Phoenix Homes proposed devlopment of 1154 – 1208 Old Montreal Road Integrated Environmental Review

Feburary 15, 2018

Final Report

Submitted To:

Michael Boucher,
Director of Planning
Phoenix Homes
18A Bently Avenue
Ottawa, Ontario
K2E 6TE

KILGOUR & ASSOCIATES LTD.
2285C St. Laurent Boulevard, Unit 16
Ottawa, Ontario
K1G 4Z6
Canada
p:613.260.5555
f:613.737.2825
www.kilgourassociates.com
Project Number: DCRP 744

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 ENVIRONMENTAL CONDITIONS 2
2.1 GEOTECHNICAL 2
2.1.1 General Geotechnical Assessment 2
2.1.2 Soil Quality 4
2.2 TERRESTRIAL ENVIRONMENT 4
2.3 FISH AND FISH HABITAT 5
2.4 SPECIES AT RISK 5
2.5 CULTURAL HERITAGE 6

3.0 PROPOSED UNDERTAKING 6
3.1 WATER SUPPLY SERVICING 7
3.2 WASTEWATER MANAGEMENT 7
3.3 STORMWATER MANAGEMENT 7
3.4 ROAD NETWORK 8
3.5 EROSION AND SEDIMENT CONTROL 8

4.0 POTENTIAL EFFECTS AND MITIGATIONS 9
4.1 GROUNDWATER 9
4.1.1 Anticipated Effects 9
4.1.2 Required Mitigations 9
4.2 TREES 10
4.2.1 Anticipated Effects 10
4.2.2 Required Mitigations 10
4.3 FISH AND FISH HABITAT 11
4.3.1 Anticipated Effects 11
4.3.2 Required Mitigations 11
4.4 SPECIES AT RISK 11
4.4.1 Potential Effects 11
4.4.2 Required Mitigations 12

5.0 COMPLIANCE WITH POLICY 4.7 – ENVIRONMENTAL PROTECTION 12

6.0 INCORPORATION OF DESIGN WITH NATURE PRINCIPLES 16
6.1 INTEGRATION OF ENERGY EFFICIENCY AND SUSTAINABLE DESIGN 16

7.0 CLOSURE 18

8.0 LITERATURE CITED 19

List of Figures

Figure 1. Regional context 2
Figure 2. Existing site natural heritage 3
Figure 3. Site Plan 4

List of Tables

Table 1. Demonstrated compliance with Policy 4.7 Environmental Protection 14
Table 2. City of Ottawa Site Plan Control Approval Green Checklist 17

List of Appendices

Appendix A - Figures
Appendix B - Detailed Analysis of Compliance of the DCR Phoenix Development Plan with Section 4.7 of the City of Ottawa Official Plan

1.0 INTRODUCTION

This document, the Integrated Environmental Review (IER), is written in support of DCR Phoenix Homes (DCR) development of the properties at 1154 – 1208 Old Montreal Road, Ottawa, Ontario (Figure 1). The Old Montreal Road site is an 18.5 ha property located in Cumberland, Ontario (Concession 1, PT Lot 27, 28), but the proposed development will only use approximately 5.3 ha on the north portion of the property.

Currently, the north portion of the property consists almost entirely fallow agricultural lands, an old farmstead, and a few residential dwellings. The south portion of the property is composed of forests and a deep river valley that contains a tributary of Cardinal Creek (herein the Cardinal Tributary). Agricultural lands occur to the east and south of the property and residential and commercial development occurs to the west and north. The property is being developed by DCR Phoenix Homes as a residential community that will ultimately include twelve condominium buildings of four or more storeys, with a total of 510 units, 12 townhouse units and 14 semi-detached units.

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

Herein and as per the IER guidelines we provide:

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

This report has the following structure.

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

2.0 ENVIRONMENTAL CONDITIONS

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

2.1 Geotechnical

exp Services Inc. (2016) prepared the geotechnical investigation for the site in November, 2016. A slope stability analysis of the slope to a ravine located along the south boundary of the site was undertaken. It revealed that the slope is stable and that a geotechnical setback is not required beyond the crest of the slope for most of the development area. The exception to this is along the western end of the south edge of the proposed development area, where the factor of safety was less than 1.5. A reiterative analysis of this section was undertaken and gave a geotechnical setback of 24 m for factor of safety of 1.5.

A slope is also located along the north property boundary to Old Montreal Road. This slope is at an incline of 4.2H:1V or flatter. Based on the results of the stability analysis of the south slope, the north slope is also considered to be stable and its stability was not analyzed. Therefore, the limit of hazardous land was computed as 11 m (5 m toe erosion allowance and 6 m access allowance) from the crest of the south slope except in the vicinity of Section A-A (i.e. as indicated above) where it is 35 m from the crest of the south slope. This setback was determined as 6 m from the crest of the north slope. No development should be undertaken beyond the limit of hazardous land shown on Figures 2 and 3. The rear yards of two lots extend beyond this limit of hazardous land, but not residential structures do not and the yards do not extend beyond the crest of the slope.

2.1.1 General Geotechnical Assessment

Surface Conditions

The topography of the site consists of a topographic high at the house and barn locations of the site, with a steep slope downwards to the north to Old Montreal Road. The local groundwater flow direction is anticipated to be north towards the Ottawa River, at a distance of 1.2 km slope is located on the southeast side of the site to a deep ravine. A slope is located on the southeast side of a site to a deep ravine. The crest of the slope is at an Elevation 82.0 m to Elevation 85.0 m whereas the toe of the slope is at Elevation 61.25 m to Elevation 72.25 m, resulting in a 20.75 m to 12.25 m high slope. The slope inclination varies from 2.63H:1V to 3.37H:1V. The slope is covered with vegetation. Another slope is located along the northwest part of the site which extends to Old Montreal Road. The crest of this slope is at Elevation 85.0 m whereas its toe is at Elevation 70.0 m to 71.0 m, resulting in a 14.0 m to 15.0 m high slope. The inclination of this slope varies from 7.8H:1V to 1.9H:1V. This slope is also covered with vegetation. The elevation of the relatively level part of the site varies from Elevation 82 m approximately to Elevation 86.4 m approximately in the east west direction, resulting in a relief of 4.4 m approximately in the westerly direction. The ground surface at the site varies in the north south direction from Elevation 82 m to Elevation 85 m in the south to Elevation 82.1 to Elevation 84.7 m in the north, indicating that it is relatively flat lying in the north-south direction. The site is currently occupied by a number of residences, which will be demolished for the proposed development.

Subsurface Conditions

The fieldwork for the geotechnical investigation comprised the drilling of seven boreholes (Borehole Nos. 1 to 7) to depths ranging between 7.2 and 23.3 m. The boreholes revealed that beneath 25 mm to 200 mm of topsoil, silty sand or fill extends to 0.7 m to 2.3 m depth. The silty sand/fill are underlain by clay, which extends to the entire depth investigated of 7.3 m to 8.6 m in Borehole Nos. 2, 4, 5, 6 and 7 and to a depth of 18.9 m and 20.9 m in Borehole Nos. 1 and 3 respectively. The clay is stiff to hard and is over-consolidated by 78.0 kPa to 520 kPa based on the results of consolidation tests undertaken on select undisturbed clay samples. The clay in Borehole Nos. 1 and 3 is underlain by gravelly sand till which extends to the maximum depth investigated of 20.4 in Borehole No. 1 and to refusal to auger depth of 23.3 m in Borehole No. 13.

