

**PRELIMINARY INTEGRATED ENVIRONMENTAL REVIEW  
DRAFT PLAN OF SUBDIVISION AND ZONING BY-LAW AMENDMENT  
ISGAR STAGES WEST & EAST  
2605 TENTH LINE ROAD &  
700 LAKEBREEZE CIRCLE**

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# DRAFT PLAN OF SUBDIVISION AND ZONING BY-LAW AMENDMENT ISGAR STAGES WEST & EAST

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## 1.0 INTRODUCTION

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J.L. Richards & Associates Limited (JLR) has been retained by Minto Communities Inc. (Minto) to prepare a Preliminary Integrated Environmental Review in support of their proposed Avalon Isgar Stages West & East development sited at 2605 Tenth Line Road & 700 Lakebreeze Circle, respectively. The subject site is abutting the Avalon South - Stages 7-14 lands which are part of a master planned development located in Ottawa's eastern community of Orléans. The proposed development consists of lots, blocks, and streets to permit development of approximately 572 dwellings units, 18 streets, and a park block. The lands are part of a developing community (expansion area) and are currently zoned Agriculture Subzone 3 (AG3) in the Comprehensive Zoning By-law (2008-250). With the exception McKinnon Creek which serves at the outlet to the stormwater management facility there are no identified natural features or constraints over the subject lands.

### 1.1 Purpose

J.L. Richards & Associates Limited (JLR) has prepared this Preliminary Integrated Environmental Review Statement in support of a Draft Plan of Subdivision and Zoning By-law Amendment for these lands. The area consists of approximately 25.8 hectares of undeveloped lands. The West parcel will be developed with detached dwellings whereas the East parcel will be developed with a mix of detached, townhouse and back-to-back townhouse dwelling units. These lands are part a developing community (expansion area) south of Avalon South – Stages 7-14 (Figure 1). The Integrated Environmental Review should be read in conjunction with the Planning Rationale.

This document, the Integrated Environmental Review (IER), is written in support of Brigil's proposed residential development. 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 supporting studies has influenced the design of the Subdivision and individual lot layout.

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 development concept for the residential area;
- 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 the 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 supporting studies and the design with nature approach have influenced the design of the development.

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

This report has the following structure:

- Section 2.0** Provides an overview of the supporting studies and 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 regulating agencies.
- 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 supporting studies and the design with nature approach have influenced the design of the development. This section also includes the City's Green Checklist 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.
- 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.

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Figure 1: The Subject Lands and Area Context

## 1.2 Background

Since the 1990s, Minto has developed over 3,500 homes in Avalon, a 300 hectare (750 acre) community located south of Innes Road in the southeastern part of Orléans. Development on the east side of Tenth Line is complete and Minto is now in the process of developing the lands known as Avalon West and Avalon Encore, which are located on the west of Tenth Line Road, east of Mer Bleue Road, north and south of Brian Coburn Boulevard.

The subject lands were brought into the Urban Settlement Area as part of OPA 76 and were designated Developing Community (Expansion Area) on Schedule B and Urban Area on Schedule A. Lands within this designation will contribute to the provision of sufficient urban land to support the residential demands of the projected urban population. These lands will develop primarily for residential purposes.

## 2.0 SUPPORTING STUDIES / ENVIRONMENTAL SETTING

This section provides an overview of the various plans and technical studies, a summary of the (environmental) concerns identified, interactions between disciplines and their concerns (if/when identified), mitigations identified, as well as development conditions and monitoring as identified by individual studies. The document will consider the following plans and technical studies:

- Draft Plan of Subdivision prepared by Stantec Geomatics Ltd.
- Phase 1 Environmental Site Assessment (January 2014, and Updated February 2018)

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- Geotechnical Investigation (January 2014, and updated February 28, 2018)
- Assessment of Adequacy of Public Services (February 2018)
- Stormwater Facility Expansion (January 2018)
- Environmental Impact Statement and Tree Conservation Report (October 2013, December 2014, and Updated February 2018)
- Community Transportation Study / Transportation Impact Study (March 26, 2014).

## **2.1 Draft Plan of Subdivision**

A Draft Plan of Subdivision was prepared by (insert name), dated (Insert date) (see Figure 2). The surveyor's certificate has certified that the boundaries of the lands to be subdivided and their relationship to adjoining lands have been accurately and correctly shown. Additional information required under Section 51-17 of the *Planning Act* has been included.

## **2.2 Phase 1 Environmental Site Assessment**

A Phase 1 Environmental Site Assessment Update, dated February 9, 2018, was prepared by Paterson Group Inc. for the properties known as 2605 Tenth Line Road and 700 Lakebreeze Circle (Avalon Isgar). An Affidavit of Principal Consultant concerning the environmental site assessment was completed by Mr. Adrian Menyhart, P.Eng. QP<sub>esa</sub> with Paterson Group. Mr. Menyhart is a qualified person as defined by Ontario Regulation 153/04, as amended, to undertake and/or supervise this Phase 1 Environmental Site Assessment. The assessment activities at the site have been completed in accordance with Ontario Regulation 153/04, as amended. Mr. Menyhart concluded that there are no issues of actual or potential environmental concern with respect to soil and/or groundwater quality or potentially contaminating activities as defined by O. Reg 153/04 as amended and a Phase 2 Environmental Site Assessment will not be required.

## **2.3 Geotechnical Investigation**

A Geotechnical Investigation, dated February 21, 2018, was prepared by Paterson Group Inc. for the subject lands. The objectives of the site-specific investigation that were prepared over the years for these lands were to determine the subsoil and groundwater conditions at the site.

According to Paterson's research, the soil conditions encountered at the test holes locations consist of occasional fill deposits, overlying a deep deposit of sensitive silty clay. Based on this investigation, the subsurface conditions are favourable for shallow foundation design and lighter residential structure types, such as two to three storey wood-frame structures (i.e., singles, town homes and back-to-back town homes). Due to the presence of the sensitive silty clay layer, the subject site will be subjected to grade raise restrictions. As part of the preparation of this report, permissible grade raises have been evaluated at each site-specific borehole location, and permissible grade raise plans have been prepared.

### **2.3.1 Sensitive Soil Foundation Design and Field Review Protocol**

The City of Ottawa Building Services Branch has recommended a sensitive soils foundation design and field review protocol that has been fully implemented by Minto and their geotechnical and structural engineering consultants, and is considered to be applicable to the subject development.



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## **2.3.2 Landscaping Considerations**

According to Paterson's findings, the subject site is located in an area of sensitive silty clay deposits for tree planting. For the proposed development, it is expected that final grade raises will be approximately 0.7 to 1.2 m above existing grades. Therefore, it is expected that the combination of the proposed finished grades and the thickness of the underlying weathered clay crust will provide approximately 3 to 4 m thick buffer to the underlying firm to soft grey silty clay deposit.

The silty clay soils underlying the site are of high plasticity and, as such, are of high risk for shrinkage related to tree roots.

It is Paterson's opinion that tree planting for this subject development should be limited to low to moderate water demand trees. Low water demand species include beech, birch, mulberry, cedar, fir, pine and spruce. Moderate water demand trees include ash, cherry, hawthorn, hornbeam, sugar and red maples, and mountain ash.

The minimum permissible distance from the foundation to the tree will depend on the nature of the tree, the depth of the clay crust and the final grade raise in relation to the permissible grade raise. In our opinion, the development, should be provided with a minimum tree to foundation clearance of 6.0 metres. In critical areas, the minimum permissible tree planting distance can be improved by installing various tree damage preventative measures such as:

- exfiltration trenches with a moisture retention barrier;
- root barrier systems with water delivery systems;
- separation barriers; and
- additional foundation reinforcement and support.

