An Amendment to the City of Ottawa Official Plan will be required as it relates to the following matters:

- Schedule A Rural Policy Plan - remove the Urban Expansion Study Area from the Rural Policy Plan.
- Schedule B Urban Policy Plan - include the Urban Expansion Study Area into the Urban Policy Plan and designate the majority of the lands as General Urban Area, designate the creek corridors as Urban Natural Feature
- Schedule C Primary Urban Cycling Network - reflect the cycling route along March Road and multi-use pathways identified in the CDP.
- Schedule D Rapid Transit Network - reflect the location of the Transit Station and Park and Ride and extend the proposed BRT (Bus Rapid Transit) as identified in the CDP.
- Schedule E Urban Road Network - extend March Road as an arterial road in the urban area and include the proposed collectors identified in the CDP.
- Schedule G Rural Road Network - remove March Road as an arterial in the rural area.

- Schedule I Pathways and Scenic-Entry Routes (Urban) Multi-Use Pathways and Scenic-Entry Routes (Urban) - extend March Road as a Scenic Entry Route, include the Multi-use Pathway Cycling Route (City Wide, on-road) along Halton Terrace/Old Carp Road and Multi-Use Pathways (Community Route, off-road) abutting the Urban Expansion Study Area
- Schedule J Cycling, Multi-Use Pathways and Scenic-Entry Routes (Rural) - remove the On-road Cycling Route along Halton Terrace/Old Carp Road abutting the Urban Expansion Study Area.
- Schedule L3 Natural Heritage System Overlay (West) – amend the Natural Heritage System overlay to remove S20 and a portion of S12 and include the creek corridors

Volume 1 - add the following as Policy 15 to Section 3.6.1 – General Urban Area:

City Council has approved a community design plan for the Kanata North community (shown on Annex 5-Urban Areas Subject to a Community Design Plan or Policy Plan) to guide future development. Development is therefore to occur in keeping with the community design plan and policies within this Plan, subject to the following:

- a) Residential development is to be at least 30 per cent single detached but not more than 55 per cent single detached dwellings, at least 10 per cent apartment dwellings and the remainder multiple dwellings, other than apartments.
- b) The overall residential development will meet the minimum average density target of 36 units per net hectare. Net residential density is based on the area of land exclusively for residential use, including lanes and parking areas internal to developments but excluding public streets, right-of-way and all non-residential uses.



Volume 1 - add the following as Policy 11 in Section 5.3 – Other Implementation Policies:

- Landowners within the Kanata North UEA shown on Annex 5 Urban Areas Subject to a Community Design or Policy Plan approved by Ottawa City Council shall enter into private agreement(s) to share the costs of the major infrastructure projects and associated studies and plans required for the development of the Kanata North UEA. In addition, the Landowners within the Kanata North UEA shall enter into private agreement(s) to share the dedication and costs of development of parkland. Such agreement(s) are initiated by the landowners within the defined Kanata North UEA and provide for the fair sharing of costs among the benefiting parties, to complement or replace the provisions of a Development Charges By-law. Each agreement shall contain a financial schedule describing the estimated costs of the major infrastructure projects or parkland requirements and associated studies and plans, as well as the proportionate share of the costs for each landowner. The City will require the execution of the agreement(s) by each landowner prior to the approval of any application by the landowner for draft plan of subdivision or condominium, conditional approval of a severance, or approval of site plan control. The City shall include a condition of approval for all plans of subdivision and condominium, site plan and severance applications in Kanata North UEA requiring notification from the Trustee of the Kanata North Landowners Group that the owner is party to the agreement(s) and has paid its share of any costs pursuant to the agreement(s).

## **7.2 COMMUNITY DESIGN PLAN INTERPRETATION AND AMENDMENTS**

The Kanata North Community Design Plan and the accompanying Master Plans were prepared through an extensive process involving technical input and public consultation. Development should proceed in a manner that is consistent with the policies, plans, and recommendations contained in the documents in order to ensure that the policies of Section 3.11 the Official Plan and the CDP are implemented.

It is not possible to anticipate every circumstance or issue that may arise over the course of the development of the lands. Accordingly, there must be a mechanism to permit landowners to make amendments as deemed necessary.

### **7.2.1 MINOR CHANGES**

Minor changes to the Demonstration Plan and Land Use Plan, such as minor adjustments to local street network and the location of pathway blocks, the size and location of multi-unit residential blocks, the size and shape of parkland, the location and area of school blocks, and the size, location and shape of stormwater management ponds, that result from applications for development can be made through the City of Ottawa development approvals process, provided they are consistent with the general intent of the CDP.

### **7.2.2 MAJOR CHANGES**

Major changes to the Land Use Plan or changes requiring amendment to schedules of the Official Plan, such as a major shift in the network of collector roads, reduction in the minimum amount of overall parkland, a significant change to the width or location of the creek corridors, or a change in the number of stormwater management ponds, will be subject to approval by Planning Committee and external agencies as required.

Major changes should be supported by a Planning Rationale prepared in conformity with the City's Planning Rationale Terms of Reference, and any technical documents to provide justification for the proposed change and to assist the City and the public in the review of the proposal. The Rationale should include a plan showing the context of the surrounding area, including information concerning other development applications that are approved or about to be approved.

### **7.3 ENVIRONMENTAL ASSESSMENT AMENDMENT PROCESS**

As noted previously, development should proceed in a manner that is consistent with the Master Plans. As with the Community Design Plan, it is not possible to anticipate every circumstance or issue that may arise over the course of the development of the lands and it may not be feasible to implement the projects as described in the environmental assessment reports.

A major change to the project would require an addendum outlining the implications of the change and made available for public review. Not all changes however would be considered as major. Below is summary of a well-defined process that permits landowners to make modification as necessary as the detailed planning and designs proceed following approval of the environmental assessments.

#### **7.3.1. MINOR CHANGES**

Minor changes are those that do not appreciably change the expected environmental impacts or proposed mitigation associated with the project. These are modifications that typically arise as projects are refined through the planning and design process, such as , a design change within the cross section of a roadway, landscaping around storm ponds, and natural habitat compensation as part of another approval process, would be considered minor.

Changes in alignment or facility footprints that do not affect more than three participating landowners should have the consensus of those land owners and would also be considered as minor. All affected landowners and appropriate stakeholders will be provided details of proposed minor changes. Minor changes will be dealt with at the time of detailed design through the City's development review process.

#### **7.3.2. MAJOR CHANGES**

Major changes are those that substantially change the environmental net impacts with the project or occur as a result of a change in the environmental setting for the project. An example of a major change would be a proposed change in the number stormwater management facilities, or a change to a project that affects (increases) the identified project EA schedule.

If the proposed modification is major, the recommendations and conclusions in the EA would require updating. An addendum to the EA would be required to document the change, identify the associated impacts and mitigation measures and allow related concerns to be addressed and reviewed by the appropriate stakeholders. Notice of the addendum will be posted and the addendum made available for public review. Only those changes identified in the addendum are open for review.

## 7.4 DEVELOPMENT APPROVALS

Section 4 of the City of Ottawa Official Plan outlines the policies for review of development applications, and can be used as a guide to the development approvals process. Specific studies required for each development application vary, and will be identified through a pre-application consultation meeting with City Staff at the beginning of the design and review process. A Planning Rationale will typically be required to describe how the development proposal meets the intent of the Official Plan, Kanata North Community Design Plan and related City approved design guidelines. Other studies which may be required depending on location, context and the nature of the application include a Geotechnical Study, Community Transportation Study, Servicing and Stormwater Management Study, Environmental Impact Statement, Tree Conservation Report, etc.