Based on the results of the investigation and consolidation tests undertaken on the clay sample, a maximum grade raise of 2.5 m is permitted at the site. The investigation has revealed that the geotechnical conditions at the site are suitable for construction of the 1 to 2 storey residential dwellings on spread and strip footing foundations. It is recommended that the footings should be founded above the groundwater table and designed for Serviceability Limit State (SLS) bearing pressure of 100 kPa and factored geotechnical resistance at Ultimate Limit State (ULS) of 150 kPa. The lowest level floor slabs of the structures may be constructed as slabs-on-grade. Perimeter as well as underfloor drains should be provided for the structures with basements. Excavations at the site will be undertaken to a maximum depth of 3 m below the existing ground surface and will be above the groundwater table. The excavations may be undertaken as open cut provided they are cut back at 45 degrees. Seepage of surface and subsurface water into the excavations should be anticipated. However, it should be possible to collect this water in perimeter ditches and remove by pumping from sumps. The backfill against the subsurface walls should be free draining granular materials conforming to OPSS 1090 for Granular B, Type II. It should be compacted to 95 percent of standard Proctor Maximum Dry Density (SPMDD).

2.1.2 Soil Quality

In August 2016, exp Services conducted a Phase I ESA of the Site (exp, 2016). Based on the Phase I ESA findings, exp Services recommended conducting a Phase II ESA at the Site to determine the presence or absence of impacted soil and/or groundwater (exp, 2018). The Phase II ESA consisted of drilling 10 boreholes across the subject site in the vicinity of the former fuel tank. Each of the boreholes were completed as monitoring wells. Soil and groundwater samples were collected and submitted for laboratory analysis of petroleum hydrocarbon fractions (PHC) F1-F4 and BTEX.

The BTEX concentrations measured in the groundwater sample collected from BH7 significantly exceeded the MOECC 2011. The concentrations of PHC and BTEX measured in the remaining groundwater samples were less than the laboratory detection limits and were less than the MOECC 2011. Petroleum impacted soil and groundwater were found at the location of the former tractor refueling area of the site. The area of petroleum impact has been delineated.

Based on laboratory results indicating exceedances of the MOECC SCS and field observations, the maximum thickness of impact of 3.5 m was measured in BH7. The likely area of impacted soil has been estimated to be 600 m^2. Assuming an estimated average thickness of impact of 1.5 m, the resulting volume of impacted soil in this zone is 900 m^3. The worst case area of impacted soil has been estimated to be 1,050 m^2. Assuming an estimated average thickness of impact of 1.5 m, the resulting volume of impacted soil in this zone is 1,575 m^3.

Using a remediation cost of \$120/m^3, the cost to remediate the petroleum-impacted areas ranges from \$108,000 to \$189,000. These costs also assume that the buildings have been removed and the water well has been decommissioned by a licensed well driller. These costs do not include impacted groundwater treatment and disposal. It is possible that since the soil at the site is silty clay, that there will be minimal groundwater infiltration into the remedial excavation.

2.2 Terrestrial Environment

The terrestrial environment was described by Kilgour & Associates Ltd. (KAL, 2018). The proposed development area is limited to the north portion of the subject properties, i.e. north of the valley containing the Cardinal Tributary – a significant headwater to Cardinal Creek. Land within the development area is currently comprised of fallow pastureland, an old farmstead and associated buildings, and residential dwellings. The total property area extends to include mature mixed forest and valleylands associated with the Cardinal Tributary (Figure 2), and then to active agricultural lands even further south. These features however, are not included within the development area.

Multiple small forest patches and trees patches occur on the north portion of the site but do not provide high quality wildlife habitat. The majority of these trees were small (less than 30 cm) or planted in yards and patches. A few large trees are found on site that were present in the 1976 air photo. These were individual trees located on the property and in the hedgerow to the east. Since 1976 trees have regrown into the western portion of the site and small patches around the site. The removal of trees on site are unlikely to affect wildlife in the area and mostly serve aesthetics and shade value. Larger trees on the periphery of the site can be retained on site to the extent possible during site development.

The Cardinal Creek Urban Natural Area occurs approximately 300 m to the west of the site. This area is separated from the site by multiple residential dwellings. The MNRF identified a wintering area - deer yard and wintering area - moose early wintering area adjacent to the site. This likely occurs in the forested valley of the Cardinal Trib to the south of the site. The river valley to the south of the site also contains unstable slopes according to the City of Ottawa Official Plan – Schedule K (Ottawa, 2015). Accordingly, that valley is deemed to constitute a Significant Valleyland and Significant Wildlife Habitat. It must also be considered as providing and important wildlife corridor for the area.

2.3 Fish and Fish Habitat

Fish habitat potential was described by Kilgour & Associates Ltd. (KAL, 2018). The site lies within the Cardinal Creek Catchment, which is home to 40 species of warm and cool water fish. No SAR fish are in the RVCA catchment report for the feature. The Cardinal Tributary crosses the property south of the development area but development will be separated from this feature by the buffer associated with the geotechnical hazard limit for the valley.

The Ottawa River occurs approximately 1.1 km to the north of the site. Cardinal Creek joins the Ottawa River at this point as well. Cardinal Creek occurs approximately 300 m to the west of the site and is separated from the proposed development area by multiple existing residential properties.

The proposed development area includes two small drains situated along driveways and field edges. These all feed into the Old Montreal Road roadside ditch, which leads southwestward to Cardinal Creek. The ditches and drains on site do not appear to provide any fish habitat, given their slopes, limited connection to downstream areas, and very small, shallow forms. These channels could be used by amphibians during early spring breeding, but are unlikely to hold water for long beyond the spring freshet. Conditions within these ditches will be confirmed through an HDFA.

No provincially significant wetlands occur on or adjacent to the site.

2.4 Species at Risk

SAR presence and potential within and adjacent to the development area was investigated by Kilgour & Associates Ltd. (KAL, 2018). The only direct evidence of SAR on site was the presence of Barn Swallow nests in two old, ramshackle farm buildings. These nests were likely used for nesting during the summer and appear freshly made. Confirmation of Barn Swallow presence will require field visits during the breeding bird season (May 24 – July 10). These buildings however, can be approved for removal under a site registration process with the MNRF. This process can be compete based on the observations of nests to date, and does not require further study. Compensation nesting habitat will be required to be created adjacent to the site following Ontario Regulation 242/08.

No other SAR or SAR habitats were observed on site during the field surveys. The Cultural Meadow in the center of site does not provide suitable habitat for either Eastern Meadowlark or Bobolink. Both of these grassland bird species prefer to breed in grassland habitat with low to moderate grazing to keep grass and forbs at a length between 10 and 50 cm, with an area of at least 5 ha. The meadow is only 2 ha in area and approximately 120 m wide at its maximum (mostly narrower). It is too small and interrupted by other structures and tress to be provide habitat potential.

Potential bat roosting habitat may exist within the forest aligning the Cardinal Trib and valley. This area contains large diameter trees (i.e. greater than 50 cm) – some of which have cavities – with a few large snags present. Conversely, the proposed development area included only smaller diameter trees with a few small snags, which are unlikely to provide SAR bat roosting habitat. Site development will be constrained to the area to the north of the valley, and therefor no impacts to potential bat roosting habitat is anticipated. All listed bat species considered to be potentially roosting in the valley forests, are species that are known to feed over residential areas. The conversion of the open landscape of the development area to residential usage, is not anticipated to reduce its potential to support feeding for bats roosting nearby.

2.5 Cultural Heritage

Paterson Group, on behalf of Taggart Investments, undertook a Stage 1 archaeological assessment of the study area located on Part Lot 25, 26, 27 and 28 Concession 1 and Part Lot C, D, and E, Concession 8 to the south of Old Montreal Road, in the geographic township of Cumberland (Paterson Group, 2013). The objectives of the investigation were to assess the archaeological potential of the property. The study property exhibits several indicators for pre-contact archaeological potential including proximity to water sources, elevated topography, and pockets of well drained sandy soil. Based on current knowledge of the pre-contact archaeology of the Ottawa Valley, there is potential for pre-contact archaeological sites in this area.

