South Nepean Town Centre
Integrated Environmental Review

April 9, 2019

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Project Number: CAIV 853

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1.0 INTRODUCTION

This document, the Integrated Environmental Review (IER), has been prepared by Kilgour & Associates Ltd. (KAL) in support of proposed residential development on a parcel located at 3288 Greenbank Road in Nepean (hereafter referred to as "the Site"). The Site is owned and is being developed by Caivan Communities (Caivan).

The Site is approximately 12.6 ha in area. It is zoned as DR – Development Reserve Zone (geoOttawa, 2019). After studies have been completed and approved, the Site will be re-zoned to support the development of mixed residential dwellings and a neighbourhood park and will be a part of the South Nepean Town Centre (City of Ottawa, 2006). The adjacent lands will also be developed in support of the South Nepean Town Centre (City of Ottawa, 2006). To the east, the parcel is bordered by Greenbank Road, low density rural residential dwellings (single detached), and St. Joseph Catholic High School (geoOttawa, 2019). The portion of Greenbank Road east of the parcel is proposed to be widened and realigned as part of the City's Transportation Master Plan (City of Ottawa, 2013). The proposed planning and construction of a new watermain on Greenbank Road from Market Place to south of the Jock River will be closely coordinated with the road widening project (Robinson Consultants, 2017). To the south are parcels intended for residential development in the form of townhouses and apartments by Claridge Homes and open lands intended for conservation uses within the floodplain of the Jock River (Novatech, 2018). The Kennedy Burnett Stormwater Management Facility is to the west (City of Ottawa, 2006). To the north is a Development Reserve Zone that will also be a part of the South Nepean Town Centre, and to the north of that is the Barrhaven Town Centre.

The IER has been written to meet the requirements of the City of Ottawa Official Plan, Section 4.7.1 – "*Integrated Environmental Review to Assess Development Applications*". This document presents information from studies completed in the planning and approvals process for the proposed development and demonstrates how information from the various environmental studies has influenced the design of the Site Plan.

Herein and as per the IER guidelines we provide:

- a brief overview of the individual technical studies and other relevant environmental background material;
- graphic illustrations, showing the spatial features and functions (e.g., natural vegetation, watercourses,) as have been identified in the individual studies;
- a summary of the potential environmental concerns raised, the scope of environmental interactions between studies, and the total package of mitigation measures, including any required development conditions and monitoring, as recommended in individual studies;
- a summary of how the proposed design complies with the environmental policies contained in Section 4 of the City of Ottawa's Official Plan;
- a statement with respect to how the recommendations of the support studies and the design with nature approach have influenced the design of the development; and

- an indication that the statement has been reviewed and concurred with by the individual sub consultants involved in the design team and technical studies.

This report has the following structure.

- Section 2.0 provides an overview of the environmental setting, as determined by the component studies.
- Section 3.0 provides a description of the proposed project.
- Section 4.0 discusses the potential environmental effects and required mitigation measures that are proposed by the proponent, or required by a regulating agency.
- Section 5.0 provides a summary of how the project and its proposed design comply with the environmental policies in Section 4 of the City of Ottawa Official Plan.
- Section 6.0 provides a statement on how the recommendations of the support studies and the Design With Nature approach have influenced the design of the development
- Section 7.0 is the statement that this IER has been reviewed and concurred with by the individual sub-consultants involved in the design and delivery of technical supporting studies.

2.0 ENVIRONMENTAL CONDITIONS

This section provides an overview of the various technical studies related to Phase 1 and a summary of the environmental concerns identified.

2.1 Geotechnical

2.1.1 General Geotechnical Assessment

The most current geotechnical investigation report for the Site was prepared by Paterson Group Inc. (2019). The Site consists of agricultural lands and associated farmhouse and outbuildings. The majority of the ground surface across the subject site is relatively flat and slopes gradually downwards to the south.

The field programs for the Paterson geotechnical assessment were carried out in February 2019 and October 2012, and analyzed eleven boreholes and eight test pits across the Site, extending to a maximum 10 m depth. Paterson also included further field studies by Golder (conducted for the area on March 17, 2016) in their review. The Golder work added two additional. Flexible standpipes were installed in the boreholes to monitor the groundwater level subsequent to the completion of the sampling program.

Generally, the soil conditions were found to consist of a cultivated topsoil/organic layer followed by a stiff, brown silty clay deposit overlying a glacial till layer. Based on available geological mapping, the bedrock in this area mostly consists of interbedded limestone and dolomite of the Gull River formation with an overburden drift thickness of 5 to 15 m depth Paterson (2019a). Subsurface conditions in Phase 1 of the

development consists of up to 4 m of silty clay over about 1 to 2 m of sandy silt. The sandy silt is generally underlain by a thin layer of glacial till over limestone bedrock (Oxford Formation) at about 3.5 to more than 4 m depth. Groundwater levels (depths ranging from 0.8 to 1.2 m across the site) are expected to fluctuate seasonally. Higher groundwater levels are expected during wet periods of the year, such as spring.

2.1.2 Soil Quality

Patterson (2019b) completed a Phase I Environmental Site Assessment for the Site. Their study researched the past and current use of the Site to identify potential for site contamination concerns with the potential to impact the proposed development.

The Site was first developed pre-1976 with a farmstead (residential dwelling and associated structures) and used for agricultural purposes. Historical land use of the neighbouring properties was also for residential and agricultural purposes. No potentially contaminating activities were identified with the historical use of the subject site or surrounding lands. No potential environmental concerns were noted (Paterson 2019b). A Phase II Environmental Site Assessment was not deemed to be not required.

2.2 Terrestrial Environment

The terrestrial environment for the Site and surrounding area was described in the EIS for the project by Kilgour & Associates (2019). The Site consists almost entirely of an open agricultural field with a few clusters and hedgerows of trees. An old farm house and several small outbuildings occur on the north east Site corner. The fields were significantly disturbed in the preceding year(s) by the installation of a new sewer line across the Site. Based on geoOttawa's 1976 air photo of the Site, most of the parcel was cleared of trees sometime prior to 1976 except for a hedgerow of trees bisecting the parcel in half from north to south along the Burnett Municipal Drain and a couple of clusters and a hedgerow of trees surrounding several old farm buildings in the northeast corner of the parcel. All adjacent areas were also predominantly cleared prior to 1976. Most of the existing vegetation on site is thus less than 40 years old.

Since 1976, trees on site have increased in size and density in the areas that were not cleared, and more trees have established along the Burnett Municipal Drain and its three tributaries (geoOttawa, 2019). At the time of the KAL tree survey, three hedgerows of vegetation existed on the parcel: a hedgerow of predominantly grape vine and Virginia Creeper with several small Willow shrubs along an old fence line bordering the east side of the Kennedy Burnett stormwater pond (west edge of the Site), a hedgerow of mainly small Green Ash and Manitoba Maple with Red Osier Dogwood, Hawthorn, and Buckthorn as understory along the northern edge of the parcel, and a hedgerow of mainly small Manitoba Maples along the Burnett Municipal Drain. In addition to these three hedgerows, there are three clusters of mainly Manitoba Maples varying in size around the old farm buildings in the northeast corner of the Site. No trees of special significance were found on or within 50 m of the proposed development area. No Butternuts were observed.

2.3 Aquatic Environment

The Burnett Municipal Drain bisects the Site from north to south, leading to the Jock River. Three small tributaries connect to the drain along and near the north property line (Figure 1). Bowfin Environmental Consulting and Muncaster Planning Inc. performed a Headwater Drainage Feature Assessment (HDFA) of

the drain in the spring and summer of 2015 (Bowfin and Muncaster, 2016). Neither the Burnett Municipal Drain nor its tributaries were found to provide direct fish habitat.

The tributaries were consistently dry, and fish sampling did not yield any catch in the drain on all four of their sampling dates and was dry for most of the summer. Directly upstream of the Site, the drain is piped under a driving range for approximately 170 m, but the culvert is in poor condition (Bowfin and Muncaster, 2016). The drain is confined to a straight channel and has potential for fish to access the Site in the spring during high flows, but this opportunity would be very limited. All the tributaries are constructed water courses and most closely represent swales. Bowfin and Muncaster (2016) concluded that the drain provides no direct fish habitat but contributes to fish habitat downstream in the Jock River. The riparian habitat of the of the Burnett Municipal Drain and Tributary 1 were assessed as having "limited function" due to flow being within cropped land while Tributaries 2 and 3 were classified as "limited to contributing function" due to flow being within cropped land and the manicured grass of the driving range. Since the drain is not connected to any wetland features and the lands upstream of the driving range are heavily developed, the drain is unlikely to provide important habitat for amphibians and reptiles. A single American toad was heard calling in the Burnett Municipal Drain during one of the site visits by Bowfin and Muncaster (2016), but no other amphibians or reptiles were observed.