## **2.4 Assessment of Adequacy of Public Services**

An assessment of Adequacy of Public Services, dated February 2018, was prepared by Atriel Engineering Ltd. for the subject lands. The report included the following items:

- preliminary grading plan based on recommendations from the geotechnical investigation;
- preliminary sediment and erosion control measures;
- preliminary watermain analysis including fire underwriters survey;
- preliminary sanitary sewer design (reviewing previous studies and a re-evaluation of the sanitary overflow analysis); and
- preliminary storm sewer design.

The objective of this report was to provide sufficient details to demonstrate that there is sufficient capacity in the watermain, the wastewater and stormwater systems to accommodate the proposed development.

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## 2.4.1 Design Constraints

- i. Surface grading must be designed in order to convey the major overland flows to the existing stormwater management facility located in the middle of the proposed site. The existing stormwater management facility will be altered to accommodate the proposed development.
- ii. The major and minor storm systems flows will be captured by the existing stormwater management facility.
- iii. The sanitary sewer system of the proposed site will connect onto the existing sewers of the Avalon Stages to the north of Isgar Lands and the existing pumping station capacity will be verified.
- iv. The permissible grade raise restrictions for the site have been verified. In order to allow for adequate servicing of the site, light weight fill might need to be installed in garages and porches in some areas as per Paterson Group's Geotechnical Investigation Update (under separate cover).
- v. As previously stated, there are five possible watermain connections along Tenth Line, Lakebridge Drive, Esprit Drive, Lakebreeze Circle and Portobello Boulevard.

## 2.4.2 Sediment and Erosion Control

Straw bales will be placed on-site at every definable swale in order to control runoff. These controls will be cleaned and maintained during the course of the construction. Before construction, silt fence barriers will be installed along the perimeter of the site as well as along the perimeter of the existing stormwater pond.

## 2.4.3 Watermain

The West parcel will connect onto the Lakeridge Drive watermain and will be looped via an existing 150 mm diameter water supply pipe on Tenth Line Road.

The East parcel of Isgar will be serviced via three available connections on Esprit Drive, Lakebreeze Circle and an existing 400 mm diameter watermain on Portobello Drive, which will be extended and connected to the Isgar development at three different locations.

The report analyzed the water supply network based on anticipated average day demand and peak hourly demand (maintaining a minimum residual pressure of 140 kPa).

## 2.4.4 Fire Underwriters Survey

An analysis was carried out to ensure the water quantity would be sufficient for firefighting purposes. Preliminary calculations determined that the proposed watermain system will satisfy the required fire flows however will need to be further analyze with updated boundary conditions during the detailed design process.

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## **2.4.5 Sanitary Sewer**

The sanitary sewers for this site will discharge directly into the existing sewers on Fairlakes Way and Esprit Drive. In order to attain proper depth within the sanitary system, certain improvements will be required to this system. A total of 10 existing services will be affected during these works which will need to be accommodated during the construction period.

The Tenth Line Pumping Station was found to have sufficient capacity to accommodate the Isgar Lands development project.

## **2.4.6 Sanitary Emergency Overflow Analysis (re-evaluation)**

The preliminary analysis concluded that no additional (emergency) overflow solutions are required within the Isgar site.

## **2.4.7 Storm Sewer**

IBI's report dated January 2017, titled Isgar Lands Avalon South Stormwater Facility Expansion, recommends that the stormwater of Isgar Lands be conveyed to the existing Stormwater Management Basin located in the middle of the proposed site. This SWM facility controls both the quantity and quality of the storm water from Neighbourhood 4 and will control both the quantity and quality for the Isgar Lands once the pond is expanded and two new inlets are constructed on both the West parcel and the East parcel. The attenuated flow is then discharged via a storm sewer, which outlets into the McKinnon Creek.

### **2.4.7.1 Water Quality**

An Enhanced Level of Protection (80% removal of Total Suspended Solids) needs to be achieved in the stormwater management wet pond. The Best Management Practices should also be implemented within the subdivision design and during construction.

## **2.5 Stormwater Facility Expansion**

As indicated above, IBI prepared a report titled Isgar Lands Avalon South Stormwater Facility Expansion, dated January 2017. Because these lands were part of the initial urban development drainage area contributing to the Avalon South SWM Facility, this facility will be expanded to accommodate the development of the Isgar Lands.

### **2.5.1 Water Quality Control**

According to IBI's report, water quality control for the subject lands will be provided in the expanded Avalon South SWM Facility. Water quality control targets were established as part of the April 2006 Design Brief (Design Brief Avalon South Neighbourhood 4 Stormwater Facility IBI Group April 2006).

Based on the Fish Habitat Assessment for McKinnons Creek and Lepage-Charbonneau Drain (Fish Habitat Assessment for McKinnons Creek and Lepage-Charbonneau Drain, G.A. Packman & Associates, May 2004), which was prepared for the reaches of McKinnons Creek downstream of Tenth Line Road,

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the results of the assessment provided guidance for the level of water quality treatment for the Avalon South SWM Facility. It was confirmed with South Nation Conservation that stormwater management facilities tributary to McKinnons Creek are to be designed to provide an Enhanced Level of Protection, or 80% removal of Total Suspended Solids (TSS) in accordance with the Ontario Ministry of the Environment (MOE) Stormwater Management Planning and Design Manual (March 2003).

The facility was designed as a hybrid wetland-wet pond with two minor system inlets and an outlet pipe conveying outflow from the facility to McKinnons Creek at the Tenth Line Road culvert, immediately north of the Wall Road intersection. As discussed above, the stormwater management facility is designed to provide an Enhanced Level of Protection (long-term average removal of 80% TSS).

## **2.5.2 Water Quantity Control**

According to IBI's report, outflow from the stormwater facility is limited to pre-development flow at a certain point in McKinnons Creek. The pre-development model of McKinnons Creek watershed from the approved MSS has been utilized and updated as required.

## **2.5.3 McKinnon Creek Setbacks**

There are no municipal drains within the subject site. The Lepage-Charbonneau Drain is located south of the SWM facility and subject site. Runoff from the subject site is not intended to be conveyed to this creek. The development of the subject site and the expansion of the SWM facility will not require interference with the creek.

## **2.6 Environmental Impact Statement and Tree Conservation Report**

An Environmental Impact Statement and Tree Conservation Report (Update) was prepared by Dillon Consulting Limited and dated February 2018.

The following summarizes Dillon's findings to 2018:

1. No significant woodlands, significant wetlands, significant valleylands, areas of natural and scientific interest (ANSI), or other designated natural heritage system constraints are located within Study Area; however, woodlands/ wetlands to the south of the Study Area may be significant or contain significant wildlife habitat. Due to the disturbed nature of the site and recommended mitigation measures, impacts to adjacent natural features as a result of the proposed development are not anticipated.
2. The Study Area contains a number of ephemeral drainage ditches that contribute to the base flow of McKinnon's Creek within the Bear Brook subwatershed of the South Nation River. As these features have been altered due to construction of the residential development to the north and large stormwater pond to the west (i.e., loss of upstream and downstream connections), impacts to fish habitat and other surface water functions as a result of the development are not anticipated.