### 7.4.1 USE OF EXISTING STUDIES

Many of the studies and assessments prepared through the CDP process provide significant detail and direction to support development applications. It is anticipated that for a period of generally 5 years from approval of the CDP, new development applications will be able to rely on the existing studies prepared through the CDP process. For example, heritage and archaeological conditions have been assessed for the entire KNUFA and a Stage 1 Archaeological report has been accepted by the Ministry of Tourism, Culture and Sport. Detailed analysis of transportation and servicing requirements has been provided in the Master Plan documents. In some instances, supplementary materials may be required to support changes to such things as the local road pattern or servicing to properly assess the subdivision.

Environmental studies of existing conditions have been completed through the CDP process, identifying natural heritage features and areas, and including general recommendations for mitigation. These studies are expected to form the basis of the combined Environmental Impact Statements-Tree Conservation Reports (EIS-TCR) that will be required to support the subsequent plans of subdivision and zoning by-law applications for the KNUFA. Additional field studies may be necessary to update and refine the existing conditions information collected as part of the CDP and EMP process. The combined EIS-TCRs will provide detailed site-specific recommendations for the protection of the identified natural heritage system features and trees identified for retention, as well as for the mitigation of anticipated impacts from development.

### 7.4.2 CITY OF OTTAWA DEVELOPMENT APPROVALS PROCESS

Development approvals for the majority of lands within the Kanata North Community Design Plan will initially proceed by Plan of Subdivision in order to establish the necessary road network, servicing infrastructure and parkland dedication.

Zoning Amendments will be required to permit the development established by the Land Use Plan in conjunction with approval of a plan of subdivision and/or site plan. The lands are currently zoned Rural Countryside Zone. It is anticipated that zoning amendments will amend the zoning to appropriate urban residential and mixed use zones to enable development in accordance with the Land Use Plan.

Applications for some development blocks will require Site Plan Control Approval as required by the City's Site Plan Control By-Law (2014-256, as amended).

The City will impose conditions on the development of the land through the subdivision or site plan process. These conditions will address provision of such matters as:

- Parks, open space and protection of natural heritage features;
- Water, sanitary sewers, and stormwater management facilities;
- Transit;
- Construction of roads and infrastructure;
- Widening and daylight triangles; and,
- Utilities.

The execution of development agreements will be required before development is allowed to proceed.

### 7.4.3 EXTERNAL AGENCY APPROVALS

Through the development approval process there are also points of contact where the developer will be required to reach out to external agencies for additional approvals, including but not limited to:

#### MINISTRY OF ENVIRONMENT (MOE)

All sanitary sewers, storm drainage, and stormwater facilities are regulated under the Ontario Water Resources Act and will require an Environmental Certificate of Approval from the Ministry of the Environment.

#### DEPARTMENT OF FISHERIES AND OCEANS (DFO)

Proposed works that may constitute a harmful alteration, disruption or destruction (HADD) of fish habitat and require authorization from DFO under the Fisheries Act may include but are not limited to:

- The realignment of Tributary 2 of Shirley's Brook;
- The removal of the existing weir structures along Tributary 3 of Shirley's Brook;
- The installation of culvert crossings on Tributaries 2 and 3, and at March Road;
- The realignment of Shirley's Brook Main Branch at March Valley Road.

#### CONSERVATION AUTHORITY (CA)

Proposed enhancements to watercourses are regulated under Section 28 of the Conservation Authorities Act. Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses will require approval from the Mississippi Valley Conservation Authority (MVCA)

#### MINISTRY OF TOURISM, CULTURE AND SPORT (MCTS)

Archaeological Clearance for Stage 1 Archaeological Assessment and Stage 2 must be provided by the MCTS.

#### MINISTRY OF NATURAL RESOURCES AND FORESTRY (MNRF)

The Endangered Species Act (S.O. 2007, c.6) is administered by the MNRF. Registration of activity and/or a permit is required for disruption of Species at Risk. An Overall Benefit Permit may also be required to ensure mitigation in some instances.

#### NATIONAL CAPITAL COMMISSION (NCC)

The NCC's Federal Land Use and Review Approval Process (FLUDA) is required when there is a defined project taking place on federal lands.



## 7.5 DEVELOPMENT CHARGE PROJECTS

The Development Charges Act, 1997 (DCA) gives the authority to the City of Ottawa to pass a new Development Charges (DC) By-law every five years. Development charges are one-time fees levied by municipalities on new residential and non-residential properties to help pay for a portion of the growth-related capital infrastructure requirements. The adoption of this study will signify Council's intention to ensure that any increase in the need for service attributable to growth, based on the requirements outlined in the legislation, will be included in a future Development Charge Background Study.

The following is a list of the DC eligible growth related projects in Kanata North that should be covered in accordance with Schedule B of the Development Charges Background Study:

- March Road widening to four lanes;
- March Road intersections;
- Oversizing of sanitary sewers above 375 mm;
- Upgrade to the Briar Ridge Pump Station;
- Upgrade to off-site 400mm watermain;
- Land acquisition for park and ride and fire station.

## 7.6 COST SHARING/FINANCIAL PLAN

A Financial Plan is a requirement of Section 3.11 of the Official Plan. The following cost sharing agreements form the basis of the financial plan for the CDP. A separate Financial Implementation Plan has also been prepared.

### 7.6.1. CORE SERVICES AGREEMENT

Core Services means any work, service or facility described below, but only to the extent required by an Approval Authority to be constructed in order for development to proceed within the KNUEA. Anticipated Core Services may include, but are not limited to:

- Front ending of March Road widening between Old Carp Road to the limit of the urban area, when required;
- Extension of the March Road Sanitary Sewer and upgrade of the Shirley's Brook Drive Sewer to 600mm;
- Extension of the existing 400mm watermain in March Road from the intersection of Old Carp Road and Maxwell Bridge Road to a point south of Maxwell Road;

- Front ending of upgrade to Briar Ridge Pump Station and associated works;
- Extension of a sanitary sewer along the CN rail corridor, and upgrade the sanitary sewer in Brookside Subdivision to 450mm;
- Realignment of Shirley's Brook Main Branch through DND Property; and,
- Off-site compensation for Blanding's turtles including a crossing of March Valley Road.

All landowners will be required to become a party to the Core Services Agreement, and to contribute their proportionate share in the cost of these core services, before development is approved by the City.

### 7.6.2 OTHER SHARED WORKS

As development proceeds, the cost to construct other infrastructure that is not a Core Service but is shared by at least two landowners will be negotiated by the benefiting landowners. Examples include planned stormwater management facilities, oversize and overdepth infrastructure and roadways where they cross property lines or run along property lines.

The Land Use Plan also includes four full movement signalized intersections on March Road. Construction of these intersections will proceed with the initial phases of the development. The construction costs will be shared by all benefiting landowners.

## 7.7 GREENSPACE

The Greenspace system is comprised of a variety of elements, including parkland, natural heritage features, such as the creek corridors and woodlot, and stormwater management facilities. The components of the greenspace system will ultimately be in public ownership. The City will pursue acquisition of such lands through:

- Parkland and/or open space dedication through the development approvals process;
- Conveyance of completed stormwater management facilities; and,
- Conveyances of other open spaces through the development approvals process.

Neighbourhood Parks are to be built concurrently with the development of the lands that the parks are intended to serve. The Community Park will be required at the time 50% of the anticipated building permits are issued based on an estimate of 3000 dwelling units.

Through the development approvals process, the identified components of the natural heritage system including the creek corridors referred to as Tributary 2 and Tributary 3, and the Southwest Wooded Area will be conveyed to the City as per Policy 5) b of Section 3.11 in the Official Plan.

Woodlot S23 located east of the CN rail corridor and outside the designated KNUEA will be conveyed by the landowners to the City of Ottawa following the detailed design and approval of the stormwater management facility referred to as Pond 3.