The limited functionality of the channels can be replaced by stormwater management infrastructure associated with broader development under the South Nepean Town Centre Community Design Plan (CDP; City of Ottawa, 2019). The CDP does not indicate the retention of these channels.

The proposed development site is not located within the floodplain of the Jock River.

2.4 Species at Risk

The only SAR identified as present on or adjacent to the Site is Barn Swallow (KAL 2019). The old farm buildings on the northeast corner of the Site have exterior overhang structures that Barn Swallows may build nests under. One remnant nest was observed under such a structure on site. Grass still present in the mud wadding suggest the nest was likely from 2018. No other evidence of nesting was found on or in other farm buildings on site, on the walls of the high school across the street, or on any other structures within 200 m of the property. Culverts associated with the stormwater pond to the NW and crossing the Kennedy Burnett drain are more than 200 m from the property, as are bridges crossing the Jock River.

Little Brown Bats, Tri Coloured Bats, and Monarch Butterflies have some limited potential for transient presence, but no critical habitat is available on site. The old farm buildings on site could provide roosting habitat for bats but are not considered Significant Wildlife Habitat and are therefore not protected, and as such, bats are only a low concern for this project. Further, although some trees on site may provide roosting habitat, these trees do not make up the typical forest habitat that maternity roosting colonies are found in (i.e., they are not mature deciduous forest stands greater than 10 ha with a snag abundance of 10 snags/ha; MNR, 2011 and references within). Monarch Butterflies, listed as special concern, have no habitat protection as species at risk.

3.0 PROPOSED UNDERTAKING

The proposed development consists of six (6) blocks of development parcels, one (1) parkland block, and one (1) school site. The development parcels will consist of five (5) blocks intended for back to back townhouse and stacked townhouse dwellings, which will have a total of 602 dwelling units. The remaining parcel is proposed for two (2)-eight (8) storey mixed use apartment buildings. Building A is to house 172 dwelling units, while Building B is set to contain 139 dwelling units. Commercial units, most likely retail or service commercial type uses, are to be located on the ground floor of the apartment buildings. The identified school site is proposed to have flexible zoning that could permit residential uses should the School Board deem the lands as surplus to their needs.

The anticipated construction start date is Spring 2020 with closings starting in June 2021 and ending in November 2024.

3.1 Water Supply Servicing

The proposed development is currently located within Zone BARR of the City of Ottawa's water distribution system (Stantec 2019). This zone is fed by the Barrhaven Pump Station and Barrhaven Reservoir Pump Station, with the Moodie elevated storage tank providing balancing storage for peak flows and demands. The development is located within the future Zone 3C pressure zone, to be completed by the City of Ottawa in the future (Stantec 2019).

Potable water supply will be connected to existing City infrastructure (Stantec 2019) including a 400mm diameter watermain along Jockvale Road south of the intersection with Greenbank Road, and a 300mm diameter main along Jockvale immediately south of Strandherd Drive. The proposed watermain alignment and sizing for the development will conform to the layout shown in the Kennedy-Burnett Potable Water Master Servicing Study. No wells will be required for drinking water.

3.2 Wastewater Management

The Site will be serviced by a network of gravity sewers which will direct wastewater flows to the centrally located trunk sewer within the proposed Jockvale Road as directed by the CDP. The proposed sanitary sewer design indicates a single connection point to the recently constructed trunk sewer. A drop structure will be required to tie in at an existing manhole to avoid direct connection to the trunk concrete pressure pipe (Stantec 2019).

3.3 Stormwater Management

Post development runoff from the development will be directed to a shared storm sewer within the future Claridge development to the south and ultimately to the Kennedy Burnett SWM facility outlet channel. No SWM pond facilities will be located directly on the site (Stantec 2019).

3.4 Erosion and Sediment Control

Erosion Sediment Controls must be implemented on site in accordance with the recommendations provide within the Functional Servicing Report for the project (Stantec 2019). These include:

1. Implement best management practices to provide appropriate protection of the existing and proposed drainage system and the receiving water course(s).
2. Limit extent of exposed soils at any given time.
3. Re-vegetate exposed areas as soon as possible.
4. Minimize the area to be cleared and grubbed.
5. Protect exposed slopes with plastic or synthetic mulches.
6. Provide sediment traps and basins during dewatering.
7. Install sediment traps (such as SiltSack® by Terrafix) between catch basins and frames.
8. Plan construction at proper time to avoid flooding.
9. At every rainfall, complete inspections and guarantee proper performance. The inspection is to include:

    - Verification that water is not flowing under silt barriers.
    - Clean and change silt traps at catch basins.

The Erosion and Sediment Control Plan included in Appendix XXX indicates the proposed location silt fences, cutoff swales, temporary sediment basins and other erosion control structures

4.0 POTENTIAL EFFECTS AND MITIGATIONS

4.1 Geotechnical

In general soil stratigraphy consisted of topsoil and/or a silty clay deposit overlaying glacial till. Bedrock was estimated to occur between depths of 5-15m. The thickness of the existing topsoil ranged from 250 to 400mm.

4.1.1 Anticipated Effects

From a geotechnical perspective, the subject site is adequate for the proposed residential development. However, due to the presence of the sensitive silty clay layer, the proposed development will be subjected to grade raise restrictions (Paterson, 2019a).

Due to the relatively impervious nature of the silty clay materials, it is anticipated that groundwater infiltration into the excavations should be low and controllable using open sumps. A perched groundwater condition may be encountered within the silty sand/sandy silt deposit which may produce significant temporary groundwater infiltration levels (Paterson, 2019a).

4.1.2 Required Mitigations

Based on the observed soil conditions, a grade raise restriction of between 1.4m and 3.0m above existing grade was recommended for housing / roadways, and between 0.8m and 2.5m for apartment buildings. Areas where grades are expected to exceed the maximum permissible grade raise will be subject to either a pre-loading/surcharge program, or lightweight fill and/or other approved means outside of proposed rights-of-way to reduce the risks of unacceptable long-term post construction differential settlements.

It is expected that construction may occur below the existing groundwater table and therefore a permit to take water will likely be required. Contractors should be prepared to direct water away from all bearing surfaces and subgrades, regardless of the source, to prevent disturbance to the founding medium.

The subsurface conditions at this site mostly consist of frost susceptible materials. In presence of water and freezing conditions ice could form within the soil mass. Heaving and settlement upon thawing could occur. Precautions should be taken if winter construction is considered for this project.

4.2 Trees

4.2.1 Anticipated Effects

All existing site trees must be remove for the site to allow for site regrading and construction (KAL 2019).

4.2.2 Required Mitigations

For any trees are remaining on adjacent properties at the time of construction, the following protection measures are indicated as necessary:

- To minimize impact to remaining trees during future site development: Erect a fence beyond the critical root zone (CRZ, i.e. 10 x the trunk diameter) of trees. The fence should be highly visible (e.g. orange construction fence) and paired with erosion control fencing. Pruning of branches is recommended in areas of potential conflict with construction equipment;
- Do not place any material or equipment within the CRZ of the tree;
- Do not attach any signs, notices or posters to any tree;
- Do not raise or lower the existing grade within the CRZ without approval;
- Tunnel or bore when digging within the CRZ of a tree;
- Do not damage the root system, trunk or branches of any tree; and
- Ensure that exhaust fumes from all equipment are NOT directed towards any tree's canopy.

The *Migratory Bird Convention Act* (Canada, 1994) protects the nests and young of migratory breeding birds in Canada. The City of Ottawa guidelines stipulate no clearing of trees or vegetation between April 1 and August 15, unless a qualified biologist has determined that no nesting is occurring within 5 days prior to the clearing (Ottawa, 2017c).

New lots on the Site must each include tree planting as a part of their landscape plans. Canopy coverage at maturity for the new community will be a function of the detailed landscape plan for the area, which is yet to be established. However, trees are to be planted throughout the new community at a density equivalent to no less than one tree per lot, though the distribution of specific planting locations may be varied from necessarily planting on every lot, as may be dictated by individual lot considerations. Park and

school lots will provide opportunity of additional tree planting. Specific trees to be planted on site will be identified in the landscape plan for the development. Trees species identified in this plan must be non-invasive and should be both native to the Ottawa area and tolerant of the Site's soil conditions and generally urban setting (KAL 2019).