Archaeological potential is increased by the proximity of other known archaeological sites, however, only one known lithic scatter is located more than 1 km away from the site. The land registries, census records, and historic maps show that although this area was mainly rural, the property was occupied from early in the nineteenth century and there is evidence of a structure located on the property. Likewise the study property was close to historic transportation routes in the form of roads and rail systems. One other known historic period archaeological site is located within a 1 km radius of the study property, with another in the 2 km range.

This study property demonstrates high potential for both pre-contact and historic period archaeological sites. Based on these findings, the entire study area has archaeological potential. As such, a Stage 2 archaeological assessment should be conducted. In ploughable areas, a pedestrian survey strategy at 5 m intervals should be used. Around the extant and occupied dwelling with landscaping and lawns, wooded areas, and overgrown grassy areas shovel testing on 5 m intervals is recommended.

3.0 PROPOSED UNDERTAKING

DCR/Phoenix is proposing to develop the site with a mix of medium and high density development. The proposed site would combine stacked townhouse condominiums, semi- detached homes and freehold townhouses on municipal right of ways and private streets.

Parking for the semi-detached and freehold townhouses is provided for with standard construction single car garages, driveways and residual on-street parking. Parking for the stacked condominiums is provided by a combination of surface parking lot, on-street parking and below ground parking.

3.1 Water Supply Servicing

The subject site is located within Pressure Zone 2E of the City of Ottawa's water distribution system (IBI Group, 2018). An existing 406mm watermain is located within the Old Montreal Road ROW. Water supply needs will therefore be met by existing municipal infrastructure and will not required wells.

3.2 Wastewater Management

Downstream sewers have adequate capacity to service the site (IBI Group, 2018). The proposed development will require extension of existing sewers from de la Famille Laporte Avenue onto and crossing at Old Montreal Road. The public sanitary sewer system proposed will extend along Old Montreal Road to the East with one private sewer connection for Block 1 & 2. Townhouse blocks built into the stacked condo blocks will be serviced from within (i.e. one sanitary service to each building).

The public sanitary sewer will also be extended into the proposed development through the proposed municipal road opposite of de la Famille Laporte Avenue. Within the proposed development, the public sanitary sewer will follow the alignment of the proposed municipal road to provide service to the south-eastern limits of the development. Private sanitary sewers will connect to the public sewer are various locations to provide servicing for the condominium/apartment blocks. There are no external lands contributing to the internal sanitary sewers.

The sanitary sewers on Old Montreal Road will be designed for all external areas established in the MSS. Due to existing topography, the subject lands will be designed with steeper than typical gradient roadways. As such, the sanitary sewer network will be constructed in such a fashion to limit sewage velocities within the pipe network. This will require the use of flattened pipes relative to the road slope and several sanitary sewer manholes with external drop structures.

3.3 Stormwater Management

Downstream infrastructure was designed to provide capacity and treatment of stormwater runoff from the site (IBI Group, 2018). The proposed development will require extension of the existing storm sewers from de la Famille Laporte Avenue onto and crossing at Old Montreal Road. The public storm sewer system proposed will extend along Old Montreal Road to the East with one private sewer connection for Block 1 & 2, and the landscaping areas between the Old Montreal Road Right-of-Way and the facades of the two buildings, it will also be extended up the eastern municipal roadway within the development site. The public storm sewer will also be extended into the proposed development through the proposed municipal road opposite of de la Famille Laporte Avenue.

Within the proposed development, the public storm sewer will follow the alignment of the proposed municipal road to provide service to the south-eastern limits of the development. Private storm sewers will connect to the public sewer at various locations to provide servicing for the condominium/apartment blocks.

There are no external lands contributing to the internal storm sewers. The storm sewers on Old Montreal Road will be designed for all external areas established in the MSS. Due to existing topography, the subject lands are designed with steep gradient roadways. As such, the storm sewer network will be constructed

in such a fashion to limit sewage velocities within the pipe network. This will require the use of flattened pipes relative to the road slope and several storm sewer manholes.

It is anticipated that approach capture for roadside catchbasins will be a challenge on the steep segments of road. Flared curbs and additional inlet structures will be implemented as a means to increase capture into the storm sewer system.

The storm sewer network will be extended from the existing manhole on de la Famille Laporte Avenue, easterly along Old Montreal Road. This sewer will be designed to capture the 10 year storm event of the Old Montreal Road drainage area. The MSS and Phase 1 of the Cardinal Creek Village were intended to capture a large area of Old Montreal Road, east of de la Famille Laporte Avenue. Subsequently, the Cardinal Creek Village Phase 2 design includes a portion of Old Montreal Road, which was originally a tributary to Phase 1 / de la Famille Laporte Avenue.

3.4 Road Network

The draft plan delineates the proposed road pattern for the development which is a mix of public and private roads. The proposed municipal roads within the development are all to be designed to City of Ottawa Standard 18.0 m ROW. The private road within the condo site has 8.5 m asphalt road width with designated street parking on the north side. Private entrances vary in width from 6.0 m to 7.5 m.

The existing topography has led to some very unique grading. During pre-consultation meetings with the City of Ottawa, the Project Manager and Senior Traffic Engineer agreed to entertain roadway slopes of up to 12.0% in areas where sidewalks can be rerouted away from the public road.

To assist in the capturing of major storm runoff prior to reaching Old Montreal Road a low point has been proposed at each of the intersections with Old Montreal Road. The low points are located approximately 15.0 m south of the existing road centerline. The eastern road connection grading transition consists of 15.0 m of 3.0% followed by 30.0 m of 6.0%. The main entrance to the site, opposite of de la Famille Laporte, which will eventually be signalized and widened, consists of a longer approach of 30.0 m at 3.0%, followed by approximately 70 m of 5.0%. While these slopes are steeper than typically used for an approach to an arterial road, they have been minimized as much as feasibly possible.

The public sidewalk is to be kept barrier free, accessible and must provide a reasonable level of service to the residences at the southern limits of the site. The main pedestrian access will be by a public sidewalk through private land within an easement. The sidewalk will maintain a 5.0% continuous slope without handrails, or an 8.3% slope with handrails and intermittent landings as required by the Ontario Building Code. Condo buildings will be serviced by private sidewalks meeting the sloping requirements noted above, and may also include several steps.

3.5 Erosion and Sediment Control

During construction, existing stream and conveyance systems can be exposed to significant sediment loadings (IBI Group, 2018). Although construction is only a temporary situation, it is proposed to introduce a number of mitigative construction techniques to reduce unnecessary construction sediment loadings. These will include:

- groundwater in trench will be pumped into a filter mechanism prior to release to the environment;
- bulkhead barriers will be installed at the nearest downstream manhole in each sewer which connects to an existing downstream sewer;
- seepage barriers will be constructed in any temporary drainage ditches;
- filter cloths will remain on open surface structure such as manholes and catchbasins until these structures are commissioned and put into use; and,
- Silt fence on the site perimeter.

4.0 POTENTIAL EFFECTS AND MITIGATIONS

4.1 Groundwater

exp Services conducted a Desktop Hydrogeological Study for the subject site, which involved the review of various online mapping tools, MOECC water well records, and previous engineering reports (EXP, 2018). Beneath any fill, the Site is anticipated to be underlain by fine-grained overburden deposits up to 20 m thick (in locations), which are in turn underlain by Paleozoic bedrock consisting of limestone and dolostone, and/or limestone with minor shales.

A review of MOECC water well records revealed nine bedrock water wells within the 250 m radius (two well abandonment records were also found). It is not known if these water wells are still in use. The water well records also revealed that the depth to bedrock was shown to range from approximately 3 m to 29 m from ground surface, while water found (i.e. water bearing fractures) varied from approximately 19.8 m to 82.9 m from ground surface.