### 7.7.1 PARKLAND AGREEMENT

A Parkland Agreement between the landowners within the KNUEA will create a mechanism to implement the park system as shown on the Land Use Plan and to equitably transfer compensation for land among landowners when landowners are required to provide more or less parkland than would be required through

the City's Parkland Dedication By-law. The parkland agreement will also address compensation between landowners for spending over or under the park construction target budget for park development in each quadrant. The KNOLG will manage the parkland agreement. The City may be a signatory to the parkland agreement.

Details about the calculation of parkland across the KNUEA can be found in Section 5.2 of the CDP. The 10.37 hectares of parkland calculated based on the Demonstration Plan is the required dedication for the KNUEA and is based on the projected unit count of 2,965 units. This dedication and the proposed distribution will form the basis of the landowner agreement and the parkland agreement.

Should any subdivision or site plan application result in a decrease in total units anticipated in the demonstration plan, no compensation will be given for over dedication. Should any subdivision or site plan application result in an increase in the total units from what was anticipated in the Demonstration Plan, the corresponding additional parkland will be an obligation of and is to be dealt with by the individual landowners through the dedication of additional parkland or cash-in-lieu contribution to the City and not through the parkland agreement.

### 7.7.2 CREEK CORRIDOR ENHANCEMENTS

Portions of the creek corridors will be modified as a result of required habitat enhancements for Blanding's Turtle and fish, and to compensate for loss of headwaters. The majority of these enhancements will be the responsibility of individual landowners in accordance with the recommendations of the EMP. Where necessary, compensation agreements will be made between individual landowners to coordinate enhancement measures crossing property lines or where specific headwater features can only be compensated for by providing enhancements on a different property within the KNUEA.

## 7.8 AFFORDABLE HOUSING

Affordable housing will be accommodated in accordance with Section 2.5.2 of the Official Plan which defines affordable housing as rental or ownership housing for which a low or moderate-income household pays no more than 30% of its gross annual income.

The Official Plan directs that 25% of all new housing development and redevelopment is to be affordable to households at or below the 30th income percentile for rental and at or below the 40th income percentile for ownership (as adjusted annually in accordance with inflation and the consumer price index.)

As required by Official Plan Policies, 25% of all new housing units in the KNUEA will be affordable as defined by the Official Plan. It is expected that the majority of units built in the multi-unit residential designation, and some street-oriented townhomes will fall within the Official Plan target of affordability. In order to meet the City targets for affordability, 750 of the 1055 multi-unit residential dwellings within the KNUEA should be within the above-noted affordability range.

Development of 'social housing' for low/moderate income households by social housing providers, with or without City funding or incentives, is included within the 25% of all new housing units required to be affordable housing in the community. Partnerships with social housing providers are encouraged to create opportunities for social housing in the KNUEA. In particular, in the event that a school site is not required by any school board, the lands will be made available for residential development in accordance with the policies of Section 4.2.1. Priority for development of undeveloped school sites may be given to providers of social housing and/or for non-profit affordable housing.

To support the development of affordable housing, the City will negotiate the use of the following municipal incentives and direct supports, including but not limited to:

- Capital grants;
- Deferral or waiver of fees and charges;
- Density incentives or transfer, flexible zoning, alternate development standards; and
- Other incentives to be negotiated depending on the depth of affordability achieved.

Where municipal incentives are provided to support the development of affordable housing, the City will enter into agreements with developers to preserve the level of public interest in affordable housing. Agreements will reflect the level of public investment required, with more investment resulting in greater levels of affordability. Agreements will include mechanisms to maintain affordability, will specify the mix of units to be provided, and will typically be registered on title or become a municipal housing facilities bylaw.

## 7.9 INFRASTRUCTURE STAGING

As demonstrated in the Master Servicing Study, Transportation Master Plan and the Environmental Master Plan, development can generally proceed from any location within the Study Area. Development is expected to begin close to March Road and spread out to the east and west. It is anticipated that development will occur incrementally through Plans of Subdivision with associated infrastructure and services being installed.

Where properties of non-participating landowners are located within a development phase, such properties shall not be required to develop with the balance of the lands in that phase. Through the review of draft plans of subdivision, consideration may be given to accommodate the potential integration of these individual properties.

Topography does play a role in the staging of sanitary servicing, as the KNUFA is geographically defined by the north-south ridge east of March Road. Generally, lands above the ridge will be serviced by the March Road Trunk Sewer while lands below (east of) the ridge will be serviced by the Briar Ridge Pump Station. Alternative options that result in a more efficient sanitary servicing scenario may be considered through the development review process. This may include some exchange of drainage areas above and below the ridge.

### 7.9.1 MARCH ROAD AND BUS RAPID TRANSIT STAGING

March Road currently has a protected road widening allowance of 34 metres between the urban area limit and Dunrobin Road. The KNUFA TMP identified that the March Road road allowance should be widened to 44.5 metres to accommodate the ultimate BRT cross-section, consistent with the currently protected right-of-way through the urban area. This is consistent with the City of Ottawa's 2013 Transportation Master Plan (2013 TMP), which identifies a need to widen March Road from two to four lanes between Halton Terrace/Maxwell Bridge Road and Dunrobin Road. The City of Ottawa, under the authority of The Planning Act, will acquire land for the road widening as a condition of various approvals including plans of subdivision, plans of condominium, site-plans, and consent applications. Land for a road widening will be taken equally from both sides of a road, measured from the centreline in existence at the time the widening in accordance with policies in the Official Plan.

The City of Ottawa completed a comprehensive affordability analysis as part of the 2013 TMP. The affordability analysis identified how much the City can afford to spend on growth-related transportation projects. The results of the affordability analysis considered capital, operating, maintenance and life-cycle costs and guided the recommended infrastructure phasing plans for the 2013 TMP. The budgetary cut-off identified in the 2013 TMP was \$730 M. A further analysis titled Road Network Development Report was prepared by IBI Group to prioritize road projects for the 2013 TMP. The widening of March Road scored just one point outside the budgetary cut-off for the 2031 affordable planning horizon. One of the categories used to prioritize transportation projects was the "Provision of Access to New Development". The March Road widening scored 3 out of 4 points in this category.

In their report to the Joint Transportation Committee and Transit Commission in November 2013, with respect to the 2013 TMP, City staff recommend on-going monitoring of traffic volumes along March Road through the City's annual intersection and cordon count traffic program with further consideration of the widening of March Road as part of the update to the TMP tentatively scheduled for 2018.

Subject to the urban portion of the March Road widening project being brought into the affordable plan, and subject to reasonable terms being established including payback period, the Kanata North Landowners Group (KNLOG) is prepared to enter into a front-ending agreement with the City to construct the four lane widening of March Road to the limit of the urban area.

The Kanata North Transitway is identified in the City of Ottawa's 2013 TMP, with the transitway portion between Corkstown Road and Solandt Road in the 2031 affordable rapid transit network, and the extension to Maxwell Bridge Road/Halton Terrace slated for post 2031. A conceptual future transit corridor ultimately extends to the north toward Dunrobin Road. The Park and Ride lot will be constructed at the discretion of OC Transpo and may be built prior to the completion of the transitway to encourage transit ridership in the area.

### 7.9.2 CORE SERVICES STAGING

Details of the staging of the core servicing are set out in Table 6.