Based on Paterson's (2019a) review of the silty clay deposit, a tree planting setback limit of 4.5 m for small (mature tree height up to 7.5m) and medium size trees (mature tree height 7.5 m to 14 m) is recommended across the subject site provided that the following conditions are met:

- The underside of footing (USF) is 2.1 m or greater below the lowest finished grade must be satisfied for footings within 10 m from the tree, as measured from the centre of the tree trunk and verified by means of the Grading Plan; and

- A small tree must be provided with a minimum of 25 m^3 of available soil volume while a medium tree must be provided with a minimum of 30 m^3 of available soil volume, as determined by the Landscape Architect. The developer is to ensure that the soil is generally un-compacted when backfilling in street tree planting locations.

4.3 Fish and Fish Habitat

4.3.1 Anticipated Effects

No direct fish habitat was found to be present on site.

4.3.2 Required Mitigations

Erosion and sediment control measures will be installed as per the ESC plan to prevent overland sediment flow off site during construction. Water conveyed from the site will be managed through the area SWM system, which will be designed to return surface water runoff to the broader Jock River system.

4.4 Species at Risk

The only SAR identified as present on or adjacent to the Site is Barn Swallow.

4.4.1 Potential Effects

Following a site registration for Barn Swallow, and the implementation of mitigations obliged under that registration (consisting of the construction of a compensatory nesting structure), the MNRF will deem no negative impacts to the species. The removal of trees and site buildings and general grubbing of the Site outside of bat roosting season will prevent impacts to bats and to Monarch butterflies that could otherwise be transiently present.

4.4.2 Required Mitigations

As the proposed development involves demolishing the buildings that historically acted as habitat for Barn Swallows (and may currently act as habitat), the proponent must complete a site registration with the MNRF prior to the commencement of site works indicating that remnants of a single Barn Swallow

nest were present. The proponent must comply with all obligations imposed by the Site registration including, but not necessarily limited to:

- Create and maintain a new nesting structure for Barn Swallows;
- Monitor the structure for three years and duly submit reports to the MNRF annually; and
- Time or conduct site works in a manner to prevent any impacts to any active nests.

The presence of SAR bats, although unlikely, cannot be dismissed completely. KAL therefore recommends the following:

- No clearing of trees on site should take place between May and August inclusive without first confirming the absence of bats. Trees should not be cleared within the month of June at all; and
- If bats are found in the old farm buildings to be demolished, they should be permanently and humanely evicted following Bat Conservation International's Guide to Safe & Humane Exclusions: http://www.batcon.org/pdfs/education/fof_ug.pdf.

5.0 COMPLIANCE WITH POLICY 4.7 – ENVIRONMENTAL PROTECTION

The following table indicates where studies and/or assessments have been required by the City of Ottawa in the completion of an Integrated Environmental Review, depending on characteristics of the site, to assess a development application. The study requirements and status for the development application are indicated in the Table to demonstrate compliance to the requirements of the Official Plan.

Table 1. Demonstrated compliance with Policy 4.7 Environmental Protection

OP Section	Studies/Assessment Required	Where Required	Relevant Study and Status	Summary of Issue
4.7.1	Integrated environmental review to assess development applications	Summary of all environmental studies/assessments submitted with development application	This document	
4.7.2	Tree retention and planting	All plans of subdivision and site plans	KAL (2019). **A City tree removal permit will be required.**	No high quality specimen trees occur on site. All site tree will be removed.
4.7.2	Demonstrate no impact on the natural features or on the ecological function for which the area is identified	On lands adjacent to significant portions of the habitat of endangered and threatened species	KAL (2019)	No significant natural areas present on or adjacent to the site.
4.7.3	Demonstrate no negative impact on fish habitat; If there is impact – review by Department of Fisheries and Oceans	On or adjacent to fish habitat	KAL (2019)	There is no direct fish habitat on or adjacent to the Site. The function of minor features conveying water off site will be replace as part of the of the SWM system.
4.7.3	Erosion and sediment control plan	All development proposals	Stantec (2019)	ESC Plan requirements are detailed within the Functional Servicing Report.
4.7.3	Determine appropriate setback from rivers, lakes and streams	Development proposals adjacent to rivers, lakes and streams	KAL (2019)	No water feature will remain on or adjacent to the Site.
4.7.5	Hydrogeology/terrain analysis	Subdivisions based on private services	Study not required.	Subdivision based on shared / public services.

OP Section	Studies/Assessment Required	Where Required	Relevant Study and Status	Summary of Issue
4.7.5	Groundwater impact assessment	Groundwater resources areas	Paterson (2019a)	
4.7.5	Wellhead protection study	Wellhead Protection Area designated on Schedule K	Study not required.	
4.7.6	Stormwater site management plans	Site plan and subdivision and zoning amendment applications	Stantec 2017	Subdivision will connect to SWM facilities in the broader CDP area.
4.7.7	Assessment of landscape feature	Geomorphic, Geological and Landform feature (designated on Schedule K); Features (e.g. ANSI) identified in other studies	Study not required.	No Features as identified on Schedule K of the City of Ottawa Official Plan.

6.0 INCORPORATION OF DESIGN WITH NATURE PRINCIPLES

Section 4.7 – Environmental Protection of the City of Ottawa Official Plan identifies planning objectives to support natural features and functions in the development of lands within the City. The stated objectives are:

- Increasing forest cover across the city;
- Maintaining and improving water quality;
- Maintaining base flows and reducing peak flows in surface water;
- Protecting and improving the habitat for fish and wildlife in stream corridors;
- Protecting springs, recharge areas, headwater wetlands and other hydrological areas; and
- Managing resources by using low-maintenance, natural solutions.

The City of Ottawa desires that land developments achieve these objectives through design with nature. The purpose of this section is to demonstrate the compliance of the proposed development with the design with nature principles.

In support of the development application by Caivan, various studies (described above) have been completed to identify significant natural resources that may be present on the site.

There were no significant environmental features identified on the property that would implore the design with nature approach on the site. That being said, the development application does support environmental initiatives identified by the City of Ottawa, as demonstrated above in Section 6. Additional measures are:

- The development area currently has limited tree coverage. While the residential development cannot produce new forest areas, canopy cover will be enhanced through tree planting;
- Surface water drainage will be routed through City approved stormwater management systems so that objectives for stormwater quality will be met during and post construction; and
- The proposed project is being carried out in an area that does not and has not contained significant wetland habitat, or significant habitat for species considered rare, threatened or endangered species.

6.1 Integration of Energy Efficiency and Sustainable Design

Section 4.7 – Environmental Protection of the City of Ottawa Official Plan requires the incorporation of energy efficient and sustainable design principles into new developments following a Sustainable Design Checklist (now known as the Green Checklist).

Table 2. City of Ottawa Site Plan Control Approval Green Checklist

ID	Question	Response
1a	Does the project proponent intent to seek LEED certification for this project?	No
1b	If yes, which level of LEED certification is the project intended or designed to meet?	None
1c	Will this project be seeking certification under another third-party green building rating system?	No
2	Will this project include renewable energy facilities and pursue a FIT or MicroFIT contract under the Ontario Power Authority's Feed-in Tarrif program?	No
3	Which features is the project designed to incorporate?	None

7.0 CLOSURE

The following persons have read this Integrated Environmental Review and agree that this document provides a reasonable summary of the highlights of their individual component studies.

Natural Environment, Aquatic Habitat, Tree Conservation Kilgour & Associates Ltd. _____ Anthony Francis, PhD	**Geotechnical Investigation and Site Environmental Assessment** Paterson: _____
Stormwater Management Stantec: _____	

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8.0 LITERATURE CITED

Kilgour & Associates Ltd. (KAL). 2019 Environmental Impact Statement in Support of the Proposed Development of 3288 Greenbank Road, Nepean, Ontario. Report Date March 7, 2019.

Paterson Group (Paterson). 2019a. Geotechnical Investigation - Proposed Residential Development 3288 Greenbank Road - Ottawa. Report Number: PG2743-2. Dated: March 6, 2019.

Paterson Group (Paterson). 2019b. Phase I-Environmental Site Assessment 3288 Greenbank Road - Ottawa. Report Number: PE4558-1. Dated: March 11, 2019.