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3. A total of three natural vegetation communities were observed within the Study Area, most of which are highly disturbed and contain invasive species. Therefore, impacts as a result of vegetation removal are not anticipated.
4. Barn Swallows (*Hirundo rustica*) were observed foraging over the SWM pond adjacent to the Study Area, but no evidence of Barn Swallow nesting was observed within the Study Area. No other SAR or SAR habitat was identified within the Study Area. As a result, impacts to SAR or SAR habitat are not anticipated.

Due to the lack of natural vegetation communities and ongoing disturbances within the Study Area, potential impacts as a result of development activities are minimal. Furthermore, mitigation measures have been proposed to avoid negative impacts associated with the proposed development activities on the natural environment.

## **2.7 Community Transportation Study / Transportation Impact Study**

A Community Transportation Study / Transportation Impact Study was prepared by Delcan March 26, 2014.

The report recommended a traffic signal at Brian Coburn and Esprit. Note a roundabout was recently constructed at Brian Coburn and Portobello; therefore, a traffic signal should no longer be warranted at this intersection.

### **2.7.1 Neighbourhood Impacts**

The following summarizes Delcan's assessment of neighbourhood impacts.

Given the proposed Plan of Subdivision provides connections to an arterial road/two major collector roads and as any alternative routing scenarios (i.e., via Lakeridge Drive, Lakebreeze Circle, etc.) are considered circuitous with no travel time benefit, there will be negligible neighbourhood impacts with respect to "cut through" traffic.

With respect to neighbourhood transit, the site is projected to generate an approximate total of 100 and 125 'new' two-way transit person trips during the weekday morning and afternoon peak hours, respectively. This amount of 'new' person traffic should be able to be accommodated by the existing area transit. It should also be noted, that in the fullness of time, additional routes will ultimately be provided by OC Transpo, connecting residents to existing/future planned rapid transit.

## **3.0 PROPOSED PLAN**

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Minto's Isgar Stages West & East is proposing a mix of low density and medium density residential areas. The draft plan would permit development of:

- 161 detached dwellings and 7 streets within Stage 1 (west parcel); and,
- 192 detached dwellings, 114 townhouse dwellings, 78 back-to-back townhouse dwellings, 12 streets, and 1 park block within Stage 2 (east parcels).

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In total, the draft plan includes lots or blocks for 572 dwelling units representing an average density of 35 Units / Net Hectare.

There is an existing stormwater management facility between Stage 1 and 2 lands. In addition to the various pedestrian connections and pathways, a 1.74 hectare park block is also included in the draft plan of subdivision.

The subject site will be serviced by municipal water services and municipal sanitary sewers. There is an existing stormwater management pond which will be modified to include capacity for these lands.

Municipal water, sanitary sewer and stormwater sewer services are available in the vicinity of the subject site. A Site Servicing Plan and report confirming the availability of services accompanies this submission.

As shown in Appendix 'A', vehicular access to the subject site's internal streets will be from Tenth Line Road, Portobello Boulevard, Lakeridge Drive, Esprit Drive, and Lakebreeze Circle to allow for an integrated system. A window street is proposed along both Tenth Line Road and Portobello Boulevard (extension). The window street will:

- Limit the number of driveway connections to both Tenth Line Road and Portobello Boulevard;
- Eliminate the need for noise attenuation measures between Tenth Line Road / Portobello Boulevard and amenity areas; and,
- Provide a line of sight into the subdivision from these abutting streets rather than rear yard fencing.

The draft plan was modified following the initial public meeting to change the unit types along the rear of the existing detached dwellings to detached dwellings rather than other forms of multiple attached dwellings. Furthermore, the medium density units have been clustered together with convenient access to Portobello Boulevard, the pathway system and parks and open space lands.

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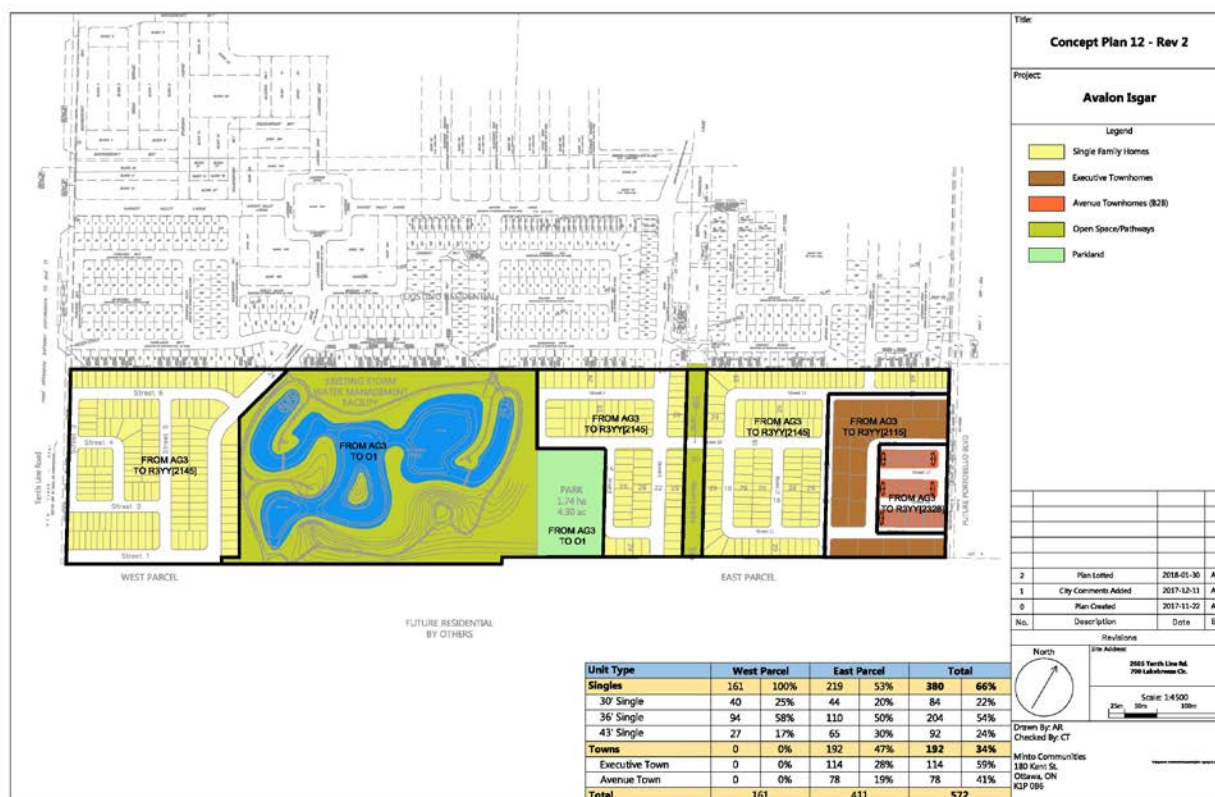


Figure 2: Isgar West & East Proposed Plan

## 4.0 POTENTIAL EFFECTS AND MITIGATIONS

### 4.1 Groundwater/Geotechnical

#### 4.1.1 Anticipated Effects

The measured groundwater levels in the site-specific boreholes range from 0.4 to 2.7 m depth, the latter being in a deep fill area. It is Paterson's experience that the groundwater levels in the area of the development typically are found at shallow depth, perched in the drier and fissured weathered stiff crust over the grey unweathered silty clay near the base of the crust.

Based on the depth of development of the stiff clay "crust", the long-term low pre-development groundwater levels are expected to be about 0.5 m above the base of the crust, or between approximately 1.4 and 2.7 m below ground surface.

It should be noted that groundwater levels are subject to seasonal fluctuations. Therefore, the groundwater level could be different at the time of construction.