INFRASTRUCTURE REQUIREMENT	DEVELOPMENT STAGE
SANITARY SERVICING	
EXTENSION OF MARCH ROAD TRUNK SEWER AND UPGRADE TO SHIRLEY'S BROOK DRIVE SANITARY SEWER TO 600mm	REQUIRED PRIOR TO ANY DEVELOPMENT SERVICED FROM MARCH ROAD
BRIAR RIDGE PUMP STATION UPGRADE	SERVICING CAPACITY IS AVAILABLE UP TO 10 L/s OF FLOW CALCULATED FROM NEW DEVELOPMENT. UPGRADE WILL BE REQUIRED FOR ADDITIONAL FLOW
EXTENSION OF SANITARY SEWER ALONG THE RAIL CORRIDOR, AND UPGRADE TO SANITARY SEWER IN BROOKSIDE SUBDIVISION TO 450mm	SERVICING CAPACITY IS AVAILABLE UP TO 46 L/s OF FLOW CALCULATED FROM NEW DEVELOPMENT. UPGRADE WILL BE REQUIRED FOR ADDITIONAL FLOW
WATER SERVICING	
WATER SERVICES EXTENDED FROM OFF-SITE	REQUIRED PRIOR TO ANY DEVELOPMENT SERVICED FROM MARCH ROAD
STORMWATER MANAGEMENT	
STORMWATER MANAGEMENT FACILITIES	REQUIRED CONCURRENT WITH LANDS TRIBUTARY TO THE FACILITY
SHIRLEY'S BROOK REALIGNMENT AND OUTLET FOR POND 3	REQUIRED CONCRRENT WITH THE LANDS TRIBUTARY TO THE FACILITY
TRANSPORTATION	
SIGNALIZATION OF INTERSECTIONS ON MARCH ROAD	REQUIRED CONCURRENT WITH INITIATION OF ADJACENT DEVELOPMENT
MARCH ROAD UPGRADE TO FOUR LANES THROUGH THE CDP LIMITS	TBD THROUGH FUTURE CITY TRANSPORTATION MASTER PLAN UPDATES AND SUBJECT TO FRONT ENDING AGREEMENT BETWEEN CITY AND LANDOWNERS.
PARK AND RIDE	TBD BASED UPON DEVELOPMENT TIMING AND FUNDING AVAILABILITY
KANATA NORTH TRANSITWAY BRT EXTENSION	TBD THROUGH FUTURE CITY TRANSPORTATION MASTER PLAN UPDATES

**TABLE 6** | Core Servicing Staging

## ESTIMATED UNIT YIELD BY QUADRANT (ROUNDED)

LAND USE	NORTHWEST	SOUTHWEST	NORTHEAST	SOUTHEAST	TOTAL
SINGLE DETACHED	305	40	340	290	975
STREET TOWNHOUSES	320	-	345	305	970
MULTI-UNIT RESIDENTIAL	260	540	115	150	1065
<b>TOTAL</b>	<b>885</b>	<b>580</b>	<b>800</b>	<b>770</b>	<b>3035</b>

**TABLE 7** | Development Monitoring

### 7.10 DEVELOPMENT MONITORING

The Kanata North Community Design Plan and the accompanying integrated Master Plans were prepared through an extensive process involving technical input and public consultation. It is appropriate that monitoring of the Community Design Plan be undertaken in order to determine whether the policies of the Official Plan and those of the CDP are being achieved. Monitoring may identify any significant changes that would warrant a review and possibly amendments to the Community Design Plan.

Fundamental to the CDP is the goal of implementing the Land Use Plan and the ability to achieve the established mix and location of residential dwelling types for the area as outlined in the CDP and corresponding Official Plan Amendment.

The development of the lands must achieve a minimum of 2,930 units to meet the proposed overall minimum average density of 36 units per net hectare for residential development. The total number of units that could develop based on the Demonstration Plan is 3,035 units. Additional density, in conformity with other policies regarding land use in the CDP, shall be encouraged.

To monitor the development of the CDP, the total number and mix of residential units will be tracked by quadrant. For the purposes of this calculation, the Demonstration Plan was divided into four quadrants generally reflecting the ownership of the four major landowners who make up the KNLOG. The calculated mix of residential units by quadrant is shown in Table 7.

Minor variations in the number of units in each quadrant are anticipated through the development approvals process. Variations can be accommodated provided it is demonstrated that both the total number of residential units and the required mix of residential unit types can be reasonably achieved by adjusting density and/or housing mix on remaining vacant lands within each quadrant.

Traffic and servicing calculations used to reach the recommendations presented in the TMP and MSS are based on unit and population totals generated from the Demonstration Plan. A contingency of 10% was incorporated in all calculations to ensure that the community could accommodate up to 3,300 units.

Overall, the variation in total units for the KNUEA should remain within the range of 2900 to 3,300 units.









# APPENDIX A: AREA PARKS PLAN

The overall objective of the Area Parks Plan (APP) is to create a blueprint for park land development to ensure the Kanata North Community has a comprehensive assembly of parks and amenities that are properly distributed and connected across the community as a whole. This APP covers the size, locations, proposed amenities, and construction budgets for development blocks to be dedicated to park land.

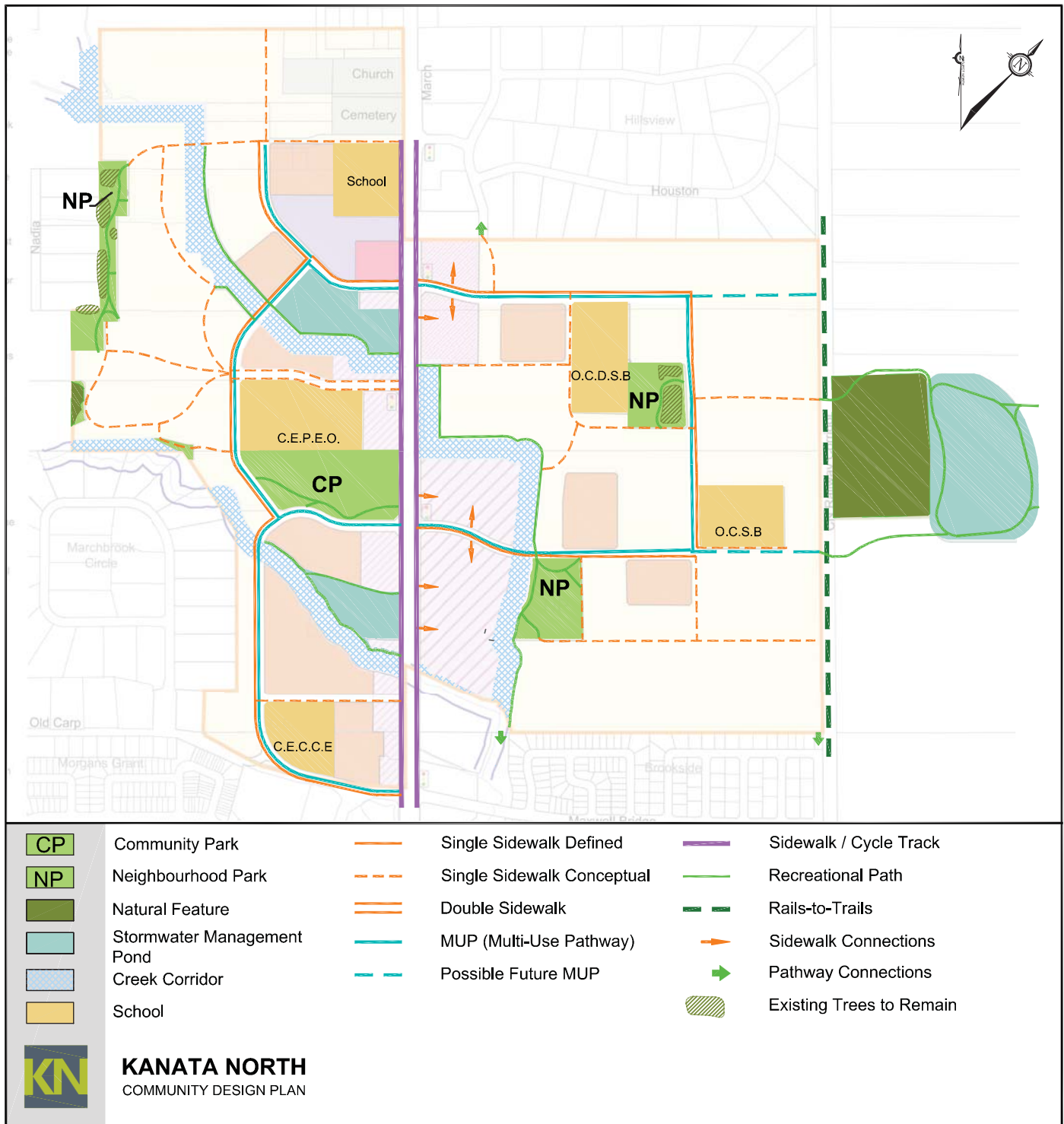
A Parks and Pathways Plan (Figure 1) provides an overview for the distribution of parks and the network of recreational connections made across the Kanata North Urban Expansion Area (KNUEA). A second figure (Figure 2) illustrates how the majority of the community will be within 400 metres of a park, which means that the majority of residents will be able to walk to a park in approximately five minutes or less.