Stantec. 2019. South Nepean Town Centre (SNTC) – Functional Servicing Report. Project #160401085. Report Date: March 20, 2019

Appendix A
Detailed Analysis of Compliance of the Caivan Communities Development Plan with Section 4.7 of the City of Ottawa Official Plan

Detailed Analysis of Compliance with Section 4.7 of the City of Ottawa Official Plan

This appendix provides a detailed examination of the requirements of Policy 4.7 of the City of Ottawa Official Plan as it pertains to subject development plan by Caivan Communities (Caivan). Each of the policy requirements is provided verbatim, with a short discussion of the approach taken by Caivan to comply with the specific policy, where relevant. The City Policy statements are *italicized*, while the Caivan approach to compliance is in regular font.

Policy 4.7.1 – Integrated Environmental Review to Assess Development Applications

A comprehensive understanding of the relationship between the natural environment and the built environment is the foundation of site design and subdivision planning, as well as planning for the larger areas subject to community design plans. The integrated environmental review considers as a whole the significant findings from individual support studies (i.e., tree preservation and protection plans, environmental impact statements, stormwater site management plans, Phase I Environmental Site Assessments). It also ensures that development proceeds in keeping with the analysis and recommendations of any watershed and subwatershed studies and federal or provincial environmental assessments documents, where applicable. The integrated environmental review ensures that development design complies with the environmental policies contained in Section 4, and that the principles of design with nature have been applied. [Amendment 13, September 8, 2004]

4.7.1(1)Subdivisions, and major site plans and major rezoning applications, will be accompanied by an integrated environmental review statement demonstrating how all the studies in support of the application influence the design of the development with respect to effects on the environment and compliance with the appropriate policies of Section 4. The appropriate policies and studies will be identified through pre-consultation at the beginning of the design and review process. [Amendment #76, OMB File # PL100206, Ministerial Modification # 48, April 26, 2012.]

4.7.1(2) The integrated environmental review statement will provide:

a. *A brief overview of the results of individual technical studies and other relevant environmental background material;*
b. *A graphic illustration, such as an air photo, summarizing the spatial features and functions (e.g. natural vegetation, watercourses, significant slopes or landform features, recharge/infiltration areas) as identified in the individual studies;*
c. *A summary of the potential environmental concerns raised, the scope of environmental interactions between studies, and the total package of mitigation measures, including any required development conditions and monitoring, as recommended in individual studies;*
d. *A statement with respect to how the recommendations of the support studies and the design with nature approach have influenced the design of the development;*
e. *An indication that the statement has been reviewed and concurred with by the individual sub consultants involved in the design team and technical studies.*
f. *A description of how the principles of Design Objective 7 (Section 2.5.1) to maximize the energy-efficiency of development and to promote sustainable design that reduces consumption, energy use and carbon footprint of the built environment have been*

considered. A sustainable design checklist will be prepared to assist in this description. [Amendment #76, OMB File # PL100206, Ministerial Modification # 49, April 26, 2012.

Caivan Approach to Compliance

This document, i.e., the Integrated Environmental Review, satisfies this requirement. Note that the sustainable design checklist referred to in 4.7.1(2f) is now referred to as the green checklist.

4.7.2 – Protection of Vegetation Cover

Preserving vegetation on sites subject to development not only contributes to the urban and rural forest and the overall environmental health of the area, but also helps improve the visual appeal of newly developed areas. However, development proposals may necessitate removal of existing vegetative cover in some instances. Development proposals will be required to preserve vegetative cover or propose compensation measures, through the following policies. [OMB decision #1754, May 10, 2006]

***Policy 4.7.2 (1)** In order to support the Official Plan objective for 30% tree cover, applications for subdivision or site plan approval will be supported by a tree preservation and protection plan and a landscape planting plan. [Amendment #76, OMB File # PL100206, April 26, 2012.]*

Caivan Approach to Compliance 4.7.2 (1)

A Tree Conservation Report was prepared by KAL (2019) as part of the EIS for the project following City of Ottawa Guidelines. A detailed landscape plan is will be produced.

***Policy 4.7.2 (2)** The Tree Conservation Report constitutes part of a complete application and may be submitted early in the design and development review process. It should be submitted before any tree removal occurs on development lands. The report will be completed in keeping with the Tree Conservation Report guidelines and in summary will: [Amendment #76, August 04, 2010]*

a. *Retain as much natural vegetation as feasible, especially along surface water features, on steep slopes, in valued woodlots and in areas linking green spaces, with a particular emphasis on high quality or rare vegetative communities; [OMB decision #1754, May 10, 2006] [Amendment #76, OMB File # PL100206, April 26, 2012.]*
b. *Identify the presence of endangered or threatened species or their habitat as identified in the Endangered Species Act, 2007 and provide recommendations for protection measures to be used. [Amendment #76, OMB File # PL100206, April 26, 2012.]*
c. *Demonstrate how components of the proposed development, such as grading plans and the location of buildings, roads, and infrastructure, support tree conservation. [Amendment #76, OMB File # PL100206, April 26, 2012.]*
d. *Determine which stands of trees or individual trees warrant retention based on a preliminary assessment;*
e. *For those trees or stands of trees being retained, outline measures for their protection during construction and over the long term;*

Caivan Approach to Compliance 4.7.2 (2a,b,c,d,e)

A Tree Conservation Report was prepared by KAL (2019) as part of the EIS for the project confirmed that there were no significant specimen trees rare vegetation, Areas of Natural and Scientific Interest, significant wetlands, natural areas, and no woodlands greater than 50 years within the development areas. No endangered or threatened species or their habitats were present on property.

Policy 4.7.2 (2,f)

f. Describe the area and nature of tree loss and compensation measures proposed;

Caivan Approach to Compliance on Policy 4.7.2 (2f)

KAL (2019) surveyed the development area and surrounding site, which are former agricultural lands. Removal of the limited tree coverage was indicated for the entire Site. Detailed landscape plans for each phase of development will include more trees to be planted than will be lost from the site.

Policy 4.7.2 (2g)

g. Where there is substantial alteration of the natural vegetation cover on the site, the impact on fauna or rare species during and after construction will be considered and mitigation measures proposed.

Caivan Approach to Compliance on Policy 4.7.2 (2g)

There are relatively few trees generally, and no significant specimen trees within the development area based on the assessment by KAL (2019). The site does not provide significant habitat for species listed as at risk under the Ontario ESA (KAL 2018). The site is a former agricultural area. There is no net negative impact on fauna or rare species during or after construction, and no requirement for mitigation measures.

Policy 4.7.2 (2h)

h. Provide strategic recommendations to guide the landscape plan. [Amendment #76, June 24, 2009] [Amendment #76, August 04, 2010]

Caivan Approach to Compliance on Policy 4.7.2 (2h)

The site Landscape Plan will be provided to the City.

Policy 4.7.2 (3) *The landscape plan will:*

f. Indicate tree planting or vegetation cover required to provide protection for surface water features or steep slopes;
g. Investigate the appropriateness of the use of native species in tree planting strategies;
h. Provide a reference document for future residents on the importance and care of trees on their property.

Caivan Approach to Policy 4.7.2 (3)

The site Landscape Plan must be provided to the City and will be drafted to meet these requirements.

Policy 4.7.3 – Erosion Prevention and Protection of Surface Water

Protecting stream corridors and the surface water environment serves the dual purpose of preserving and enhancing the environmental quality of stream and river corridors and their aquatic habitat, as well as reducing risks from natural hazards associated with watercourses. Ensuring that development is set back an appropriate distance from watercourses helps serve these purposes by ensuring a healthy, natural riparian zone and providing a margin of safety from hazards associated with flooding and unstable slopes.

Council has adopted Slope Stability Guidelines for Development Applications in the City of Ottawa, 2004, to guide slope stability assessments and requirements for setbacks. Slope stability assessments identify the geotechnical limit of the hazard lands, which includes the stable slope allowance plus, where appropriate, an allowance for future erosion and in some cases, an additional allowance to permit access in the event of future slope failure. Sites where slope stability issues are a concern were identified in the report, Slope Stability Study of the Regional Municipality of Ottawa-Carleton, 1976 (Ontario Misc. Paper MP 68) and are shown on Schedule K. Schedule K provides for early identification of slope stability concerns but is not sufficiently detailed to assess constraints on specific sites. [OMB decision #1754, May 10, 2006] [Amendment #76, OMB File # PL100206, July 21, 2011.]