4.1.1 Anticipated Effects

With respect to groundwater flow directions, it is anticipated that the shallow overburden groundwater beneath the northern and southern portions of the Site likely flows towards the northwest, while the shallow overburden groundwater beneath the area middle portion of the site likely flows toward the ravine containing the tributary to Cardinal Creek, which bisects the Site. The shallow/intermediate bedrock groundwater flow direction is anticipated to be northwest toward the Ottawa River, located approximately 1.2 km northwest of the Site.

4.1.2 Required Mitigations

A review of the RVCA's GeoPortal indicated that a large portion of the Site is regulated under Section 28 of O.Reg. 174/06, which means that any development proposed within the regulated areas will require RVCA approval.

4.2 Trees

4.2.1 Anticipated Effects

The majority of trees within the development area were small (less than 30 cm DBH) or planted in yards or patches. The limited canopy cover and function provided by these trees can be maintained within the new community through trees to be planted as part of a site landscape plan. Some larger trees located around the periphery of the development area will be retained, as will all trees associated with the wooded valley of the Cardinal Trib. The small trees and shrubs patches and west forest area will be removed from site during development. Accordingly, no net negative impacts are anticipated to site trees, site canopy cover, or the forested features adjacent to the development area.

4.2.2 Required Mitigations

Please note that this report does not constitute permission to remove any trees from the site. Removal of trees can only be undertaken upon the issuance of a tree removal permit from the City of Ottawa. This report may be used to support the application for that permit and to advise mitigation measures imposed by the permit. Accordingly, to minimize impact to the remaining trees on the property, the following protection measures are indicated as necessary during construction:

- Tree removal on site should be limited to that which is necessary to accommodate site construction.
    - To minimize impact to remaining trees during future site development: Erect a fence beyond the critical root zone (CRZ, i.e. 10 x the trunk diameter) of trees. The fence should be highly visible (e.g. orange construction fence) and paired with erosion control fencing. Pruning of branches is recommended in areas of potential conflict with construction equipment;
    - Do not place any material or equipment within the CRZ of the tree;
    - Do not attach any signs, notices or posters to any tree;
    - Do not raise or lower the existing grade within the CRZ without approval;
    - Tunnel or bore when digging within the CRZ of a tree;
    - Do not damage the root system, trunk or branches of any tree; and
    - Ensure that exhaust fumes from all equipment are NOT directed towards any tree's canopy.
- The *Migratory Bird Convention Act* (Canada, 1994) protects the nests and young of migratory breeding birds in Canada. The City of Ottawa guidelines stipulate no clearing of trees or vegetation between April 1 and August 15, unless a qualified biologist has determined that no nesting is occurring within 5 days prior to the clearing (Ottawa, 2017c).

Specific trees to be planted on site will be identified in the landscape plan for the development. Trees species identified in this plan must be non-invasive and should be native to the Ottawa area. Recommended tree species to consider in the landscaping plan include Red Maple, which is currently present on site, with White Spruce, Pin Cherry, White Birch, Black Cherry, White Cedar, and Serviceberry as other suitable candidate species. Burr Oak may be considered where spacing allows for future showcase trees. Common Juniper, Maple-leaf Viburnum, Nannyberry, and Northern Bush-honeysuckle may be considered as appropriate shrub species. Trees must be planted within housing areas to a density equivalent to at least one per unit, though the distribution of specific planting locations may be varied from necessarily planting on every lot, as may be dictated by individual lot considerations. The landscape plan must include additional tree planting within parks and other open spaces as may be accommodated by the final configuration of those areas.

4.3 Fish and Fish Habitat

4.3.1 Anticipated Effects

The Cardinal Trib will remain unaltered. The site includes two headwater features (HDFs) – two roadside ditches that drain into Cardinal Creek along Old Montreal Road to the west. The existing driveway-side diches (but not the Old Montreal roadside ditch) will be removed as their ecological function is considered to be limited to conveyance during the spring freshet. The conveyance function can be handled instead by the stormwater management system to be implemented for the development area. The assumption of their limited function however, will be confirmed through a Headwater Drainage Feature Assessment (HDFA) prior to their removal.

The Cardinal Trib to the south may receive some limited overland surface flow from the site, but no HDF channels were observed in or near the valley to convey specific or concentrated flows. The stormwater system for the area will be designed to manage surface water runoff, ensuring no alteration of flow patterns or volumes to the Cardinal Trib (i.e. no increased erosion issues within the valley). There are no negative impacts to surface water features anticipated from site development.

4.3.2 Required Mitigations

Erosion and sediment control measures will be installed along road side ditches and slope area to prevent overland sediment flow off site during construction. Alteration of site headwater features can only be completed with permission from the Rideau Valley Conservation Authority, and in accordance with the requirements associated with any permits to alter a waterway as may be issued by them. Any application for a permit to alter a water way, must be preceded and supported by an HDFA. The HDFA will confirm the ecological functions associated with the site HDFs.

4.4 Species at Risk

4.4.1 Potential Effects

The two farm buildings containing the area are considered as both Category 1 and 2 Habitat for Barn Swallow, which has the lowest tolerance to alteration. Category 1 habitat is the nest, while Category 2 habitat is a 5 m buffer around the nest. The presence of Barn Swallow nests on site results in the Cultural Meadow and all lands within 200 m being classified as Category 3 habitat and used a foraging habitat,

which includes most of the site. Site registration with the MNRF will oblige the developer to build and manage alternative nesting structures for Barn Swallows, to be locate in proximity to other open areas for feeding. The registration process, and the subsequent mitigations/compensations imposed by the registration, are recognized by the MNRF as providing a net benefit to the species, and thereby allow for the removal of the barns without contravention of the ESA.

No other SAR or SAR habitat were observed on site during the field visit. Potential bat roosting habitat however, may exist in the mature forests within the valley to the south. The Cardinal Trib will be protected from development by buffers established during geological field surveys. All listed bat species considered to be potentially roosting in the valley forests, are species that are known to feed over residential areas. The conversion of the open landscape of the development area to residential usage, is not anticipated to reduce its potential to support feeding for bats roosting nearby.

Additionally, while bats could also use the farm buildings and adjacent abandoned house for roosting habitat, anthropomorphic structures are not classified as significant wildlife habitat for bats. Regardless, as SAR bats are protected from direct harm under the *ESA*, the removal of these buildings must be completed outside of the active season for bats (April through August) to ensure that no bats are present. Because of this we predict no impacts to bats using anthropomorphic structures on site.

So long as the site registration process for Barn Swallows is employed, and timing windows for bats are followed, no negative impacts to SAR are anticipated for this development project.

4.4.2 Required Mitigations

Site development will require registration of the site as species at risk (Barn Swallow) habitat and the corresponding creation of compensation nesting habitat under Ontario Regulation 242/08 (Ontario, 2017). Removal of buildings and nests will be performed outside of the breeding season (May through August) to ensure that species area not harmed. Nesting compensation structures will also be installed outside of the breeding season, but before the beginning of the next breeding season (before May 1st.) Compensation nesting structure(s) will be created to in accordance with Ontario Regulation 242/08 (Ontario, 2017). The structure(s) will be installed on the edge of the site near the field to the east or the clearing along the slope to the south near the Cardinal Trib.

Standard bird nesting timing windows apply as per the Migratory Bird Convention Act (Canada, 1994). Areas cannot be cleared of trees without first ensuring the absence of nesting birds between April 1 and August 15. The presence of bats extends the closed windows. Because of the possible presence of Little Brown Myotis, clearing of forest areas may only occur between October 1 and April 30. No tree clearing or other destructive site preparation of the property may occur between April and September 30 without first ensuring the absence of birds AND bats from any trees or structures subject to removal.