The site is deemed acceptable, from a geotechnical perspective, for the proposed residential development. However, due to the presence of a sensitive silty clay

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layer the proposed development will be subjected to grade raise restrictions. It is expected that the final grade raises could range between 0.7 m and 1.2 m, above existing grades.

The subject site is located in an area of sensitive silty clay deposits for tree planting. The silty clay soils underlying the site are of high plasticity and, as such, are of high risk for shrinkage related to tree roots.

## 4.1.2 Required Mitigation

Based on Paterson's geotechnical assessment, the subsurface conditions are favourable for shallow foundation design and lighter residential structure types, such as two to three storey wood-frame structures (i.e., singles, town homes and back-to-back town homes).

Due to the presence of the sensitive silty clay layer, the subject site will be subjected to grade raise restrictions. As part of the preparation of this report, permissible grade raises have been evaluated at each site-specific borehole location, and permissible grade raise plans have been prepared.

Permissible grade raises have been identified in Paterson's report for both the West and East parcel with and without the use of lightweight fill. The use of lightweight fill would allow for raising the grade without adding a significant load to the underlying soils.

### 4.1.2.1 Groundwater Control

Due to the relatively low permeability of the silty clay material, it is anticipated that groundwater infiltration into the excavations should be low and controllable using open sumps. Pumping from open sumps should be sufficient to control the groundwater influx through the sides of shallow excavations. Where deep excavations are required, other dewatering means or cutoff barriers could be required.

The contractor 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 developer may need to register with the Ontario Ministry of Environment and Climate Change's (MOECC's) Environmental Activity and Sector Registry (EASR) process for this project if more than 50,000 L/day (and less than 400,000 L/day) are to be pumped during the construction phase (routine flows). Paterson can assist with this process.

Pumping of more than 400,000 L/day requires a temporary MOECC Permit to Take Water (PTTW). A lead time of 4 to 6 months should be allowed for completion of the application and the review and issuance of the permit by the MOECC.



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## 4.1.2.2 Winter Construction

Precautions should be taken if winter construction is considered for this project. The subsoil 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.

In the event of construction during below zero temperatures, the founding stratum should be protected from freezing temperatures by the use of straw, propane heaters and tarpaulins or other suitable means. In this regard, the base of the excavations should be insulated from sub-zero temperatures immediately upon exposure and until such time as heat is adequately supplied to the building and the footings are protected with sufficient soil cover to prevent freezing at founding level.

The trench excavations should be carried out in a manner that will avoid the introduction of frozen materials into the trenches. As well, pavement construction is difficult during winter. The subgrade consists of frost susceptible soils which will experience total and differential frost heaving as the work takes place. In addition, the introduction of frost, snow or ice into the pavement materials, which is difficult to avoid, could adversely affect the performance of the pavement structure. Additional information could be provided, if required.

## 4.1.2.3 Landscaping

Tree planting for this subject development should be limited to low to moderate water demand trees. Low water demand species include beech, birch, mulberry, cedar, fir, pine and spruce. Moderate water demand trees include ash, cherry, hawthorn, hornbeam, sugar and red maples, and mountain ash.

The minimum permissible distance from the foundation to the tree will depend on the nature of the tree, the depth of the clay crust and the final grade raise in relation to the permissible grade raise. In our opinion, the development, should be provided with a minimum tree to foundation clearance of 6.0 metres. In critical areas, the minimum permissible tree planting distance can be improved by installing various tree damage preventative measures such as:

- exfiltration trenches with a moisture retention barrier;
- root barrier systems with water delivery systems;
- separation barriers; and
- additional foundation reinforcement and support.

It is well documented in the literature, and Paterson's experience, that fast-growing (i.e., high water demand) trees located near buildings founded on cohesive soils that shrink on drying can result in long-term differential settlements of the structures. Tree varieties that have the

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most pronounced effect on foundations are seen to consist of poplars, willows and some maples (i.e., Manitoba Maples) and, as such, they should not be considered in the landscaping design.

The zoning by-law front yard setback will permit tree planting at a distance greater than 6.0 m from the foundation.

## 4.2 Aquatic Habitat

### 4.2.1 Anticipated Effects

According to Dillon's assessment, The Study Area lies within the Bear Brook subwatershed, which flows south toward the South Nation River. Due to agricultural nature of the area and the recent residential developments to the north, many of the small tributaries and drains in the area have been highly altered (channelized) or removed.

Based on the presence of ephemeral features identified through background review, it is possible that the Study Area once provided fish habitat during peak flow periods; however due to the alteration of flow within the western portion of the Study Area (SWM pond and development to the north) which appears to have removed upstream connections fish habitat is no longer present.

Negative impacts on water quality within downstream reaches outside of the Study Area may be possible during construction activities. This is generally caused by an increase in soil erosion during rain events which, when combined with the increased amount of exposed soil inherent in an active construction site, can cause increased sedimentation of watercourses. In addition, heavy construction equipment being operated on wet soils can also cause an increase in soil erosion. If unmitigated, this increased sediment load can be transported downstream and harm aquatic habitats. Given this Study Area is entirely covered by heavy clay soils with a very low rate of infiltration, the area is especially sensitive to overland flows during heavy rain events.

The potential impacts to surface water and fish habitat are:

- loss of contributing fish habitat (flow);
- reduction in seasonal water flow into the Bear Brook subwatershed and water storage potential within the Study Area; and,
- reduction in water quality downstream of the Study Area.

### 4.2.2 Required Mitigation

As there are previous and ongoing disturbances within the Study Area, mitigation for the removal of surface water features should be achievable through SWM design for the development. The SWM plan should replicate conveyance and habitat functions of removed surface water features. In addition, the following mitigation measures should be followed to prevent impacts to surface water and fish habitat:

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- Heavy duty silt fencing (OPSD 219.130) and/ or other equivalent erosion and sediment control measures should be installed around the perimeter of the work area to clearly demarcate the development area and prevent erosion and sedimentation into adjacent habitats. Erosion and sediment control measures should be monitored regularly to ensure they are functioning properly and if issues are identified should be dealt with promptly;
- Stockpiling of excavated material should not occur outside the delineated work area. If stockpiling is to occur outside of this area, silt fencing should be used to contain any spoil piles to prevent sedimentation into adjacent areas;
- A spill response plan should be developed and implemented as required;
- It is recommended that dewatering ponds (OPSD219.240) or similar standards should be implemented to avoid sedimentation and erosion in adjacent areas. If dewatering requires more than 50,000 L of water to be pumped per day, appropriate permits must be obtained from the Ministry of Environment and Climate Change prior to the dewatering; and,
- A stormwater management plan should be developed and implemented which maintains pre-development surface water flows to adjacent lands (quantity, quality, infiltrations, conveyance patterns, and seasonality of water flow).

### 4.2.2.1 Water Quality Control

According to IBI's report, water quality control for the subject lands will be provided in the expanded Avalon South SWM Facility. Water quality control targets were established as part of the April 2006 Design Brief (Design Brief Avalon South Neighbourhood 4 Stormwater Facility IBI Group April 2006).

Based on the Fish Habitat Assessment for McKinnons Creek and Lepage-Charbonneau Drain (Fish Habitat Assessment for McKinnons Creek and Lepage-Charbonneau Drain, G.A. Packman & Associates, May 2004) which was prepared for the reaches of McKinnons Creek downstream of Tenth Line Road, the results of the assessment provided guidance for the level of water quality treatment for the Avalon South SWM Facility. It was confirmed with South Nation Conservation that stormwater management facilities tributary to McKinnons Creek are to be designed to provide an Enhanced Level of Protection, or 80% removal of Total Suspended Solids (TSS) in accordance with the Ontario Ministry of the Environment (MOE) Stormwater Management Planning and Design Manual (March 2003).