Caivan Approach to Policy 4.7.3

No stream corridors or other features requiring setbacks will remain on or adjacent to the Site.

Policy 4.7.3 (1)

1. *Except as otherwise provided for in this section, Council will establish minimum setbacks from rivers, lakes, streams and other surface water features in watershed, subwatershed and environmental management plans and in these plans identify any additional studies needed to refine the setback through the development review process as well as any site-specific measures needed to protect the setback. [OMB decision #1754, May 10, 2006] [Amendment #76, OMB File # PL100206, July 21, 2011.]*

Caivan Approach to Policy 4.7.3 (1)

No stream corridors or other features requiring setbacks will remain on or adjacent to the Site.

Policy 4.7.3 (2)

2. *Where a Council-approved watershed, subwatershed, or environmental management plan does not exist, the minimum setback will be the greater of the following:*

    a. *Development limits as established by the regulatory flood line (see Section 4.8.1);*

    b. *Development limits as established by the geotechnical limit of the hazard lands;*

c. 30 metres from the normal high water mark of rivers, lakes and streams, as determined in consultation with the Conservation Authority; or
d. 15 metres from the existing top of bank, where there is a defined bank. [OMB decision #1754, May 10, 2006]

Caivan Approach to Policy 4.7.3 (2)

No stream corridors or other features requiring setbacks will remain on or adjacent to the Site.

Policy 4.7.3 (3)

2. The setback provided for in policies 1 and 2 will be implemented through the zoning by-law and any change in the setback will require a zoning by-law amendment or variance that is consistent with the policies in this section of the Plan. [Amendment #76, OMB File # PL100206, April 26, 2012.]

Caivan Approach to Policy 4.7.3 (3)

No stream corridors or other features requiring setbacks will remain on or adjacent to the Site.

Policy 4.7.3 (4)

3. No site alteration or development is permitted within the minimum setback, except as otherwise provided for in this section. Site alteration is defined as activities, such as fill, grading and excavation that would change the landform and natural vegetative characteristics of a site. Development is defined as the creation of a new lot or the construction of buildings and structures requiring approval under the Planning Act or the issuance of a Building Permit under the Building Code Act. Exceptions to this policy are:

a. Activities that create or maintain infrastructure within the requirements of the environmental assessment process or works subject to the Drainage Act;
b. Alterations necessary for recreation, environmental restoration, or slope stability works that are approved by the City and the Conservation Authority. [OMB decision #1754, May 10, 2006]

Caivan Approach to 4.7.3 (4)

No stream corridors or other features requiring setbacks will remain on or adjacent to the Site.

Policy 4.7.3 (5)

4. *The geotechnical limit of hazard will be determined in keeping with the Slope Stability Guidelines for Development Applications in the City of Ottawa 2004. Sites where slope stability issues are a concern were identified in the report, Slope Stability Study of the Regional Municipality of Ottawa-Carleton, 1976 (Ontario Misc. Paper MP 68) and are shown on Schedule K. Schedule K provides for early identification of slope stability concerns but is not sufficiently detailed to assess constraints on specific sites. [Amendment #76, OMB File # PL100206, July 21, 2011.]*

Caivan Approach to 4.7.3 (5)

No geotechnical limits of hazard occur on or adjacent to the Site.

Policy 4.7.3 (6)

5. *Exceptions to the setbacks in policy 2 will be considered by the City in consultation with the Conservation Authority in situations where development is proposed:*

    a. *On existing lots where, due to the historical development in the area, it is unreasonable to demand or impossible to achieve minimum setback distances because of the size or location of the lot, approved or existing use on the lot, or other physical constraint;*

    b. *Adjacent to a minor tributary that serves primarily a surface water function and that may have only an intermittent flow. This provision includes situations where a watershed, subwatershed or environmental management plan exists but does not provide guidance on a minor tributary;*
    c. *Adjacent to an existing top of bank where the regulatory flood line and the geotechnical limit of the hazard lands are within 15 metres from the existing top of bank [OMB decision #1754, May 10, 2006]*

Caivan Approach to Policy 4.7.3 (6)

No stream corridors or other features requiring setbacks will remain on or adjacent to the Site.

Policy 4.7.3 (7)

6. *Where an exception to the setback is requested, an alternate setback will be considered by the City in consultation with the Conservation Authority on the basis of a study that addresses the following criteria:*

    a. *Slope of the bank and geotechnical considerations related to unstable slopes, as addressed in Council's Slope Stability Guidelines for Development Applications in the City of Ottawa, 2004;*

    b. *Natural vegetation and the ecological function of the setback area;*

    c. *The nature of the abutting water body, including the presence of a flood plain;*
    d. *The need to demonstrate that there will be no negative impacts on adjacent fish habitat. [OMB decision #1754, May 10, 2006]*

Caivan Approach to Policy 4.7.3 (7)

No stream corridors or other features requiring setbacks will remain on or adjacent to the Site.

Policy 4.7.3 (8)

7. *Notwithstanding policy 3, lot creation by subdivision may be considered which includes land within the required setback in Villages adjacent to a minor tributary that serves primarily a surface water function and that may have only an intermittent flow, subject to the following criteria:*

    a. *Where slope stability is an issue, the lot area outside the geotechnical limit of hazard is sufficient to meet the required minimum lot size and Council's Slope Stability Guidelines for Development Applications in the City of Ottawa, 2004 are satisfied; and*
    b. *The lot area outside the setback is sufficient to accommodate all structures and water and wastewater services. [OMB decision #1754, May 10, 2006]*

Caivan Approach to Policy 4.7.3 (8)

No stream corridors or other features requiring setbacks will remain on or adjacent to the Site.

Policy 4.7.3 (9)

8. *Notwithstanding policy 3, lot creation by subdivision may be considered which includes land within the required setback in the rural area outside Villages, subject to the following criteria:*

    a. *Where slope stability is an issue, the lot area outside the geotechnical limit of hazard is sufficient to meet the required minimum lot size and Council's Slope Stability Guidelines for Development Applications in the City of Ottawa, 2004 are satisfied; and*
    b. *The lot area outside the setback is sufficient to accommodate all structures and water and wastewater services. [OMB decision #1754, May 10, 2006]*

Caivan Approach to Policy 4.7.3 (9)

No stream corridors or other features requiring setbacks will remain on or adjacent to the Site.

Policy 4.7.3 (10)

9. *Notwithstanding policy 3, a lot created by severance in the rural area may include land within the required setback provided the criteria in policy 7 are satisfied. The new lot created by severance in the rural area should be located outside the setback to the extent possible. [OMB decision #1754, May 10, 2006]*

Caivan Approach to Policy 4.7.3 (10)

No geotechnical limits of hazard occur on or adjacent to the Site.

Policy 4.7.3 (11)

10. *Under the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation, pursuant to the Conservation Authorities Act of Ontario, the approval of the Conservation Authority is required for works such as site grading, the placement of fill, the alteration of existing channels of watercourses, and certain construction projects. The*

Conservation Authority should be consulted for any project near a lake, river, stream or wetland regarding the need for a permit. The Rideau Canal is a federal waterway and as such all shoreline and in-water works along the canal system will also require approval of Parks Canada. [Amendment #76, OMB File # PL100206, July 21, 2011.]

Caivan Approach to Policy 4.7.3 (11)

There are no natural wetland areas on or adjacent to the development area.

Policy 4.7.3 (12)

11. *Where development is proposed on private services, no septic tank or distribution piping may be located closer than 30 m from the normal high water mark of a river, lake or stream or other watercourse unless an alternative setback has been permitted by the City in consultation with the Conservation Authority, for example, as may be required for existing lots in the rural area. [OMB decision #1754, May 10, 2006]*

Caivan Approach to Policy 4.7.3 (12)

No part of the development will include servicing on private services.

Policy 4.7.3 (13)

12. *An erosion and sediment control plan will be provided that shows how erosion on the site will be minimized during construction through application of established standards and procedures. Measures to maintain vegetative cover along the slope during and after construction will be addressed.*

Caivan Approach to Policy 4.7.3 (10)

The Functional Servicing Report for the project (Stantec, 2019) provides a site Erosion and Sediment Control (ESC) Plan.