Each of the four individual parks is then described with a Fit Plan (Figure 3, 4, 5, 6). Fit Plans depict, at a very conceptual level, how various park amenities could be assembled in a park block. Consideration is given to the existing grades in and around the park and any existing vegetation that may be valuable for preservation. Prior to this, a list of desirable park amenities was drafted for the community as a whole and a strategy was developed to distribute these amenities across the community in an equitable manner – equitable in terms of user accessibility. A Park Amenities Overview (Table 1.0) describes how best to accommodate the amenities and which amenities are found within each park.

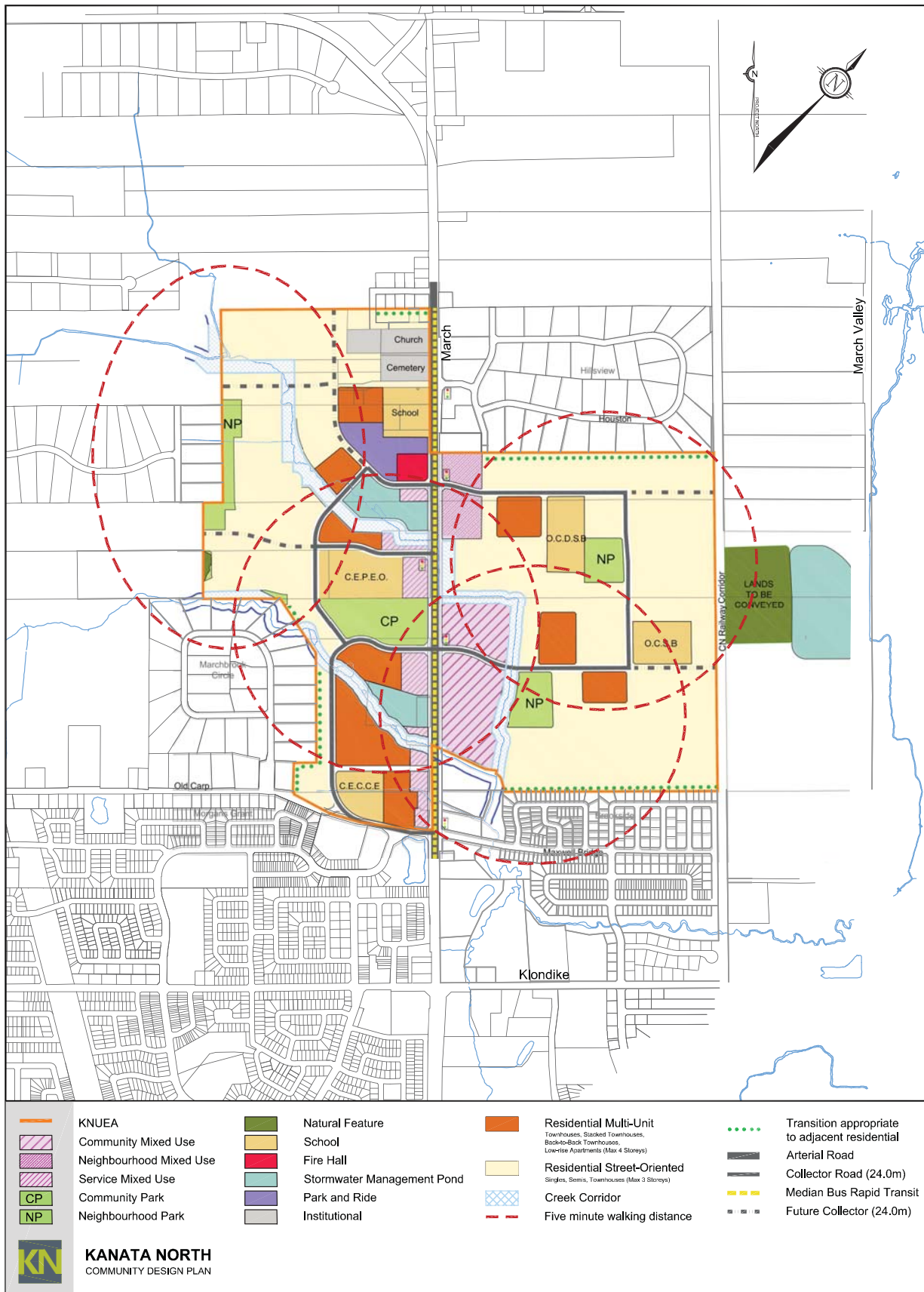
Table 2.0 was prepared to confirm that the tree canopy cover in the parks can meet the intended target of 30% or more.

A budget has also been prepared for each of the four parks (Table 3, 4, 5, 6) to confirm that the approximate cost of the proposed amenities will align with the prescribed park funding rate. The current funding rate of \$487,169/ha was employed. This rate will be indexed in time; when the park funding rate is indexed, the unit costs (used to establish construction budgets) are to be indexed by the same measure. The sum of the four parks budgets (Table 3, 4, 5, 6) is summarized in the Park Amenities Overview table (Table 1.0).

A review of the parkland dedication on the west side and east side of March Road (which bisects the community) is provided in Table 7.0. This is followed by Table 8.0 which indicates how parks amenities are distributed to the west and east side of March Road.



**FIGURE 1** | Parks and Pathway



**FIGURE 2** | 5 Minute Walking Distance/400m Radius from Parks



PARK AREA: 2.1 HA  
(PLAN NOT TO SCALE)

Facilities proposed for the Northwest Quadrant Neighbourhood Park may include:

- Half basketball court (2 Hoops);
- Puddle rink (with a light);
- New trees planted;
- Some existing trees preserved;
- Mini-sized soccer field;
- Benches;
- Picnic tables;
- Waste receptacles;
- Bike racks;
- Playground;
- Sand play; and
- Shade shelter;



**FIGURE 3** | Northwest Quadrant Neighbourhood Park Facilities Fit Plan





**FIGURE 4** | Community Park Facilities Fit Plan

PARK AREA: 4.2 HA (PLAN NOT TO SCALE)

Facilities proposed for the Community Park may include:

- Tennis court (with lights);
- Multi-use court (with lights);
- Puddle Rink (with a light);
- New trees planted;
- Some existing trees preserved;
- Full sized soccer fields;
- Benches;
- Picnic tables;
- Waste receptacles;
- Bike racks;
- Playground;
- Sand play;
- Shade shelter;
- Splash pad; and
- Parking lots.





**FIGURE 5** | Southeast Quadrant Neighbourhood Park Facilities Fit Plan

PARK AREA: 2.1 HA (PLAN NOT TO SCALE)

Facilities proposed for the Southeast Quadrant Neighbourhood Park may include:

- Tennis court (with lights);
- Half basketball court (2 Hoops);
- New trees planted;
- Intermediate soccer field;
- Benches;
- Picnic tables;
- Waste receptacles;
- Bike racks;
- Playground;
- Shade shelter; and
- Parking lot.