5.0 COMPLIANCE WITH POLICY 4.7 – ENVIRONMENTAL PROTECTION

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

application are indicated in the Table to demonstrate compliance to the requirements of the Official Plan.

Table 1. Demonstrated compliance with Policy 4.7 Environmental Protection

OP Section	Studies/Assessment Required	Where Required	Relevant Study and Status	Summary of Issue
4.7.1	Integrated environmental review to assess development applications	Summary of all environmental studies/assessments submitted with development application	This document	
4.7.2	Tree retention and planting	All plans of subdivision and site plans	Kilgour & Associates Ltd. (2018). Environmental Impact Statement/ Tree Conservation Report for the Proposed Development of 1154 - 1208 Old Montreal Road. **A City tree removal permit will be required.**	No high quality specimen trees occur on site. Trees within Cardinal Trib valleyland will be protected from development.
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	Kilgour & Associates Ltd. (2018). Environmental Impact Statement/ Tree Conservation Report for the Proposed Development of 1154 - 1208 Old Montreal Road.	No high quality specimen trees, valued woodlands, urban natural areas, rare communities, wetlands, steep slopes or valleys were observed on the site. Required geotechnical setbacks along the south edge of the development area adequately protect the adjacent natural features associated with the Cardinal Trib and its valley/forest corridor.
4.7.3	Demonstrate no negative impact on fish habitat; If there is impact – review by Department of Fisheries and Oceans	On or adjacent to fish habitat	Kilgour & Associates Ltd. (2018). Environmental Impact Statement/ Tree Conservation Report for the Proposed Development of 1154 - 1208 Old Montreal Road.	There is no fish habitat on site. This will be re-confirmed through an HDFA in the spring of 2018. Required geotechnical setbacks along the south edge of the development area adequately protect the Cardinal Trib.

OP Section	Studies/Assessment Required	Where Required	Relevant Study and Status	Summary of Issue
4.7.3	Erosion and sediment control plan	All development proposals	IBI Group, 2018. 1208 Old Montreal Road. Adequacy of public servicing report number: 109575-5.2.2.1.	ESC Plan requirements are detailed within the public servicing report.
4.7.3	Determine appropriate setback from rivers, lakes and streams	Development proposals adjacent to rivers, lakes and streams	Kilgour & Associates Ltd. (2018). Environmental Impact Statement/ Tree Conservation Report for the Proposed Development of 1154 - 1208 Old Montreal Road.	Setback for the Cardinal Trib is equal to the geotechnical limit of hazard.
4.7.5	Hydrogeology/terrain analysis	Subdivisions based on private services	Study not required.	Subdivision based on public services.
4.7.5	Groundwater impact assessment	Groundwater resources areas	To be complete	Project will require RVCA approval.
4.7.5	Wellhead protection study	Wellhead Protection Area designated on Schedule K	Study not required	Subdivision based on public services. Area is not a wellhead protection area.
4.7.6	Stormwater site management plans	Site plan and subdivision and zoning amendment applications	IBI Group, 2018. 1208 Old Montreal Road. Adequacy of public servicing report number: 109575-5.2.2.1.	Subdivision will connect with the existing public storm sewer system
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. Subdivision is outside of the Cardinal Trib valley.

6.0 INCORPORATION OF DESIGN WITH NATURE PRINCIPLES

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

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

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

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

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

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

6.1 Integration of Energy Efficiency and Sustainable Design

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

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

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

7.0 CLOSURE

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

Natural Environment, Aquatic Habitat, Tree Conservation Kilgour & Associates Ltd. _____ Anthony Francis, PhD	**Geotechnical Investigation and Site Environmental Assment** exp Services _____
Stormwater Management IBI _____	

8.0 LITERATURE CITED

Canada, Government of (Canada). 2002. Species at Risk Act. S.C. 2002, c. 29.

IBI Group, 2018. 1208 Old Montreal Road. Adequacy of public servicing report number: 109575-5.2.2.1. Prepared for: DCR/ Phoenix Homes.

Kilgour & Associates Ltd. (KAL), 2018. Environmental Impact Statement/ Tree Conservation Report for the Proposed Development of 1154 - 1208 Old Montreal Road. KAL project: DCRP 715. Prepared for Phoenix Homes.

Paterson Group, 2013. Stage 1 Archaeological Assessment Proposed Cardinal Creek Development, Lands South of Old Montreal Rd. Part Lot 25, 26, and 27, and 28 Concession 1 and Part Lot C, D, and E Concession 8 in the Geographic Township of Cumberland, Historic County of Russell, Ottawa, Ontario. PIF: P369-003-2012. Prepared for Taggart Investments.

exp Services Inc. 2016a. Phase I Environmental Site Assessment 1154, 1172, 1176, 1180, and 1208 Old Montreal Road, Ottawa, Ontario. Project Number: OTT-00234493-AO. Prepared for: DCR/ Phoenix Group of Companies.

exp Services Inc. 2016b. Phase II Environmental Site Assessment 1208 Old Montreal Road, Ottawa, Ontario. Project Number: OTT-00234493-BO. Prepared for: DCR/ Phoenix Group of Companies.

exp Services Inc. 2016c. DCR Phoenix Group of Companies Preliminary Geotechnical Investigation. Project Number: OTT-00234493-AO. Prepared for: DCR/ Phoenix Group of Companies.

exp Services Inc. 2018. Desktop Hydrogeological Study 1208 Old Montreal Road, Ottawa, Ontario. Project Number: OTT-00234493-AO. Prepared for: Phoenix Homes.

Ontario, Government of. 2007. Endangered Species Act (ESA). Available at: https://www.ontario.ca/laws/statute/07e06