Policy 4.7.3 (14)

13. *Natural watercourses should be maintained in their natural condition. Where an alteration is assessed as being environmentally appropriate and consistent with an approved subwatershed plan, environmental management plan or a storm water site management plan or, in the case of public projects, through a Class Environmental Assessment, watercourse alterations must follow natural channel design. Watercourse alterations must also meet any other applicable provincial and federal regulations, as amended from time to time, such as the Lakes and Rivers Improvement Act, Public Lands Act and Fisheries Act and may require written approval from the appropriate Conservation Authority under the Fill, Construction and Alteration to Waterways regulations.*

Caivan Approach to Policy 4.7.3 (14)

No natural watercourses will occur on or adjacent to the Site. The limited functionality of (non-fish-bearing) drainage features currently on site will be replaced by planned SWM system of for the broader CDP area.

Policy 4.7.3 (15)

14. *Development and site alteration will not be permitted in fish habitat except in accordance with federal and provincial requirements. Development applications near or adjacent to water bodies that provide fish habitat will be required to demonstrate that the proposed development will not have a negative impact on fish habitat. Fish habitat is defined as those areas on which fish depend directly or indirectly to carry out their life processes. Fish habitat includes spawning grounds, nursery and rearing areas, areas that supply food, and features that allow migration. In the event that a negative impact is unavoidable, the proposal must be reviewed and authorized by the federal Department of Fisheries and Oceans, or its designate, which may or may not, under the federal Fisheries Act, authorize the work depending on development circumstances and type of habitat. [Ministerial Modification 45, November 10, 2003] [Amendment #76, OMB File # PL100206, July 21, 2011.]*

Caivan Approach to Policy 4.7.3 (15)

No direct fish habitat occurs on or adjacent to the Site.

Policy 4.7.3 (16)

15. *In addition to the provisions for setbacks described in this section, development proposals adjacent to municipal drains and other works under the Drainage Act must also maintain clear access to the legal working space adjacent to the drain. This working space is defined in the Engineer's Report adopted through a By-law approved by Council under the Drainage Act for the construction and future maintenance of drainage works. Many drains also provide fish habitat. [Amendment #76, OMB File # PL100206, July 21, 2011.]*

Caivan Approach to Policy 4.7.3 (16)

No drains will remain on site.

Policy 4.7.3 (17)

16. *In support of the policies of this Plan, the City will:*

    a. *Support initiatives of the Ministry of Agriculture and Food, other provincial ministries, farming organizations, Conservation Authorities and others, which encourage sound agricultural land management and soil conservation practices and other measures that minimize or eliminate the amount of pesticides, nutrients, silt and other contaminants that can enter the ground and surface water systems of Ottawa; [Ministerial Modification 46, November 10, 2003]*

b. *Investigate means to control land alteration in significant wetlands and natural areas, and the removal of top soil and peat extraction, by applying the provisions of the Conservation Authority Act, or the Municipal Act as amended from time to time, in partnership with the Conservation Authorities;*

c. *When reviewing its own practices, serve as a model and ensure that the development of its properties and the provision of its infrastructure take advantage of opportunities to design with nature;*

d. *Initiate an annual recognition program to recognize innovative projects that design with nature.*

Caivan Approach to Policy 4.7.3 (17)

No response required.

4.7.4 – Protection of Endangered Species

Endangered and threatened species are those species either listed under the regulations of the Ontario Endangered Species Act *or are considered by the provincial government to be at risk of becoming endangered through all or a portion of its Ontario range. The habitat of these species is identified and protected by the Ministry of Natural Resources. Wildlife habitat generally is protected through environmental designations in this Plan.*

Butternut (Juglans cinerea) is an endangered tree whose main threat is a fungal disease that kills the infected trees. Butternut trees have special policies under the Ontario Regulation 242/08 of the Endangered Species Act 2007, administered by the Ministry of Natural Resources. The identification of butternut (and other trees) on a site will be required under the policies in Section 4.7.2 of this Plan. Where butternut is identified, the health of the tree(s) will be assessed by a certified Butternut Health Assessor and a permit from the Ministry of Natural Resources is required to remove a healthy tree.

Policy 4.7.4 (1)

1. *Endangered and threatened species are those listed under Ontario Regulation 230/08 of the Endangered Species Act, 2007.*
2. *Significant habitat of endangered and threatened species is defined as the habitat, as approved by the Ontario Ministry of Natural Resources, that is necessary for the maintenance, survival, and/or recovery of naturally occurring or reintroduced populations of endangered species or threatened species, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part of its life cycle. Significant habitat of endangered and threatened species will be identified by:*
    a. *Regulations made under the Endangered Species Act, 2007;*
    b. *An Environmental Impact Statement in areas where there is potential for significant habitat to exist; or,*
    c. *Other studies as approved by the City and Ministry of Natural Resources (e.g., subwatershed studies or environmental management plans).*

3. *The Ministry of Natural Resources has mapped areas with potential for significant habitat, based on known occurrences of endangered and threatened species. These maps will be consulted during pre-consultation to determine the need for an EIS and its scope as described in Section 4.7.8. The requirements of the Environmental Impact Statement will vary depending on such matters as the scale of proposed development, the nature of the site, the availability of comprehensive studies for the area and other matters identified in Section 4.7.8.*
4. *Environmental Impact Statements that address the potential for significant habitat of endangered or threatened species will be reviewed by the Ministry of Natural Resources. The Ministry of Natural Resources will approve the extent of significant habitat for endangered and threatened species.*
5. *No development or site alteration, as defined in Section 4.7.8, will be permitted in significant habitat of endangered and threatened species. [Ministerial modification #50, December 24, 2009]*
6. *Development and site alteration will not be permitted within 120m of the boundary of identified significant habitat of endangered and threatened species unless the ecological function of the adjacent lands has been evaluated and the Environmental Impact Statement demonstrates that there will be no negative impact (as defined in Section 4.7.8) on the significant habitat of endangered and threatened species or on its ecological functions. [Ministerial modification #50, December 24, 2009]*

Caivan Approach to Policy 4.7.4

The site provides limited habitat for Barn Swallows. The site will be registered following the MNRF online registration process, which will remove the Site from protection under the ESA in return for obliging Caivan to undertake prescribed activities (e.g. nest structure construction) providing an overall net benefit to the species.

The site is not considered to provide habitat for any other listed species (KAL 2019) though transient presence of listed bat species is possible (albeit unlikely). Trees cannot therefore not be removed from the site during bat roosting season to prevent the possibility of injury to transient bats.

4.7.5 – Protection of Groundwater Resources

In order to safeguard the integrity of groundwater resources, the City will ensure that new development can be accommodated within the system without affecting supplies available to other users. Some uses however, are not appropriate in areas where residents rely on groundwater and are more appropriately located in a fully serviced industrial park probably within the urban area. [Amendment #76, August 04, 2010]

Policy 4.7.5 (1)

1. *When reviewing development applications, the City will consider the potential for impact on groundwater resources.*
    a. *A groundwater impact assessment may be required where the City has identified that the lands play a role in the management of the groundwater resource or the need is indicated in other available information such as subwatershed plans or local knowledge, and*

b. *A groundwater impact assessment may be required where the proposed use has the potential to negatively impact the groundwater resource. [Amendment #76, August 04, 2010*

In either case, the proposed use will not be permitted without a favourable impact assessment.

Caivan Approach to Policy 4.7.5 (1)

The Site development will connect to the existing municipal water supply system. No part of the development will include servicing on private services.

Policy 4.7.5 (2)

2. *When evaluating a non-residential land-use in a rural land-use designation reliant on private, individual services, Council will consider whether or not it would be better located in a fully serviced part of the City because of its potential impact on groundwater quality and quantity. [Amendment #76, August 04, 2010]*

Caivan Approach to Policy 4.7.5 (2)

No part of the development will include servicing on private services.

Policy 4.7.5 (3)

3. *Regardless of the provisions in policies 1 and 2 above, an application to amend the zoning by-law to permit a high risk industrial use will not be permitted in the rural area. In this regard, high risk means an industrial use;*
    a. *Which requires the use of water in an processing operation and;*
    b. *Which has as a by-product water-borne wastes requiring municipal waste treatment.*

[Amendment #76, August 04, 2010]

Caivan Approach to Policy 4.7.5 (3)

The proposed development is not high risk industrial land use.

Policy 4.7.5 (4)

4. *Where wellhead protection areas have been identified, the policies in Section 4.8.2 will apply.*

Caivan Approach to Policy 4.7.5 (4)

No part of the project is within a potential wellhead protection area.