**FIGURE 6** | Northeast Quadrant Neighbourhood Park Facilities Fit Plan

PARK AREA: 1.7 HA (PLAN NOT TO SCALE)

Facilities proposed for the Northeast Quadrant Neighbourhood Park may include:

- Half basketball court (2 Hoops);
- Puddle rink (with a light);
- New trees planted;
- Some existing trees preserved;
- Mini-sized soccer field;
- Benches;
- Picnic tables;
- Waste receptacles;
- Bike racks;
- Playground;
- Shade shelter; and
- Splash pad.

## Kanata North Parks

Amenities Overview  
May 17, 2016

ITEM NO.	ITEM	TOTAL QTY.	P1 NWQuadrant	P2 Community Park	P3 SE Quadrant	P4 NE Quadrant
<b>PARK AMENITIES</b>						
1	Asphalt tennis court	2		1	1	
2	Half basketball court (asphalt)	3	1		1	1
3	Multi-use court (permanent boarded)	1		1		
4	Puddle rink	3	1	1		1
5	Soccer field - Full-size (seed)	2		2		
6	Soccer field - Intermediate (inclu. seed & goal)	1			1	
7	Soccer field - Mini-size (seed)	2	1			1
8	Toboggan hill (tots)	1				1
9	Playground (Junior, Senior, Toddler, Swings)	4	1	1	1	1
10	Additional swings	1		1		
11	Shade Shelter	4	1	1	1	1
12	Splash pad	2		1		1
<b>SUMMARY</b>						
<b>Construction Subtotal</b>		\$3,778,550	\$641,428	\$1,596,559	\$858,610	\$681,955
Soft Costs and Contingency (25%)		\$944,640	\$160,360	\$399,140	\$214,650	\$170,490
City Detail Design Review and Inspection Fee (4% of Target Budget)		\$196,810	\$40,920	\$81,840	\$40,920	\$33,130
<b>Total</b>		<b>\$4,920,000</b>	<b>\$842,708</b>	<b>\$2,077,539</b>	<b>\$1,114,180</b>	<b>\$885,575</b>
Park Area(ha)		10.10	2.1	4.2	2.1	1.7
Target Budget*		\$4,920,400	\$1,023,050	\$2,046,110	\$1,023,050	\$828,190
(Over Budget) / Under Budget		\$400	\$180,340	(\$31,430)	(\$91,130)	(\$57,380)

\* Target budget is based on \$487,169/ha for active-use parks

TABLE 1 | AMENITIES OVERVIEW

## Kanata North Parks

Canopy Cover  
May 17, 2016

ITEM NO.	ITEM	TOTAL QTY.	P1 NWQuadrant	P2 Community Park	P3 SE Quadrant	P4 NE Quadrant
<b>PROPOSED TREE QUANTITIES</b>						
1	Deciduous Trees	95	5	50	30	10
2	Deciduous Trees - R.O.W.	82	20	24	22	16
3	Coniferous Trees	59	10	20	24	5
<b>Total Proposed Trees</b>		<b>154</b>	<b>35</b>	<b>94</b>	<b>76</b>	<b>31</b>
<b>TOTAL TREE COVER</b>						
1	Proposed Tree Cover (m <sup>2</sup> )	21,181	3,025	8,762	6,356	3,038
2	Existing Tree Cover - Protected (m <sup>2</sup> )	11,660	4,600	3,000		4,060
<b>Canopy Cover (m<sup>2</sup>)</b>		<b>32,841</b>	<b>7,625</b>	<b>11,762</b>	<b>6,356</b>	<b>7,098</b>
<b>Park Area (m<sup>2</sup>)</b>		<b>101,000</b>	<b>21,000</b>	<b>42,000</b>	<b>21,000</b>	<b>17,000</b>
<b>Canopy Cover (%)</b>		<b>33%</b>	<b>36%</b>	<b>28%</b>	<b>30%</b>	<b>42%</b>

Note: Deciduous trees assumed to have a canopy diameter of 12m, and therefore an approximate area of 113 m<sup>2</sup> each.

Note: Coniferous trees assumed to have a canopy diameter of 5m, and therefore an approximate area of 20 m<sup>2</sup> each.

TABLE 2 | CANOPY COVER BREAKDOWN



**North West Quadrant Park (P1)**  
**Preliminary Landscape Budget - Supply and Install**  
**May 17, 2016 (2015 prices indexed to 2016)**

ITEM NO.	ITEM	EST. QTY	UNIT	UNIT PRICE	TOTAL AMOUNT
<b>SECTION A - STARTUP AND GRADING</b>					
1	Fine grading	21000	m2	\$3.04	\$63,882.00
2	Catch basin	3	ea	\$2,500.00	\$7,500.00
3	Manhole	1	ea	\$4,000.00	\$4,000.00
4	Culvert	1	ea	\$3,000.00	\$3,000.00
5	Pipe	100	lm	\$225.00	\$22,500.00
<b>TOTAL SECTION A - STARTUP AND GRADING</b>					<b>\$100,882.00</b>
<b>SECTION B - HARDSCAPE</b>					
1	Asphalt pathway system - 1.8m width	90	lm	\$111.54	\$10,038.60
2	Asphalt pathway system - 2.4m width	500	lm	\$147.03	\$73,515.00
3	Rolled asphalt edge (for playground)	70	lm	\$55.77	\$3,903.90
4	Basketball half court (asphalt with 2 hoops)	1	ea	\$22,700.00	\$22,700.00
5	Storage bunker (for puddle rink)	1	allowance	\$25,350.00	\$25,350.00
6	1 light (for puddle rink)	1	allowance	\$5,070.00	\$5,070.00
7	Water vault chamber	1	allowance	\$25,350.00	\$25,350.00
8	Electrical kiosk	1	allowance	\$15,210.00	\$15,210.00
<b>TOTAL SECTION B - HARDSCAPE</b>					<b>\$181,137.50</b>
<b>SECTION C - SOFTSCAPE</b>					
1	Deciduous tree (60mm cal)	5	ea	\$481.65	\$2,408.25
2	Coniferous tree (200cm ht)	10	ea	\$456.30	\$4,563.00
3	Sod and topsoil	1000	m2	\$14.20	\$14,196.00
4	Seed (turf) and topsoil	10000	m2	\$8.11	\$81,120.00
5	Soccer field - Mini-size (inclu. seed & goal)	1	ea	\$37,518.00	\$37,518.00
<b>TOTAL SECTION C - SOFTSCAPE</b>					<b>\$139,805.25</b>
<b>SECTION D - SOFTSCAPE IN R.O.W.</b>					
1	Street Trees (R.O.W) (60mm cal)	20	ea	\$481.65	\$9,633.00
2	Sod (R.O.W) and topsoil	1355	m2	\$14.20	\$19,241.00
<b>TOTAL SECTION D - SOFTSCAPE IN R.O.W.</b>					<b>\$28,874.00</b>
<b>SECTION E - SITE FURNITURE</b>					
1	Bench - includes concrete pad	8	ea	\$2,839.20	\$22,713.60
2	Picnic table - includes concrete pad	2	ea	\$3,042.00	\$6,084.00
3	Waste receptacle - includes concrete pad	3	ea	\$1,622.40	\$4,867.20
4	Bike rack - 6 station - includes concrete pad	2	ea	\$1,622.40	\$3,244.80
5	Park sign	2	ea	\$4,056.00	\$8,112.00
<b>TOTAL SECTION E - SITE FURNITURE</b>					<b>\$45,021.60</b>
<b>SECTION F - PLAY STRUCTURES</b>					
1	Playground (senior, junior, toddler, swings)	1	allowance	\$80,000.00	\$80,000.00
2	Sand play	1	allowance	\$5,070.00	\$5,070.00
3	Wood fibre play surface	360	m2	\$55.77	\$20,077.20
4	Shade shelter - 20x20 hex. (incl. concrete pad)	1	allowance	\$40,560.00	\$40,560.00
<b>TOTAL SECTION F - PLAY STRUCTURES</b>					<b>\$145,707.20</b>
Note: All prices are supply and install.				<b>Construction Subtotal</b>	<b>\$641,427.55</b>
				<b>Soft Costs and Contingency (25%)</b>	<b>\$160,360.00</b>
				<b>City Review Costs (4%)</b>	<b>\$40,920.00</b>
				<b>Total</b>	<b>\$842,707.55</b>
				<b>(\$487,169/ha) Target Budget</b>	<b>\$1,023,050.00</b>
				<b>Difference</b>	<b>\$180,340.00</b>