Appendix A
Figures

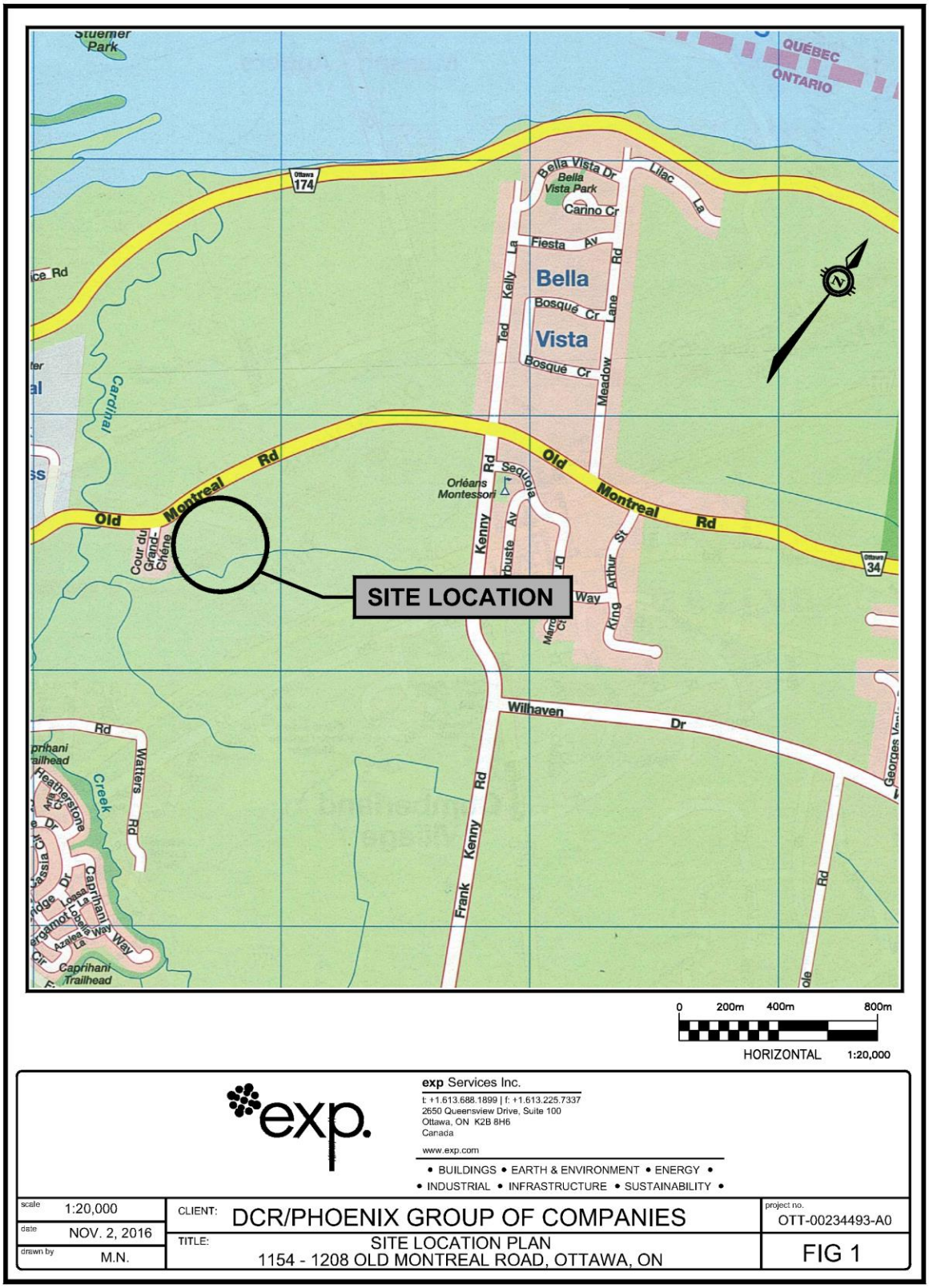

Figure 1. Regional context

Figure 2. Existing site natural heritage

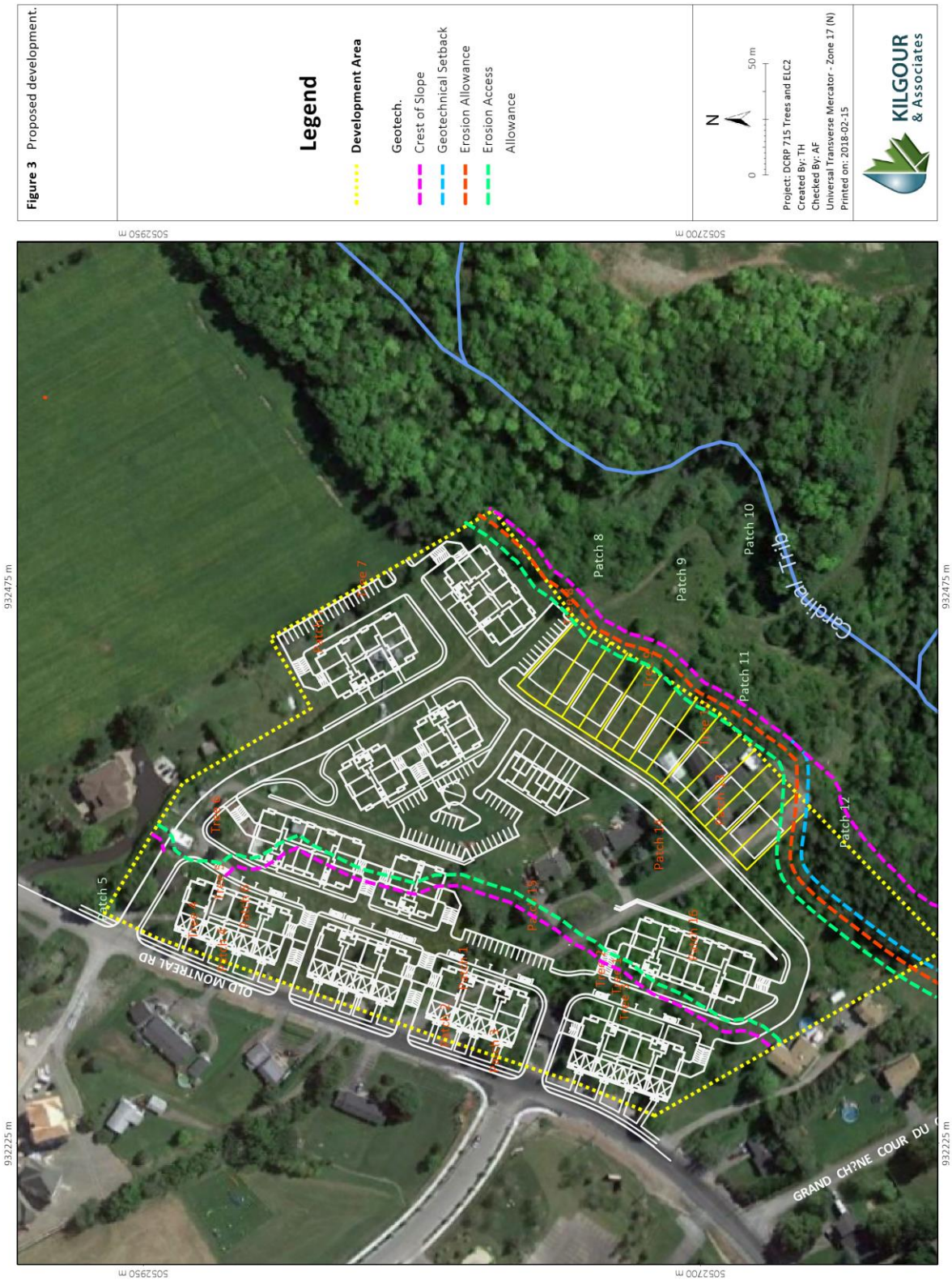

Figure 3. Site Plan

Appendix B
Detailed Analysis of Compliance of the DCR Phoenix Development Plan with Section 4.7 of the City of Ottawa Official Plan

Appendix 2: Detailed Analysis of Compliance with Section 4.7 of the City of Ottawa Official Plan

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

Policy 4.7.1 – Integrated Environmental Review to Assess Development Applications

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

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

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

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

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

DCR Phoenix Approach to Compliance

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

4.7.2 – Protection of Vegetation Cover

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

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

DCR Phoenix Approach to Compliance 4.7.2 (1)

A Tree Conservation Report was prepared by Kilgour & Associates (2018) following City of Ottawa Guidelines and has been submitted to the City for review. DCR Phoenix acknowledges that a detailed landscape plans for the entire area will be submitted to the City.

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

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

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

The Tree Conservation Report (KAL, 2018) confirmed that there were no significant specimen trees rare vegetation, Areas of Natural and Scientific Interest, significant wetlands, natural areas, and no woodlands greater than 50 years within the development areas. Significant natural areas adjacent to site will be retained and protected by the application of a development setback from those features equivalent to the geotechnical limit of hazard associate with the Cardinal Trib valley. No endangered or threatened species or their habitats were present on property, other than Barn Swallow, which will be addressed through a site registration.

Policy 4.7.2 (2,f)

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

DCR Phoenix Approach to Compliance on Policy 4.7.2 (2f)

Kilgour & Associates (2018) surveyed the development area and surrounding site. Removal of all trees was indicated for the development area with retention of all trees on the remainder of the property. Detailed landscape plans for each phase of development will include more trees to be planted than will be lost from the site.