4.7.6 – Stormwater Management

The City's commitment to plan on a watershed and subwatershed basis is outlined in Section 2.4.3. The City will implement the recommendations of the watershed, subwatershed and environmental management plans through the implementation mechanisms of this Plan or other appropriate mechanisms. In reviewing applications, the City will require that stormwater site management plans be submitted in accordance with the guidance set out in the environmental management, subwatershed and watershed plans.

Policies

Policy 4.7.6 (1)

1. *A stormwater site management plan will be required to support subdivision and site-plan applications.*

Caivan Approach to Policy 4.7.6 (1)

The Functional Servicing Report (Stantec, 2019) provides a stormwater management plan for the project.

Policy 4.7.6 (2)

2. *Stormwater site management plans will be prepared in accordance with the guidance set out in a subwatershed or watershed plans (see Section 2.4.3). Generally, stormwater site management plans will include details on subdivision management, specific best management practices for stormwater, erosion and sediment control, and details for enhancement and rehabilitation of natural features. Where no subwatershed plan or environmental management plan exists, the City will review stormwater site management plans to ensure that:*

    a. *Watercourse flows are not altered in a way that would increase the risk of downstream flooding or channel erosion;*

    b. *Base flow in the watercourse is not reduced;*

    c. *The quality of water that supports aquatic life and fish habitat is not adversely affected;*

    d. *The quality of water that supports water-based recreational uses is not affected;*

    e. *Natural habitat linkages that are located in or traverse the site are maintained or enhanced;*

    f. *Groundwater is not negatively impacted;*

    g. *Any other impacts on the existing infrastructure or natural environment are addressed in a manner consistent with established standards and procedures;*

    h. *Objectives related to the optimization of wet weather infrastructure management are realized.*

Caivan Approach to Policy 4.7.6 (2)

The Functional Servicing Report (Stantec, 2019) provides a stormwater management plan for the project.

4.7.7 – Landform Features

Landform features are geomorphic, geological and other landform features that are distinctive to Ottawa. Many of these features were described in a 1975 study Geological Sites and Features in the Regional Municipality of Ottawa-Carleton, undertaken in partnership with the Ministry of Natural Resources. The MNR has identified some of these features, such as Hog's Back Falls as provincially significant Earth Science Areas of Natural and Scientific Interest that are part of the City's natural heritage system. Geomorphic, Geological and Landform Features are shown on Schedule K. [Amendment #76, August 04, 2010]

Policy 4.7.7 (1)

1. *When reviewing development proposals or when designing or reviewing public works, the City will ensure that the educational, scientific and landscape value of the Geomorphic, Geological and Landform Features, as shown on Scheduled K, will not be impaired. Only permitted development that is sympathetic to the unique characteristic of the resource, its setting and its interpretation value will be considered. Earth Science ANSIs are subject to the policies of Section 2.4.2 [Amendment #76, August 04, 2010]*

Caivan Approach to Policy 4.7.7 (1)

On the basis of the various studies commissioned by Caivan, there are no significant natural features within or adjacent to the proposed development area.

Policy 4.7.7 (2)

2. *Development and site alteration within provincially significant Earth Science Areas of Natural and Scientific Interest or on land within 50m of these features will not be permitted unless it is demonstrated through an Environmental Impact Statement that there will be no negative impact on the feature or its ecological functions. These features are shown on Schedule K. Definitions of these terms and the policies regarding Environmental Impact Statements are provided in Section 4.7.8. [Amendment #76, OMB File # PL100206, Ministerial Modification # 51, July 21, 2011.]*

Caivan Approach to Policy 4.7.7 (2)

On the basis of the various studies commissioned by Caivan, there are no significant natural features within or adjacent to the proposed development area.

Policy 4.7.7 (3)

3. *The City will encourage the protection of other significant landform features, such as rock outcrops, escarpments, knolls, valley or other features identified in such studies as provincial ANSI studies, or municipal subwatershed studies and community design plans.*

Caivan Approach to Policy 4.7.7 (3)

On the basis of the various studies commissioned by Caivan, there are no significant natural features within or adjacent to the proposed development area.

Policy 4.7.7 (4)

4. *When considering subdivision or site plan applications, the City will ensure the protection of landform features by encouraging owners or developers to implement such measures as:*

    a. *Selective grading to minimize topographic change;*

    b. *Orienting buildings and roads parallel to topographic contours;*

    c. *Setting back development from the bottom and top of steep slopes;*

    d. *Flexible setbacks;*

    e. *Providing flexibility for road layouts and right-of-way requirements.*

Caivan Approach to Policy 4.7.7 (4)

On the basis of the various studies commissioned by Caivan, there are no significant natural features within or adjacent to the proposed development area.

4.7.8 – Environmental Impact Statement

Development within or adjacent to woodlands, wetlands, and other natural features has potential to impact the feature and its functions by removing vegetation, increasing the amount of paved or other impermeable surfaces, changing the grading of the site, or making other changes. The Environmental Impact Statement serves to identify the natural features of a site early in the development process and consider ways to avoid or mitigate these impacts, and enhance natural functions. [Amendment #76, OMB File # PL100206, April 26, 2012.]

Almost all of the city's natural heritage system, defined in Section 2, is contained within areas designated as Rural Natural Features, Urban Natural Features, Significant Wetland, and Natural Environment Areas. The requirements for an Environmental Impact Statement for development proposed within Rural Natural Features or on lands adjacent to these designated areas are described in Section 3. An Environmental Impact Statement is also required for development proposed within or adjacent to significant woodlands, significant valleylands, significant wildlife habitat and other components of the natural heritage system, regardless of their designation in the Plan. [Amendment #76, OMB File # PL100206, Ministerial Modification #52, April 26, 2012.]

Policy 4.7.8 (1 & 2)

0. *An Environmental Impact Statement is required for development and site alteration proposed within and adjacent to natural heritage features designated as Rural Natural Features and adjacent to land designated as Urban Natural Feature, Significant Wetland, and Natural Environment Area. It is also required for development and site alteration within or adjacent to other elements of the natural heritage system, as required in Section 2, that are not designated on Schedule A or B. [Amendment #76, OMB File # PL100206, April 26, 2012]*
1. *No development or site alteration will be permitted within the natural features described in policy 1 above, where permitted by the policies of this Plan, or on adjacent lands unless an Environmental Impact Statement indicates it will have no negative impact, defined as degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities. [Amendment #76, OMB File # PL100206, April 26, 2012]*

Caivan Approach to Policy 4.7.8 (1 & 2)

No Rural Natural Features or Urban Natural Features as designated or identified in the City's Urban Natural Areas Environmental Evaluation framework are present on or adjacent to the proposed development area.

Policy 4.7.8 (3, 4, 5, 6)

2. *Development is defined as creation of a new lot, a change in land use, or the construction of buildings and structures, requiring approval under the Planning Act, but does not include activities that create or maintain infrastructure authorized under an environmental assessment process; or works subject to the Drainage Act. [Amendment #76, OMB File # PL100206, April 26, 2012]*
3. *Site alteration is defined as activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site. [Amendment #76, OMB File # PL100206, April 26, 2012]*
4. *Ecological function are defined as: the natural processes, products or services that living and nonliving environments provide or perform within or between species, ecosystems and landscapes, including biological physical and socio-economic interactions. [Amendment #76, OMB File # PL100206, Ministerial Modification #53, April 26, 2012]*
5. *The requirements for an EIS adjacent to natural heritage features designated on Schedule A and B in this Plan are described in Section 3. The requirements for an EIS adjacent to the significant habitat of endangered and threatened species and Earth Science Areas of Natural and Scientific Interest are described in Section 4. [Amendment #76, OMB File # PL100206, April 26, 2012]*

Caivan Approach to Policy 4.7.8 (7)

No response required.

Policy 4.7.8 (3, 4, 5, 6)

6. *Where significant woodlands, significant wildlife habitat, significant valleylands or other natural heritage features are not designated, development and site alteration will not be permitted for:*
    a. *any development permitted under the policies of this Plan within the feature;*
    b. *any development permitted under the policies of this Plan within 120 metres of the feature in the rural area;*
    c. *any development permitted under the policies of this Plan within 30 metres of the feature in the urban area;*

Caivan Approach to Policy 4.7.8 (7)

No significant woodlands, significant wildlife habitat, significant valleylands or other natural heritage features occur within the proposed development area.