The facility was designed as a hybrid wetland-wet pond with two minor system inlets and an outlet pipe conveying outflow from the facility to McKinnons Creek at the Tenth Line Road culvert, immediately north of the Wall Road intersection. As discussed above, the stormwater management facility is designed to provide an Enhanced Level of Protection (long-term average removal of 80% TSS).

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## 4.2.2.2 Water Quantity Control

According to IBI's report, outflow from the stormwater facility is limited to pre-development flow at a certain point in McKinnons Creek. The predevelopment model of McKinnons Creek watershed from the approved MSS has been utilized and updated as required.

## 4.2.2.3 McKinnon Creek Setbacks

There are no municipal drains within the subject site. The Lepage-Charbonneau Drain is located south of the SWM facility and subject site. Runoff from the subject site is not intended to be conveyed to this creek. The development of the subject site and the expansion of the SWM facility will not require interference with the creek.

## 4.3 Vegetation Communities

### 4.3.1 Anticipated Effects

Based on the disturbances within the Study Area and presence of invasive species, negative impacts of vegetation removal are not anticipated. Furthermore, removal of invasive species would benefit the area, removing seed banks and replacing them with native trees and shrubs. The proposed development requires removal of the following vegetation communities:

- Mixed Meadow: 7.2 ha
- Shallow Marsh: 0.7 ha
- Deciduous Fencerow (trees): 0.2 ha.

Despite the removal of invasive species, the following, are potential impacts that may occur as a result of vegetation removal:

- The permanent loss of general habitat for wildlife; and,
- Erosion and sedimentation into adjacent vegetation communities, including large woodland/ wetland area to the south of the Study Area.

### 4.3.2 Proposed Mitigation

The installation and maintenance of standard erosion and sediment control measures should be implemented to protect the terrestrial environment outside of the development area, including the following:

- Heavy duty silt fencing (OPSD 219.130) should be installed around the perimeter of the work area to clearly delineate the development from the adjacent habitat. This will prevent encroachment into natural features and minimize the likelihood of animals entering the construction area. Erosion and sediment control measures should be monitored regularly to ensure they are functioning properly and if issues are identified should be dealt with promptly;

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- Stockpiling of excavated material should not occur outside the delineated work area. If stockpiling is to occur outside of this area, silt fencing should be used to contain any spoil piles to prevent sedimentation into adjacent areas;
- If dewatering is required it is recommended that dewatering ponds (OPSD219.240) or similar standards should be implemented to avoid sedimentation and erosion in adjacent areas. If dewatering requires more than 50,000 L of water to be pumped per day, appropriate permits must be obtained from the Ministry of Environment and Climate Change prior to the dewatering; and,
- All construction equipment should enter the site clean and free of debris, and should be visually inspected upon entry for evidence of plant material to prevent the spread of invasive species to the site.

In addition, mitigation post-construction would be recommended, which may include, but is not limited to:

- Provide new homeowners with lists of locally appropriate native species for use in landscaping, along with information on the negative impacts of non-native species (referenced should be made to the landscaping section from Paterson's Geotechnical Assessment).
- Installation of garbage bins in public spaces (i.e., park); and,
- The addition of signage intended to discourage littering.

#### **4.4 General Wildlife Habitat**

##### **4.4.1 Anticipated Effects**

The anticipated vegetation removal, construction activities, and the future land use associated with the proposed development have the potential to cause negative impacts to general wildlife which may include the following:

- Loss of foraging habitat and possible nesting and denning habitat;
- Displacement, injury, or death resulting from contact with heavy equipment during clearing and grading activities;
- Disturbance to wildlife as a result of noise associated with construction activities, particularly during breeding periods; and,
- Conflict between wildlife and humans or domestic pets following development, including predation, mortality from vehicles, and poisoning.

##### **4.4.2 Proposed Mitigation**

The best practices outlined in the Protocol for Wildlife Protection during Construction (City of Ottawa, 2015) should be followed during all construction activities associated with the development. The following measures are consistent with the City protocol:

- Minimize impacts to breeding birds by clearing naturalized vegetation outside of the breeding bird season (April 1 - August 31). Should any clearing be required during the breeding bird season, nest searches

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conducted by a qualified person must be completed 48 hours prior to clearing activities. If nests are found, work within 10 m of the nest should cease until the nest has fledged. If no nests are present, clearing may occur. This is in accordance with the federal Migratory Birds Convention Act;

- Pre-stress the area on a regular basis leading up to construction to encourage wildlife to leave the area before construction starts. Other recommendations for pre-stressing are outlined in the Protocol for Wildlife Protection during Construction (City of Ottawa 2015);
- Orange snow fencing should be installed around the perimeter of the work area to clearly demarcate the development area and prevent wildlife from entering the construction zone. Fencing should be monitored regularly to ensure they are functioning properly and if issues are identified should be dealt with promptly;
- Ensure perimeter fencing does not prevent wildlife from leaving the site during clearing activities by clearing the area prior to installing the fence;
- Wildlife located within the construction area will be re-located to an area outside of the development into an area of appropriate habitat, as necessary;
- Construction crews working on site should be educated on local wildlife and take appropriate measures for avoiding wildlife; and,
- Should an animal be injured or found injured during construction they should be transported to an appropriate wildlife rehabilitation center for care with a small donation of money to help pay for the care (a local facility is the Rideau Valley Wildlife Sanctuary).

In addition, the following measures are recommended to avoid negative impacts to wildlife post-construction:

- Provide Owner Awareness Package to all new residents. This information could include:
  - Impacts of cat predation on bird populations and the importance of keeping household cats indoors;
  - Legal restrictions of uncontrolled pets;
  - The risks of feeding wildlife; and
  - Mitigation options for reducing the potential bird strikes with windows (i.e., falcon silhouette stickers for windows).

The mitigation and compensation measures proposed in this report have been developed to avoid negative impacts associated with development on the natural environment. Overall, minimal residual impacts are anticipated as a result of this development provided the mitigation described in this report is applied.

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### **5.0 COMPLIANCE WITH POLICY 4.7 – ENVIRONMENTAL PROTECTION**

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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 their status for the development area are indicated in the Table 1.

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**Table 1: Demonstrated Compliance with Policy 4.7 Environmental Protection**

OP Section	Studies/Assessment Required	Where Required	Relevant Study and Status	Summary of Issues
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	Dillon Consulting Environmental Impact Statement and Tree Conservation Report – February 2018	No woodlands are present nor does the Study Area contain mature trees meeting the 50 cm DBH or greater threshold defined in the City of Ottawa Tree Protection Guidelines. New trees will be planted in accordance with the geotechnical recommendations.
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	Dillon Consulting Environmental Impact Statement and Tree Conservation Report – February 2018	No natural heritage features or species at risk have been identified. Negative impacts to natural features or on their ecological functions are not anticipated.
4.7.3	Demonstrate no negative impact on fish habitat; if there is no impact – review by Department of Fisheries and Oceans	On or adjacent to fish habitat	Dillon Consulting Environmental Impact Statement and Tree Conservation Report – February 2018	Negative impacts to surface water or fish habitat within the Study Area are not anticipated; however negative impacts on water quality within downstream reaches outside of the Study Area may be possible during construction activities. Mitigation measures have been provided.
4.7.3	Erosion and sediment control plan	All development proposals	Assessment of Adequacy of Public Services, Atrel Engineering – February 2018	Straw bales will be placed on-site at every definable swale in order to control runoff. These controls will be cleaned and maintained during the course of the construction. Before construction, silt fence barriers will be installed along the perimeter of the site as well as along the perimeter of the existing stormwater pond.