**TABLE 3 | NORTHWEST QUADRANT PARK BUDGET**

**Community Park (P2)**  
**Preliminary Landscape Budget - Supply and Install**  
**May 17, 2016 (2015 prices indexed to 2016)**

ITEM NO.	ITEM	EST. QTY	UNIT	UNIT PRICE	TOTAL AMOUNT
<b>SECTION A - STARTUP AND GRADING</b>					
1	Rough grading	20000	m <sup>2</sup>	\$1.50	\$30,000.00
2	Fine grading	42000	m2	\$3.04	\$127,764.00
3	Catch basin	3	ea	\$2,500.00	\$7,500.00
4	Manhole	1	ea	\$4,000.00	\$4,000.00
5	Pipe	100	lm	\$225.00	\$22,500.00
<b>TOTAL SECTION A - STARTUP AND GRADING</b>					<b>\$191,764.00</b>
<b>SECTION B - HARDSCAPE</b>					
1	Asphalt pathway system - 1.8m width	185	lm	\$111.54	\$20,634.90
2	Asphalt pathway system - 2.4m width	275	lm	\$147.03	\$40,433.25
3	Rolled asphalt edge (for playground)	80	lm	\$55.77	\$4,461.60
4	Asphalt tennis court (2 courts with 4 lights)	1	LS	\$162,240.00	\$162,240.00
5	Multi-use court (with plexi-pave, permanent boards, basketball and 6 lights)	1	ea	\$218,010.00	\$218,010.00
6	Storage bunker (for puddle rink)	1	allowance	\$25,350.00	\$25,350.00
7	1 light (for puddle rink)	1	allowance	\$5,070.00	\$5,070.00
8	Water vault chamber	1	allowance	\$25,350.00	\$25,350.00
9	Electrical kiosk	1	allowance	\$15,210.00	\$15,210.00
10	Transformer upgrade	1	allowance	\$12,500.00	\$12,500.00
11	Asphalt parking lot	2200	m2	\$55.77	\$122,694.00
<b>TOTAL SECTION B - HARDSCAPE</b>					<b>\$651,953.75</b>
<b>SECTION C - SOFTSCAPE</b>					
1	Deciduous tree (60mm cal)	50	ea	\$481.65	\$24,082.50
2	Coniferous tree (200cm ht)	20	ea	\$456.30	\$9,126.00
3	Sod and topsoil	2000	m2	\$14.20	\$28,392.00
4	Seed (turf) and topsoil	18000	m2	\$8.11	\$146,016.00
5	Soccer field - Full-size (incl. seed & goal)	2	ea	\$80,917.20	\$161,834.40
<b>TOTAL SECTION C - SOFTSCAPE</b>					<b>\$369,450.90</b>
<b>SECTION D - SOFTSCAPE IN R.O.W.</b>					
1	Street Trees (R.O.W) (60mm cal)	24	ea	\$481.65	\$11,559.60
2	Sod (R.O.W) and topsoil	1820	m <sup>2</sup>	\$14.20	\$25,844.00
<b>TOTAL SECTION D - SOFTSCAPE IN R.O.W.</b>					<b>\$37,403.60</b>
<b>SECTION E - SITE FURNITURE</b>					
1	Bench - includes concrete pad	6	ea	\$2,839.20	\$17,035.20
2	Picnic table - includes concrete pad	2	ea	\$3,042.00	\$6,084.00
3	Waste receptacle - includes concrete pad	3	allowance	\$5,070.00	\$15,210.00
4	Bike rack - 6 station - includes concrete pad	2	allowance	\$2,028.00	\$4,056.00
5	Park sign	1	ea	\$4,056.00	\$4,056.00
<b>TOTAL SECTION E - SITE FURNITURE</b>					<b>\$46,441.20</b>
<b>SECTION F - PLAY STRUCTURES</b>					
1	Large playground (senior, junior, toddler, swings)	1	allowance	\$100,000.00	\$100,000.00
2	Additional Swings - includes one baby, two belt, one accessible	1	allowance	\$12,168.00	\$12,168.00
3	Sand play	1	allowance	\$5,070.00	\$5,070.00
4	Wood fibre play surface	400	m2	\$55.77	\$22,308.00
5	Shade shelter - 20x20 hex. (incl. concrete pad)	1	allowance	\$40,000.00	\$40,000.00
6	Splashpad - includes concrete pad and required water service	1	allowance	\$120,000.00	\$120,000.00
<b>TOTAL SECTION F - PLAY STRUCTURES</b>					<b>\$299,546.00</b>
Note: All prices are supply and install.					
				<b>Construction Subtotal</b>	<b>\$1,596,559.45</b>
				Soft Costs and Contingency (25%)	\$399,140.00
				City Review Costs (4%)	\$81,840.00
				<b>Total</b>	<b>\$2,077,539.45</b>
				<b>(\$487,169/ha) Target Budget</b>	<b>\$2,046,110.00</b>
				<b>Difference</b>	<b>(\$31,430.00)</b>

**TABLE 4** | COMMUNITY PARK BUDGET

**South East Quadrant Park (P3)**  
**Preliminary Landscape Budget - Supply and Install**  
**May 17, 2016 (2015 prices indexed to 2016)**

ITEM NO.	ITEM	EST. QTY	UNIT	UNIT PRICE	TOTAL AMOUNT
<b>SECTION A - STARTUP AND GRADING</b>					
1	Rough grading	7000	m <sup>2</sup>	\$6.00	\$42,000.00
2	Fine grading	21000	m2	\$3.04	\$63,882.00
3	Catch basin	2	ea	\$2,500.00	\$5,000.00
4	Manhole	1	ea	\$4,000.00	\$4,000.00
5	Culvert	2	ea	\$1,500.00	\$3,000.00
6	Pipe	60	lm	\$225.00	\$13,500.00
<b>TOTAL SECTION A - STARTUP AND GRADING</b>					<b>\$131,382.00</b>

<b>SECTION B - HARDSCAPE</b>					
1	Asphalt pathway system - 1.8m width	365	lm	\$111.54	\$40,712.10
2	Asphalt pathway system - 2.4m width	200	lm	\$147.03	\$29,406.00
3	Rolled asphalt edge (for playground)	70	lm	\$55.77	\$3,903.90
4	Asphalt tennis court (2 courts with 4 lights)	1	LS	\$162,240.00	\$162,240.00
5	Basketball half court (asphalt with 2 hoops)	1	ea	\$22,700.00	\$22,700.00
6	Water vault chamber	1	allowance	\$25,350.00	\$25,350.00
7	Electrical kiosk	1	allowance	\$15,210.00	\$15,210.00
8	Asphalt parking lot	680	m2	\$55.77	\$37,923.60
<b>TOTAL SECTION B - HARDSCAPE</b>					<b>\$337,445.60</b>

<b>SECTION C - SOFTSCAPE</b>					
1	Deciduous tree (60mm cal)	30	ea	\$481.65	\$14,449.50
2	Coniferous tree (200cm ht)	24	ea	\$456.30	\$10,951.20
3	Sod and topsoil	1000	m2	\$14.20	\$14,196.00
4	Seed (turf) and topsoil	11500	m2	\$8.11	\$93,288.00
5	Soccer field - Intermediate (inclu. seed & goal)	1	ea	\$60,840.00	\$60,840.00
<b>TOTAL SECTION C - SOFTSCAPE</b>					<b>\$193,724.70</b>