Policy 4.7.8 (8 & 9)

7. *The need for an Environmental Impact Statement and its scope will be confirmed through preconsultation with the City early in the development review process, based on a preliminary screening for natural environment features within and adjacent to the study area. Aerial photographs, watershed and sub-watershed studies, field investigations and other information sources such as the Natural Heritage Information Centre may be consulted. The screening should consider the potential for endangered or threatened species habitat, significant woodlands, valley lands, wetlands and wildlife habitat that are not designated in the plan, in accordance with the Provincial Policy Statement definition of significant and the relevant identification and evaluation factors specified in the Natural Heritage Reference Manual for the Provincial Policy Statement. [Amendment #76, OMB File # PL100206, Ministerial Modification #53, April 26, 2012]*
8. *There are different types of Environmental Impact Statements:*
    a. *Full site-impact statements to assess the effects of large-scale development proposals, such as a subdivision proposal. They are prepared by a qualified professional with expertise in assessing impacts on the natural environment, but reviewed and approved by the municipality;*
    b. *Impact statements for lands adjacent to Urban Natural Features where the emphasis will be on managing the interface or transition zone between urban developments and natural features in an urban context. This would include such concerns as surface drainage adjacent to the feature; natural infiltration and soft edges adjacent to features such as wetlands, wet meadows and moist forests; protection of woodland edges (drip-line setbacks, soil compaction, removal and stock-piling); and management of access and other potential issues related to uses along the edge of the feature;*
    c. *Scoped site-impact statements to assess the potential impacts of smaller development proposals, such as single-lot severances, where impacts would be minor. A scoped impact study can be as simple as a checklist of matters to be addressed as part of the application process, and can be completed by the applicant. Scoped site-impact studies may also be appropriate to address the potential impacts of larger proposals if more detailed studies, such as a comprehensive impact study, are available.*

Caivan Approach to Policy 4.7.8 (8 & 9)

No response required.

Policy 4.7.8 (10)

9. *No development or site alteration will be permitted within the natural features described in policy 1 above, where permitted by the policies of this Plan, or on adjacent lands unless an Environmental Impact Statement indicates it will have no negative impact, defined as degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities. [Amendment #76, OMB File # PL100206, July 21, 2011.]*

Caivan Approach to Policy 4.7.8 (10)

The Environmental Impact Statement for the project (KAL 2019) found no negative impacts from the proposed development to any natural heritage elements or features.

Policy 4.7.8 (11)

10. *Environmental Impact Statements will include:*
    a. *A map drawn to scale identifying the location and extent of the feature, a description of the environmental values within the environmental feature or designation which could potentially be adversely affected by the proposed development, a description of the terrain/topography, vegetative cover and types, soil type and depth, and surface water movement patterns;*
    b. *Where the potential for significant habitat of endangered and threatened species has been identified, a description of the habitat present on the site and its suitability for the specific endangered and threatened species that potentially may use the area, as required in Section 4.7.4. [Amendment #76, August 04, 2010]*
    c. *A description of the proposed development;*
    d. *A description of the impacts on the environmental feature that might reasonably be expected to result from the proposed development;*
    e. *A description of the actions that may be reasonably required to prevent, change, minimize or mitigate impacts on the environmental feature as a result of the proposed development, including the identification of opportunities for ecological restoration, enhancement and long-term conservation of the feature;*
    f. *A description of the flora and fauna present on the site and how the development may impact on the flora and fauna within the site or natural feature and proposed mitigation measures to be taken during and after construction;*
    g. *An evaluation of the cumulative effects of the proposed development and other existing or proposed activities or development within or adjacent to the study area. For the purpose of this policy 'proposed activities or development' refers to applications that have been lodged with and which are waiting or have received City approval. The evaluation will assess residual effects following mitigation on the natural features and ecological functions identified in the area; [Amendment #76, OMB File # PL100206, April 26, 2012]*
    h. *A professional opinion on whether negative effects on the natural features and ecological functions will occur, and the significance of these impacts in the context of the evaluation of the natural area (i.e., the natural features and functions for which the area*

was originally identified as significant and the residual impact of the proposed development on the general significance rating of the larger natural area);

i. Identification of monitoring needs and recognition of parties to be responsible for assessing and reporting on these needs over a prescribed period of time.

Caivan Approach to Policy 4.7.8 (11)

No response required.

Appendix B
Figures and Supporting Documents

Figure 1 Existing site conditions

Legend

- **Property Line**
- **Barn Swallow Nest**
- **Trees**

N

0 100 m

Project: CAIV 853
Created By: AF
MTM Zone 9
(NAD 83)
Printed on: 2019-03-05

KILGOUR & Associates

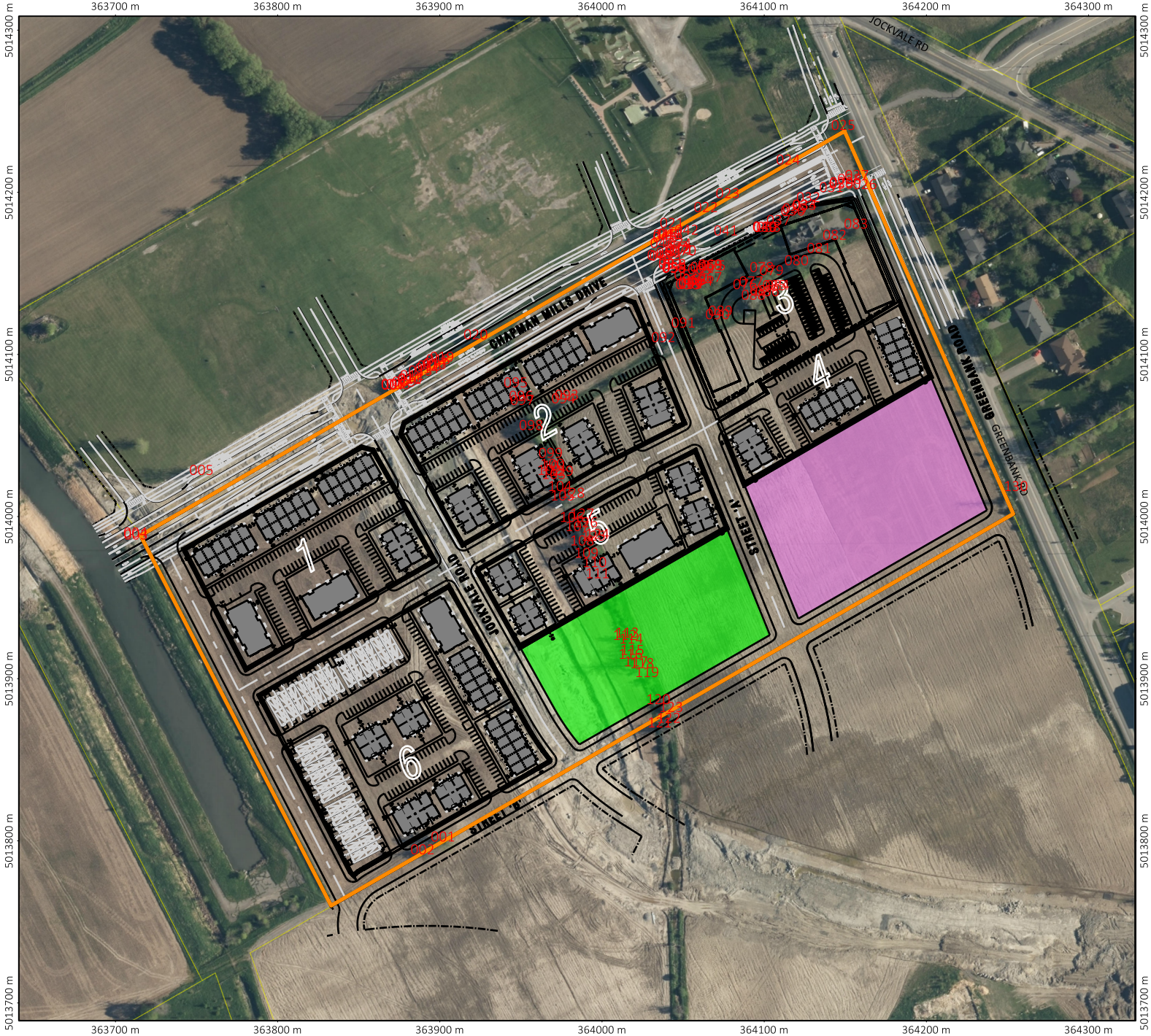

Figure 2. Proposed development

Legend

Property Line

Trees

\# Retained

\# Removed

Site Plan

Park

School

N

0 100 m

Project: CAIV 853
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MTM Zone 9
(NAD 83)
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