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OP Section	Studies/Assessment Required	Where Required	Relevant Study and Status	Summary of Issues
4.7.3	Determine appropriate setback from rivers, lakes and streams	Development proposals adjacent to rivers, lakes and streams	Bowfin Environmental Consulting (2014). Fisheries Review	Impacts to fish habitat and other surface water functions as a result of the development are not anticipated. The stormwater management facility is tributary to McKinnons Creek and has/will be designed to provide an Enhanced Level of Protection, or 80% removal of Total Suspended Solids (TSS).
4.7.5	Hydrogeology/terrain analysis	Subdivisions based on private services	N/A	
4.7.5	Groundwater impact assessment	Groundwater resources areas	Study not required	Lands are not in a groundwater resource area.
4.7.5	Wellhead protection study	Wellhead Protection Area designated on Schedule K	Study not required	Area is not located within a wellhead protection area.
4.7.6	Stormwater site management plans	Site plan and subdivision and zoning amendment applications	Assessment of Adequacy of Public Services, Atrel Engineering – February 2018 IBI Group – Avalon South Stormwater Facility Expansion – January 2018	The existing stormwater management facility will be altered to accommodate the proposed development.
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.

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## **6.0 DESIGN WITH NATURE AND ENERGY EFFICIENCY**

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### **6.1 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 with the design with nature principles.

In support of the Proponent's development, various studies have been completed to identify significant natural resources that may be present on the site.

No significant environmental features have been identified on the property. All of the potential impacts on adjacent lands can be mitigated. There are no anticipated negative impacts to species at risk. The proposed development can be accepted as planned.

A tree conservation report has been included. No Butternut trees were observed within the Study Area during ELC surveys. Moreover, no woodlands are present nor does the Study Area contain mature trees per the City of Ottawa Tree Protection Guidelines. New trees should be native trees and follow the geotechnical assessment's recommendations.

### **6.2 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).

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**Table 2: City of Ottawa Site Plan Control Approval Green Checklist**

ID	Question	Response
1a	Does the project proponent intend 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 Tariff program?	No
3	Which features is the project designed to incorporate?	None

## 7.0 CONCLUSION

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

J.L. Richards & Associates Limited	Paterson Group Inc.
Atrel Engineering Ltd.	IBI Group Ottawa
Dillon Consulting	Delcan

The signatures of each agency's representatives are included in Appendix 2.

This report has been prepared for the exclusive use of Minto Communities Inc., for the stated purpose, for the named facility. Its discussions and conclusions are summary in nature and cannot be properly used, interpreted or extended to other purposes without a detailed understanding and discussions with the client as to its mandated purpose, scope and limitations. This report was prepared for the sole benefit and use of Minto Communities Inc. and may not be used or relied on by any other party without the express written consent of J.L. Richards & Associates Limited.

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## **APPENDIX 1**

**Detailed Analysis of Compliance of the Isgar West & East Development at  
2605 Tenth Line Road & 700 Lakebreeze Circle with Section 4.2.7 of  
The City of Ottawa Official Plan**

## **Appendix 1**

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

This appendix provides a detailed examination of the requirements of Policy 4.7 – Environmental Protection of the City of Ottawa Official Plan as it pertains to Minto's development. Each of the policy requirements are provided verbatim, with a short discussion of the approach taken by Minto to comply with the specific policy, where relevant. The City Policy statements are italicized, while Minto's approach to compliance is in regular font.

#### **I. *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 1 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.*

**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.]*

#### **Minto's Approach to Compliance with Policy 4.7.1**

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.

#### **II. Policy 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.]*

#### **Minto's Approach to Compliance with Policy 4.7.2 (1)**

An Environmental Impact Statement and Tree Conservation Report (Update) was prepared by Dillon Consulting Limited and dated February 2018. No Butternut trees were observed within the



Study Area during ELC surveys. Moreover, no woodlands are present nor does the Study Area contain mature trees per the City of Ottawa Tree Protection Guidelines. New trees should be native trees and follow the geotechnical assessment's recommendations.

**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. Demonstrate 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;*

**Minto's Approach to Compliance with Policy 4.7.2 (2a, b, c, d, e)**

The TCR (Dillon Consulting February 2018) confirmed that there are no natural heritage constraints. No Butternut trees were observed within the Study Area during ELC surveys. Moreover, no woodlands are present nor does the Study Area contain mature trees per the City of Ottawa Tree Protection Guidelines. New trees should be native trees and follow the geotechnical assessment's recommendations.

**Policy 4.7.2 (2f)**

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

### **Minto's Approach to Compliance with Policy 4.7.2 (2f)**

The TCR (Dillon Consulting February 2018) confirmed that no woodlands are present nor does the Study Area contain mature trees per the City of Ottawa Tree Protection Guidelines. New trees should be native trees and follow the geotechnical assessment's recommendations.

### ***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.*

### **Minto's Approach to Compliance with Policy 4.7.2 (2g)**

The TCR (Dillon Consulting February 2018) confirmed that there are no natural heritage constraints. No Butternut trees were observed within the Study Area during ELC surveys. Moreover, no woodlands are present nor does the Study Area contain mature trees per the City of Ottawa Tree Protection Guidelines. New trees should be native trees and follow the geotechnical assessment's recommendations.

No significant woodlands, significant wetlands, significant valleylands, areas of natural and scientific interest (ANSI), or other designated natural heritage system constraints are located within Study Area; however, woodlands/ wetlands to the south of the Study Area may be significant or contain significant wildlife habitat. Due to the disturbed nature of the site and recommended mitigation measures, impacts to adjacent natural features as a result of the proposed development are not anticipated.

### ***Policy 4.7.2 (2h)***

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

### **Minto's Approach to Compliance with Policy 4.7.2 (2h)**

A Geotechnical Investigation, dated February 21, 2018, was prepared by Paterson Group Inc. for the subject lands. Tree planting for this subject development should be limited to low to moderate water demand trees. Low water demand species include beech, birch, mulberry, cedar, fir, pine and spruce. Moderate water demand trees include ash, cherry, hawthorn, hornbeam, sugar and red maples, and mountain ash.

The minimum permissible distance from the foundation to the tree will depend on the nature of the tree, the depth of the clay crust and the final grade raise in relation to the permissible grade raise. In our opinion, the development should be provided with a minimum tree to foundation clearance of 6.0 metres. In critical areas, the minimum permissible tree planting distance can be improved by installing various tree damage preventative measures such as:

- Exfiltration trenches with a moisture retention barrier;
- Root barrier systems with water delivery systems;
- Separation barriers; and
- Additional foundation reinforcement and support.

It is well documented in the literature, and Paterson's experience, that fast-growing (i.e., high water demand) trees located near buildings founded on cohesive soils that shrink on drying can result in long-term differential settlements of the structures. Tree varieties that have the most pronounced effect on foundations are seen to consist of poplars, willows and some maples (i.e., Manitoba Maples) and, as such, they should not be considered in the landscaping design.

The zoning by-law front yard setback will permit tree planting at a distance greater than 6.0 m from the foundation.

#### ***Policy 4.7.2 (3)***

*The landscape plan will:*

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

#### **Minto's Approach to Compliance with Policy 4.7.2 (3)**

A landscape plan will be prepared in accordance with Paterson's geotechnical recommendations as part of the detailed design.