<b>SECTION D - SOFTSCAPE IN R.O.W.</b>					
1	Street Trees (R.O.W) (60mm cal)	22	ea	\$481.65	\$10,596.30
2	Sod (R.O.W) and topsoil	1300	m2	\$14.20	\$18,460.00
<b>TOTAL SECTION D - SOFTSCAPE IN R.O.W.</b>					<b>\$29,056.30</b>

<b>SECTION E - SITE FURNITURE</b>					
1	Bench - includes concrete pad	4	ea	\$2,839.20	\$11,356.80
2	Picnic table - includes concrete pad	2	ea	\$3,042.00	\$6,084.00
3	Waste receptacle - includes concrete pad	2	ea	\$1,622.40	\$3,244.80
4	Bike rack - 6 station - includes concrete pad	1	ea	\$1,622.40	\$1,622.40
5	Park sign	1	ea	\$4,056.00	\$4,056.00
<b>TOTAL SECTION E - SITE FURNITURE</b>					<b>\$26,364.00</b>

<b>SECTION F - PLAY STRUCTURES</b>					
1	Playground (senior, junior, toddler, swings)	1	allowance	\$80,000.00	\$80,000.00
2	Wood fibre play surface	360	m2	\$55.77	\$20,077.20
3	Shade shelter - 20x20 hex. (incl. concrete pad)	1	allowance	\$40,560.00	\$40,560.00
<b>TOTAL SECTION F - PLAY STRUCTURES</b>					<b>\$140,637.20</b>

Note: All prices are supply and install.

<b>Construction Subtotal</b>	<b>\$858,609.80</b>
Soft Costs and Contingency (25%)	\$214,650.00
City Review Costs (4%)	\$40,920.00
<b>Total</b>	<b>\$1,114,179.80</b>
<b>(\$487,169/ha) Target Budget</b>	<b>\$1,023,050.00</b>
<b>Difference</b>	<b>(\$91,130.00)</b>

**TABLE 5 | SOUTHEAST QUADRANT PARK BUDGET**

**North East Quadrant Park (P4)**  
**Preliminary Landscape Budget - Supply and Install**  
**May 17, 2016 (2015 prices indexed to 2016)**

ITEM NO.	ITEM	EST. QTY	UNIT	UNIT PRICE	TOTAL AMOUNT
<b>SECTION A - STARTUP AND GRADING</b>					
1	Rough grading	8500	m <sup>2</sup>	\$9.00	\$76,500.00
2	Fine grading	14000	m2	\$3.04	\$42,588.00
3	Catch basin	2	ea	\$2,500.00	\$5,000.00
4	Culvert	1	ea	\$2,000.00	\$2,000.00
5	Swale	150	lm	\$20.00	\$3,000.00
6	Pipe	30	lm	\$225.00	\$6,750.00
<b>TOTAL SECTION A - STARTUP AND GRADING</b>					<b>\$135,838.00</b>
<b>SECTION B - HARDSCAPE</b>					
1	Asphalt pathway system - 1.8m width	210	lm	\$111.54	\$23,423.40
2	Asphalt pathway system - 2.4m width	135	lm	\$147.03	\$19,849.05
3	Rolled asphalt edge (for playground)	70	lm	\$55.77	\$3,903.90
4	Basketball half court (asphalt with 2 hoops)	1	ea	\$22,700.00	\$22,700.00
5	Storage bunker (for puddle rink)	1	allowance	\$25,350.00	\$25,350.00
6	1 light (for puddle rink)	1	allowance	\$5,070.00	\$5,070.00
7	Water vault chamber	1	allowance	\$25,350.00	\$25,350.00
8	Electrical kiosk	1	allowance	\$15,210.00	\$15,210.00
<b>TOTAL SECTION B - HARDSCAPE</b>					<b>\$140,856.35</b>
<b>SECTION C - SOFTSCAPE</b>					
1	Deciduous tree (60mm cal)	10	ea	\$481.65	\$4,816.50
2	Coniferous tree (200cm ht)	5	ea	\$456.30	\$2,281.50
3	Sod and topsoil	1000	m2	\$14.20	\$14,196.00
4	Seed (turf) and topsoil	7520	m2	\$8.11	\$61,002.24
5	Soccer field - Mini-size (inclu. seed & goal)	1	ea	\$37,518.00	\$37,518.00
<b>TOTAL SECTION C - SOFTSCAPE</b>					<b>\$119,814.24</b>
<b>SECTION D - SOFTSCAPE IN R.O.W.</b>					
1	Street Trees (R.O.W) (60mm cal)	16	ea	\$481.65	\$7,706.40
2	Sod (R.O.W) and topsoil	990	m2	\$14.20	\$14,058.00
<b>TOTAL SECTION D - SOFTSCAPE IN R.O.W.</b>					<b>\$21,764.40</b>
<b>SECTION E - SITE FURNITURE</b>					
1	Bench - includes concrete pad	4	ea	\$2,839.20	\$11,356.80
2	Picnic table - includes concrete pad	1	ea	\$3,042.00	\$3,042.00
3	Waste receptacle - includes concrete pad	2	ea	\$1,622.40	\$3,244.80
4	Bike rack - 6 station - includes concrete pad	1	ea	\$1,622.40	\$1,622.40
5	Park sign	1	ea	\$4,056.00	\$4,056.00
<b>TOTAL SECTION E - SITE FURNITURE</b>					<b>\$23,322.00</b>
<b>SECTION F - PLAY STRUCTURES</b>					
1	Playground (senior, junior, toddler, swings)	1	allowance	\$80,000.00	\$80,000.00
2	Shade shelter - 20x20 hex. (incl. concrete pad)	1	allowance	\$40,560.00	\$40,560.00
3	Wood fibre play surface	360	m2	\$55.00	\$19,800.00
4	Splashpad - includes concrete pad and required water service	1	allowance	\$100,000.00	\$100,000.00
<b>TOTAL SECTION F - PLAY STRUCTURES</b>					<b>\$240,360.00</b>
Note: All prices are supply and install.				<b>Construction Subtotal</b>	<b>\$681,954.99</b>
				Soft Costs and Contingency (25%)	\$170,490.00
				City Review Costs (4%)	\$33,130.00
				<b>Total</b>	<b>\$885,574.99</b>
				<b>(\$487,169/ha) Target Budget</b>	<b>\$828,190.00</b>
				<b>Difference</b>	<b>(\$57,380.00)</b>

**TABLE 6 | NORTHEAST QUADRANT PARK BUDGET**



PARK AREA SUMMARY	WEST OF MARCH ROAD		EAST OF MARCH ROAD		TOTAL	
	QUANTITY	SIZE (ha)	QUANTITY	SIZE (ha)	QUANTITY	SIZE (ha)
COMMUNITY PARK	1	4.2			1	4.2
NEIGHBOURHOOD PARK	1	2.1	2	3.8	3	5.9
<b>TOTAL</b>	2	6.3	2	3.8	4	10.1

**TABLE 7** | PARKLAND AREA SUMMARY (WEST AND EAST)

PARK AMENITIES SUMMARY	WEST OF MARCH ROAD		EAST OF MARCH ROAD		TOTAL	
AMENITY	QUANTITY		QUANTITY		QUANTITY	
FULL SOCCER FIELD	2		0		2	
INTERMEDIATE SOCCER FIELD	0		1		1	
MINI SOCCER FIELD	1		1		2	
DOUBLE TENNIS COURT	1		1		2	
MULTI-USE COURT	1		0		2	
HALF BASKET BALL COURT	1		2		3	
PUDDLE RINK	2		1		3	
SPLASH PAD	1		1		2	
PLAYGROUND	2		2		4	
SHELTER	2		2		4	
<b>TOTAL</b>	13		11		24	

**TABLE 8** | PARK AMENITIES DISTRIBUTION (WEST AND EAST)