Policy 4.7.2 (2g)

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

DCR Phoenix Approach to Compliance on Policy 4.7.2 (2g)

There are relatively few trees generally, and no significant specimen trees within the development area based on the assessment by Kilgour & Associates (2018). The site does not provide significant habitat for species listed as at risk under the Ontario ESA (Kilgour & Associates 2018) other than Barn Swallows, which will be addressed though a site registration with the MNRF. Most of site is a former agricultural area. There is no net negative impact on fauna or rare species during or after construction, and no requirement for mitigation measures.

Policy 4.7.2 (2h)

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

DCR Phoenix Approach to Compliance on Policy 4.7.2 (2h)

exp Services (2016) determined that fast-growing, high-water demand trees must not be planted closer

to a building than a distance equal to their height at maturity, and limited trees to be planted planting to five smaller, lower-water-use species. This was in compliance with the City's previous Clay Soils Policy. That policy has now been relaxed such that other species identified within the EIS by Kiglour & Associates (2018) may now be considered as well so long as planting details identified within the landscape plan are compliant with the updated Clay Soils Policy.

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

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

DCR Phoenix Approach to Policy 4.7.2 (3)

The Tree Conservation Report (Kiglour & Associates, 2018) requires tree retention within the geotechnical limit of hazard of the Cardinal Trib valley. DCR Phoenix acknowledges the landscape plan will specify the appropriate use of native species in tree planting strategies. DCR Phoenix also acknowledges the requirement for a reference document for future residents on the importance and care of trees. Homeowners will be provided with information regarding how often to water trees and sod planted along the streets on their property.

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.]

DCR Phoenix Approach to Policy 4.7.3

All development will occur outside of the geotechnical limit of hazard as established by exp Services (2016).

Policy 4.7.3 (1)

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

DCR Phoenix Approach to Policy 4.7.3 (1)

All residential development on site will occur beyond the geotechnical limit of hazard as established by exp Services (2016), which serves as the required setback from fish habitat within the Cardinal Trib (Kilgour & Associates, 2018).

Policy 4.7.3 (2)

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

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

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

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

DCR Phoenix Approach to Policy 4.7.3 (2)

All residential development on site will occur beyond the geotechnical limit of hazard as established by exp Services (2016), which serves as the required setback from fish habitat within the Cardinal Trib (Kilgour & Associates, 2018).

Policy 4.7.3 (3)

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

DCR Phoenix Approach to Policy 4.7.3 (3)

All residential development on site will occur beyond the geotechnical limit of hazard as established by exp Services (2016), which serves as the required setback from fish habitat within the Cardinal Trib (Kilgour & Associates, 2018).

Policy 4.7.3 (4)

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

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

DCR Phoenix Approach to 4.7.3 (4)

All residential development on site will occur beyond the geotechnical limit of hazard as established by exp Services (2016), which serves as the required setback from fish habitat within the Cardinal Trib (Kilgour & Associates, 2018). Any alterations to minor HDFs on site will be completed under a permit to alter a water waterway issued by RVCA.

Policy 4.7.3 (5)

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

DCR Phoenix Approach to 4.7.3 (5)

All residential development on site will occur beyond the geotechnical limit of hazard as established by exp Services (2016).

Policy 4.7.3 (6)

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

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

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

DCR Phoenix Approach to Policy 4.7.3 (6)

All residential development on site will occur beyond the geotechnical limit of hazard as established by exp Services (2016), which serves as the required setback from fish habitat within the Cardinal Trib (Kilgour & Associates, 2018).

Policy 4.7.3 (7)

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

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

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

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

DCR Phoenix Approach to Policy 4.7.3 (7)

All residential development on site will occur beyond the geotechnical limit of hazard as established by exp Services (2016), thus maintaining the natural corridor present within the Cardinal Trib valley.

Policy 4.7.3 (8)

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

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

DCR Phoenix Approach to Policy 4.7.3 (8)

All residential development on site will occur beyond the geotechnical limit of hazard as established by exp Services (2016).

Policy 4.7.3 (9)

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

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

DCR Phoenix Approach to Policy 4.7.3 (9)

All residential development on site will occur beyond the geotechnical limit of hazard as established by exp Services (2016).

Policy 4.7.3 (10)

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

DCR Phoenix Approach to Policy 4.7.3 (10)

All residential development on site will occur beyond the geotechnical limit of hazard as established by exp Services (2016).

Policy 4.7.3 (11)

10. *Under the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation, pursuant to the Conservation Authorities Act of Ontario, the approval of the Conservation Authority is required for works such as site grading, the placement of fill, the alteration of existing channels of watercourses, and certain construction projects. The Conservation Authority should be consulted for any project near a lake, river, stream or wetland regarding the need for a permit. The Rideau Canal is a federal waterway and as such all*

shoreline and in-water works along the canal system will also require approval of Parks Canada. [Amendment #76, OMB File # PL100206, July 21, 2011.]

DCR Phoenix Approach to Policy 4.7.3 (11)

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

Policy 4.7.3 (12)

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

DCR Phoenix Approach to Policy 4.7.3 (12)

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

Policy 4.7.3 (13)

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

DCR Phoenix Approach to Policy 4.7.3 (10)

The Adequacy of public servicing report for the project (IBI Group, 2018) provides a site Erosion and Sediment Control (ESC) Plan.

Policy 4.7.3 (14)

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

DCR Phoenix Approach to Policy 4.7.3 (14)

The Cardinal Trib adjacent to the development area will remain untouched. It is located >55m from the development area. Minor HDFs on site are limited to drainage ditches along existing driveways connecting to the Old Montreal Rd. roadside ditch. These will be removed in accordance with regulation of the RVCA.

Policy 4.7.3 (15)

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

DCR Phoenix Approach to Policy 4.7.3 (15)

No fish habitat is present on, or located within >55 m of the development area.

Policy 4.7.3 (16)

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

DCR Phoenix Approach to Policy 4.7.3 (16)

No municipal drains occur on the property.

Policy 4.7.3 (17)

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

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

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

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

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

DCR Phoenix Approach to Policy 4.7.3 (17)

No response required.

4.7.4 – Protection of Endangered Species

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

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

Policy 4.7.4 (1)

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

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

DCR Phoenix Approach to Policy 4.7.4

The EIS/TCR by Kiglour & Associates (2018) provided an assessment of present flora and fauna for the entire Abbottsville Crossing property. The site does not support any vegetation Species-At-Risk (including Butternut). It does provide habitat for Barn Swallows, though this will be removed from the development area in accordance with O. Reg. 242/08 following a site registration with the MNRF. The proposed development will not impact the potential for the adjacent wooded area of the Cardinal Trib valley to support listed bat species (Kiglour & Associates, 2018), and so can proceed without contravention of the *ESA*.

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.

DCR Phoenix Approach to Policy 4.7.5 (1)

DCR Phoenix retained the exp Serivces (2016) to complete the Geotechnical Investigation, which identifies groundwater levels and expected impacts to groundwater levels.

The City has not identified the need for a Groundwater Impact Assessment to be completed.

Policy 4.7.5 (2)

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

DCR Phoenix Approach to Policy 4.7.5 (2)

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

Policy 4.7.5 (3)

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

[Amendment #76, August 04, 2010]

DCR Phoenix Approach to Policy 4.7.5 (3)

The proposed development is not high risk industrial land use.

Policy 4.7.5 (4)

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

DCR Phoenix Approach to Policy 4.7.5 (4)

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

4.7.6 – Stormwater Management

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

Policies

Policy 4.7.6 (1)

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

DCR Phoenix Approach to Policy 4.7.6 (1)

The Adequacy of public servicing report for the project (IBI Group, 2018) provides a stormwater management plan for the project.

Policy 4.7.6 (2)

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

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

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

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

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

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

    f. *Groundwater is not negatively impacted;*

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

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

DCR Phoenix Approach to Policy 4.7.6 (2)

The Adequacy of public servicing report for the project (IBI Group, 2018) provides a stormwater management plan for the project.