### **III. 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.]*

#### **Minto's Approach to Compliance with Policy 4.7.3**

A Geotechnical Investigation, dated February 21, 2018, was prepared by Paterson Group Inc. for the subject lands. The objectives of the site-specific investigation that were prepared over the years for these lands were to determine the subsoil and groundwater conditions at the site.

According to Paterson's research, the soil conditions encountered at the test holes locations consist of occasional fill deposits, overlying a deep deposit of sensitive silty clay. Based on this investigation, the subsurface conditions are favourable for shallow foundation design and lighter residential structure types, such as two to three storey wood-frame structures (i.e., singles, town homes and back-to-back town homes). Due to the presence of the sensitive silty clay layer, the subject site will be subjected to grade raise restrictions. As part of the preparation of this report, permissible grade raises have been evaluated at each site-specific borehole location, and permissible grade raise plans have been prepared.

#### **Policy 4.7.3 (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.]*

#### **Minto's Approach to Compliance with Policy 4.7.3 (1)**

There are no municipal drains within the subject site. The Lepage-Charbonneau Drain is located south of the SWM facility and subject site. Runoff from the subject site is not intended to be conveyed to this creek. The development of the subject site and the expansion of the SWM facility will not require interference with the creek.

#### **Policy 4.7.3 (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]*

#### **Minto's Approach to Compliance with Policy 4.7.3 (2)**

No rivers, lakes, streams, flood line. A geotechnical investigation and slope stability analysis has been completed by Paterson Group Inc. based on the proposed grading plans.

#### **Policy 4.7.3 (3)**

*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.]*

#### **Minto's Approach to Compliance with Policy 4.7.3 (3)**

Not applicable.

**Policy 4.7.3 (4)**

*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]*

**Minto's Approach to Compliance with Policy 4.7.3 (4)**

A geotechnical investigation has been completed by Paterson Group Inc. based on the proposed grading plans.

**Policy 4.7.3 (5)**

*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.]*

**Minto's Approach to Compliance with Policy 4.7.3 (5)**

No sensitive slopes have been identified.

**Policy 4.7.3 (6)**

*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]*

**Minto's Approach to Compliance with Policy 4.7.3 (6)**

Not applicable.

**Policy 4.7.3 (7)**

*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]*

**Minto's Approach to Compliance with Policy 4.7.3 (7)**

Not applicable.

**Policy 4.7.3 (8)**

*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]*

**Minto's Approach to Compliance with Policy 4.7.3 (8)**

Not applicable.

***Policy 4.7.3 (9)***

*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:*

**Minto's Approach to Compliance with Policy 4.7.3 (9)**

Not applicable – lands within the Urban Area.

***Policy 4.7.3 (10)***

*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]*

**Minto's Approach to Compliance with Policy 4.7.3 (10)**

Not applicable – lands within the Urban Area.

***Policy 4.7.3 (11)***

*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.]*

**Minto's Approach to Compliance with Policy 4.7.3 (11)**

There are no natural wetland areas on or within 120 m of the property.



**Policy 4.7.3 (12)**

*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]*

**Minto's Approach to Compliance with Policy 4.7.3 (12)**

Not applicable.

**Policy 4.7.3 (13)**

*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.*

**Minto's Approach to Compliance with Policy 4.7.3 (13)**

An assessment of Adequacy of Public Services, dated February 2018, was prepared by Atrel Engineering Ltd. for the subject lands. The report included the following:

- preliminary grading plan based on recommendations from the geotechnical investigation;
- preliminary sediment and erosion control measures;
- preliminary watermain analysis, including fire underwriters survey;
- preliminary sanitary sewer design (reviewing previous studies and a re-evaluation of the sanitary overflow analysis); and
- preliminary storm sewer design.

**Policy 4.7.3 (14)**

*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.*

#### **Minto's Approach to Compliance with Policy 4.7.3 (14)**

No watercourses on site. Notwithstanding, the stormwater facility was designed as a hybrid wetland-wet pond with two minor system inlets and an outlet pipe conveying outflow from the facility to McKinnons Creek at the Tenth Line Road culvert, immediately north of the Wall Road intersection. As discussed above, the stormwater management facility is designed to provide an Enhanced Level of Protection (long-term average removal of 80% TSS).

#### **Policy 4.7.3 (15)**

*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.]*

#### **Minto's Approach to Compliance with Policy 4.7.3 (15)**

No fish bearing water courses or any other type of fish habitat are present on or near the site. Dillon Consulting completed a fish habitat assessment.

#### **Policy 4.7.3 (16)**

*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.]*

### **Minto's Approach to Compliance with Policy 4.7.3 (16)**

There are no municipal drains within the subject site. The Lepage-Charbonneau Drain is located south of the SWM facility and subject site. Runoff from the subject site is not intended to be conveyed to this creek. The development of the subject site and the expansion of the SWM facility will not require interference with the creek.

### **Policy 4.7.3 (17)**

*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.*

### **Minto's Approach to Compliance with Policy 4.7.3 (17)**

No response required.

## **IV. Policy 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. 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]*

#### **Minto's Approach to Compliance with Policy 4.7.4**

No Butternut trees were observed within the Study Area during ELC surveys.

Barn Swallows were observed over the SWM pond adjacent to the Study Area in 2013. Based on the presence of structures (buildings, etc.) in the Study Area, a nest search was completed in 2014, during which no suitable nesting structures or nests were observed. Currently, the buildings within the Study Area are new builds (site trailers) in addition to old shipping containers being stored. Due to the agricultural nature of the lands to the south, it is possible Barn Swallows are nesting in agricultural barns or outbuildings outside of the Study Area.

Bobolink and Eastern Meadowlark were considered during breeding bird surveys in 2013, during which no Bobolink or Eastern Meadowlark were observed. Furthermore, as the majority of the Study Area is active row crop agriculture, there is limited potential for habitat for these species. The areas of mixed meadow existing within the Study Area are disturbed by adjacent land uses, contain an abundance of weeds and invasive species (Common Reed) and are not large enough to provide habitat for these species. Therefore, impacts to these species are not anticipated as a result of the proposed development.

#### **V. Policy 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.*

**Minto's Approach to Compliance with Policy 4.7.5 (1)**

A Geotechnical Investigation, dated February 21, 2018, was prepared by Paterson Group Inc. for the subject lands. The objectives of the site-specific investigation that were prepared over the years for these lands were to determine the subsoil and groundwater conditions at the site.

**Policy 4.7.5 (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]*

**Minto's Approach to Compliance with Policy 4.7.5 (2)**

No non-residential land uses are proposed within the development.

**Policy 4.7.5 (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]*

#### **Minto's Approach to Compliance with Policy 4.7.5 (3)**

The proposed development is not high risk industrial land use.

#### ***Policy 4.7.5 (4)***

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

#### **Minto's Approach to Compliance with Policy 4.7.5 (4)**

No wellhead protection area has been identified by the City of Ottawa.

### **VI. *Policy 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.*

#### ***Policy 4.7.6 (1)***

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

#### **Minto's Approach to Compliance with Policy 4.7.6 (1)**

An assessment of Adequacy of Public Services, dated February 2018, was prepared by Atrel Engineering Ltd. for the subject lands. The report included the following:

- preliminary grading plan based on recommendations from the geotechnical investigation;
- preliminary sediment and erosion control measures;
- preliminary watermain analysis including fire underwriters survey;
- preliminary sanitary sewer design (reviewing previous studies and a re-evaluation of the sanitary overflow analysis); and

- preliminary storm sewer design.

**Policy 4.7.6 (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.*

**Minto's Approach to Compliance with Policy 4.7.6 (2)**

The facility was designed as a hybrid wetland-wet pond with two minor system inlets and an outlet pipe conveying outflow from the facility to McKinnons Creek at the Tenth Line Road culvert, immediately north of the Wall Road intersection. As discussed above, the stormwater management facility is designed to provide an Enhanced Level of Protection (long-term average removal of 80% TSS).



## **VII. Policy 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]*

### **Minto's Approach to Compliance with Policy 4.7.7 (1)**

On the basis of the various studies commissioned by Minto, there are no significant natural features on, or on lands adjacent to, the property.

### **Policy 4.7.7 (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.]*

### **Minto's Approach to Compliance with Policy 4.7.7 (2)**

On the basis of the various studies commissioned by Minto, there are no significant natural features on, or on lands adjacent to, the property.

**Policy 4.7.7 (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.*

**Minto's Approach to Compliance with Policy 4.7.7 (3)**

On the basis of the various studies commissioned by Minto, there are no significant natural features on, or on lands adjacent to, the property.

**Policy 4.7.7 (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.*

**Minto's Approach to Compliance with Policy 4.7.7 (4)**

No landform features have been identified for protection on the property.

**VIII. Policy 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)**

*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]*

**Policy 4.7.8 (2)**

*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]*

**Minto's Approach to Compliance with Policy 4.7.8 (1 and 2)**

An Environmental Impact Statement and Tree Conservation Report (Update) was prepared by Dillon Consulting Limited and dated February 2018.

The following summarizes Dillon's findings to 2018:

1. No significant woodlands, significant wetlands, significant valleylands, areas of natural and scientific interest (ANSI), or other designated natural heritage system constraints are located within the Study Area; however, woodlands/wetlands to the south of the Study Area may be significant or contain significant wildlife habitat. Due to the disturbed nature of the site and recommended mitigation measures, impacts to adjacent natural features as a result of the proposed development are not anticipated.
2. The Study Area contains a number of ephemeral drainage ditches that contribute to the base flow of McKinnons Creek within the Bear Brook subwatershed of the South Nation

River. As these features have been altered due to construction of the residential development to the north and large stormwater pond to the west (i.e., loss of upstream and downstream connections), impacts to fish habitat and other surface water functions as a result of the development are not anticipated.

3. A total of three natural vegetation communities were observed within the Study Area, most of which are highly disturbed and contain invasive species. Therefore, impacts as a result of vegetation removal are not anticipated.
4. Barn Swallows (*Hirundo rustica*) were observed foraging over the SWM pond adjacent to the Study Area, but no evidence of Barn Swallow nesting was observed within the Study Area. No other SAR or SAR habitat was identified within the Study Area. As a result, impacts to SAR or SAR habitat are not anticipated.

Due to the lack of natural vegetation communities and ongoing disturbances within the Study Area, potential impacts as a result of development activities are minimal. Furthermore, mitigation measures have been proposed to avoid negative impacts associated with the proposed development activities on the natural environment.

**Policy 4.7.8 (3)**

*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]*

**Policy 4.7.8 (4)**

*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]*

**Policy 4.7.8 (5)**

*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]*

**Policy 4.7.8 (6)**

*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]*

**Minto's Approach to Compliance with Policy 4.7.8 (3, 4, 5 and 6)**

An Environmental Impact Statement and Tree Conservation Report (Update) was prepared by Dillon Consulting Limited and dated February 2018.

The following summarizes Dillon's findings to 2018:

1. No significant woodlands, significant wetlands, significant valleylands, areas of natural and scientific interest (ANSI), or other designated natural heritage system constraints are located within Study Area; however, woodlands/wetlands to the south of the Study Area may be significant or contain significant wildlife habitat. Due to the disturbed nature of the site and recommended mitigation measures, impacts to adjacent natural features as a result of the proposed development are not anticipated.
2. The Study Area contains a number of ephemeral drainage ditches that contribute to the base flow of McKinnons Creek within the Bear Brook subwatershed of the South Nation River. As these features have been altered due to construction of the residential development to the north and large stormwater pond to the west (i.e., loss of upstream and downstream connections), impacts to fish habitat and other surface water functions as a result of the development are not anticipated.
3. A total of three natural vegetation communities were observed within the Study Area, most of which are highly disturbed and contain invasive species. Therefore, impacts as a result of vegetation removal are not anticipated.
4. Barn Swallows (*Hirundo rustica*) were observed foraging over the SWM pond adjacent to the Study Area, but no evidence of Barn Swallow nesting was observed within the Study Area. No other SAR or SAR habitat was identified within the Study Area. As a result, impacts to SAR or SAR habitat are not anticipated.

Due to the lack of natural vegetation communities and ongoing disturbances within the Study Area, potential impacts as a result of development activities are minimal. Furthermore, mitigation

measures have been proposed to avoid negative impacts associated with the proposed development activities on the natural environment.

***Policy 4.7.8 (7)***

*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 urban area;*
- c. Any development permitted under the policies of this Plan within 30 metres of the feature in the urban area.*

**Minto's Approach to Compliance with Policy 4.7.8 (7)**

An Environmental Impact Statement and Tree Conservation Report (Update) was prepared by Dillon Consulting Limited and dated February 2018.

No significant woodlands, significant wetlands, significant valleylands, areas of natural and scientific interest (ANSI), or other designated natural heritage system constraints are located within Study Area; however, woodlands/ wetlands to the south of the Study Area may be significant or contain significant wildlife habitat. Due to the disturbed nature of the site and recommended mitigation measures, impacts to adjacent natural features as a result of the proposed development are not anticipated.

***Policy 4.7.8 (8)***

*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]*

**Policy 4.7.8 (9)**

*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.*

**Minto's Approach to Compliance with Policy 4.7.8 (8 and 9)**

An Environmental Impact Statement and Tree Conservation Report (Update) was prepared by Dillon Consulting Limited and dated February 2018.

**Policy 4.7.8 (10)**

*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.]*

### **Minto's Approach to Compliance with Policy 4.7.8 (10)**

An Environmental Impact Statement and Tree Conservation Report (Update) was prepared by Dillon Consulting Limited and dated February 2018.

### **Policy 4.7.8 (11)**

*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.*

**Minto's Approach to Compliance with Policy 4.7.8 (11)**

An Environmental Impact Statement and Tree Conservation Report (Update) was prepared by Dillon Consulting Limited and dated February 2018.

## **APPENDIX 2**

### **Concurrence of Study Team**

**Paterson Group Inc.**

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with Paterson Group's **Phase 1 Environmental Site Assessment Update February 2018 and Geotechnical Investigation Update, February 2018.**

I concur with the related content and recommendations.

**Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Atrel Engineering Ltd.**

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with Atrel Engineering's **Assessment of Adequacy of Public Services dated February 2018**.

I concur with the related content and recommendations.

**Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Dillon Consulting**

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with Dillon's **Environmental Impact Statement and Tree Conservation Report, Updated February 2018.**

I concur with the related content and recommendations.

**Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Delcan**

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with Delcan's **Community Transportation Study / Transportation Impact Study**, **March 26, 2014**.

I concur with the related content and recommendations.

**Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**IBI Group**

I have reviewed the sections of this Integrated Environmental Review Statement that are associated with IBI's **Isgar Lands Avalon South Stormwater Facility Expansion, dated January 2018.**

I concur with the related content and recommendations.

**Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_



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