4.7.7 – Landform Features

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

Policy 4.7.7 (1)

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

DCR Phoenix Approach to Policy 4.7.7 (1)

On the basis of the various studies commissioned by DCR Phoenix, there are no significant natural features within the proposed development area. The geotechnical limit of hazard for the Cardinal Trib valley excludes development from, and so protects, the significant natural areas and features associated with the valley.

Policy 4.7.7 (2)

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

DCR Phoenix Approach to Policy 4.7.7 (2)

On the basis of the various studies commissioned by DCR Phoenix, there are no significant natural features within the proposed development area. The geotechnical limit of hazard for the Cardinal Trib valley excludes development from, and so protects, the significant natural areas and features associated with the valley.

Policy 4.7.7 (3)

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

DCR Phoenix Approach to Policy 4.7.7 (3)

On the basis of the various studies commissioned by DCR Phoenix, there are no significant landform features within the proposed development area. The geotechnical limit of hazard for the Cardinal Trib valley excludes development from, and so protects, the significant natural areas and features associated with the valley.

Policy 4.7.7 (4)

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

    a. *Selective grading to minimize topographic change;*

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

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

    d. *Flexible setbacks;*

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

DCR Phoenix Approach to Policy 4.7.7 (4)

On the basis of the various studies commissioned by DCR Phoenix, there are no significant landform within the proposed development area. The geotechnical limit of hazard for the Cardinal Trib valley excludes development from, and so protects, the significant natural areas and features associated with the valley.

4.7.8 – Environmental Impact Statement

Development within or adjacent to woodlands, wetlands, and other natural features has potential to impact the feature and its functions by removing vegetation, increasing the amount of paved or other

impermeable surfaces, changing the grading of the site, or making other changes. The Environmental Impact Statement serves to identify the natural features of a site early in the development process and consider ways to avoid or mitigate these impacts, and enhance natural functions. [Amendment #76, OMB File # PL100206, April 26, 2012.]

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

Policy 4.7.8 (1 & 2)

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

DCR Phoenix Approach to Policy 4.7.8 (1 & 2)

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

Policy 4.7.8 (3, 4, 5, 6)

2. *Development is defined as creation of a new lot, a change in land use, or the construction of buildings and structures, requiring approval under the Planning Act, but does not include activities that create or maintain infrastructure authorized under an environmental assessment process; or works subject to the Drainage Act. [Amendment #76, OMB File # PL100206, April 26, 2012]*
3. *Site alteration is defined as activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site. [Amendment #76, OMB File # PL100206, April 26, 2012]*
4. *Ecological function are defined as: the natural processes, products or services that living and nonliving environments provide or perform within or between species, ecosystems and*

landscapes, including biological physical and socio-economic interactions. [Amendment #76, OMB File # PL100206, Ministerial Modification #53, April 26, 2012]

5. *The requirements for an EIS adjacent to natural heritage features designated on Schedule A and B in this Plan are described in Section 3. The requirements for an EIS adjacent to the significant habitat of endangered and threatened species and Earth Science Areas of Natural and Scientific Interest are described in Section 4. [Amendment #76, OMB File # PL100206, April 26, 2012]*

DCR Phoenix Approach to Policy 4.7.8 (7)

No response required.

Policy 4.7.8 (3, 4, 5, 6)

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

DCR Phoenix Approach to Policy 4.7.8 (7)

No significant woodlands, significant wildlife habitat, significant valleylands or other natural heritage features occur within the proposed development area. The geotechnical limit of hazard for the Cardinal Trib valley excludes development from, and so protects, the significant natural areas and features associated with the valley.

Policy 4.7.8 (8 & 9)

7. *The need for an Environmental Impact Statement and its scope will be confirmed through preconsultation with the City early in the development review process, based on a preliminary screening for natural environment features within and adjacent to the study area. Aerial photographs, watershed and sub-watershed studies, field investigations and other information sources such as the Natural Heritage Information Centre may be consulted. The screening should consider the potential for endangered or threatened species habitat, significant woodlands, valley lands, wetlands and wildlife habitat that are not designated in the plan, in accordance with the Provincial Policy Statement definition of significant and the relevant identification and evaluation factors specified in the Natural Heritage Reference Manual for the Provincial Policy Statement. [Amendment #76, OMB File # PL100206, Ministerial Modification #53, April 26, 2012]*
8. *There are different types of Environmental Impact Statements:*
    a. *Full site-impact statements to assess the effects of large-scale development proposals, such as a subdivision proposal. They are prepared by a qualified professional with expertise in assessing impacts on the natural environment, but reviewed and approved by the municipality;*
    b. *Impact statements for lands adjacent to Urban Natural Features where the emphasis will be on managing the interface or transition zone between urban developments and*

natural features in an urban context. This would include such concerns as surface drainage adjacent to the feature; natural infiltration and soft edges adjacent to features such as wetlands, wet meadows and moist forests; protection of woodland edges (drip-line setbacks, soil compaction, removal and stock-piling); and management of access and other potential issues related to uses along the edge of the feature;

c. *Scoped site-impact statements to assess the potential impacts of smaller development proposals, such as single-lot severances, where impacts would be minor. A scoped impact study can be as simple as a checklist of matters to be addressed as part of the application process, and can be completed by the applicant. Scoped site-impact studies may also be appropriate to address the potential impacts of larger proposals if more detailed studies, such as a comprehensive impact study, are available.*

DCR Phoenix Approach to Policy 4.7.8 (8 & 9)

No response required.

Policy 4.7.8 (10)

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

DCR Phoenix Approach to Policy 4.7.8 (10)

An EIS was triggered for the proposed development by: 1) its proximity of the site to a Cardinal Trib valley and, 2) the presence of potential habitat for species at risk (SAR) including Butternut (*Juglans cinerea*) and Barn Swallow (*Hirundo rustica*). The EIS was completed by Kigour & Associates (2018)

Policy 4.7.8 (11)

10. *Environmental Impact Statements will include:*
    a. *A map drawn to scale identifying the location and extent of the feature, a description of the environmental values within the environmental feature or designation which could potentially be adversely affected by the proposed development, a description of the terrain/topography, vegetative cover and types, soil type and depth, and surface water movement patterns;*
    b. *Where the potential for significant habitat of endangered and threatened species has been identified, a description of the habitat present on the site and its suitability for the specific endangered and threatened species that potentially may use the area, as required in Section 4.7.4. [Amendment #76, August 04, 2010]*
    c. *A description of the proposed development;*
    d. *A description of the impacts on the environmental feature that might reasonably be expected to result from the proposed development;*

e. A description of the actions that may be reasonably required to prevent, change, minimize or mitigate impacts on the environmental feature as a result of the proposed development, including the identification of opportunities for ecological restoration, enhancement and long-term conservation of the feature;

f. A description of the flora and fauna present on the site and how the development may impact on the flora and fauna within the site or natural feature and proposed mitigation measures to be taken during and after construction;

g. An evaluation of the cumulative effects of the proposed development and other existing or proposed activities or development within or adjacent to the study area. For the purpose of this policy 'proposed activities or development' refers to applications that have been lodged with and which are waiting or have received City approval. The evaluation will assess residual effects following mitigation on the natural features and ecological functions identified in the area; [Amendment #76, OMB File # PL100206, April 26, 2012]

h. A professional opinion on whether negative effects on the natural features and ecological functions will occur, and the significance of these impacts in the context of the evaluation of the natural area (i.e., the natural features and functions for which the area was originally identified as significant and the residual impact of the proposed development on the general significance rating of the larger natural area);

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

DCR Phoenix Approach to Policy 4.7.8 (11)

No response required.