DETAILED ENVIRONMENTAL IMPACT STATEMENT (EIS): LEITRIM ROAD MCGANN LANDS 4747 BANK STREET, OTTAWA, ON

Prepared for:
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Stittsville, Ontario, K2S 1E1

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Final Report

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APPENDICES

1.0 INTRODUCTION

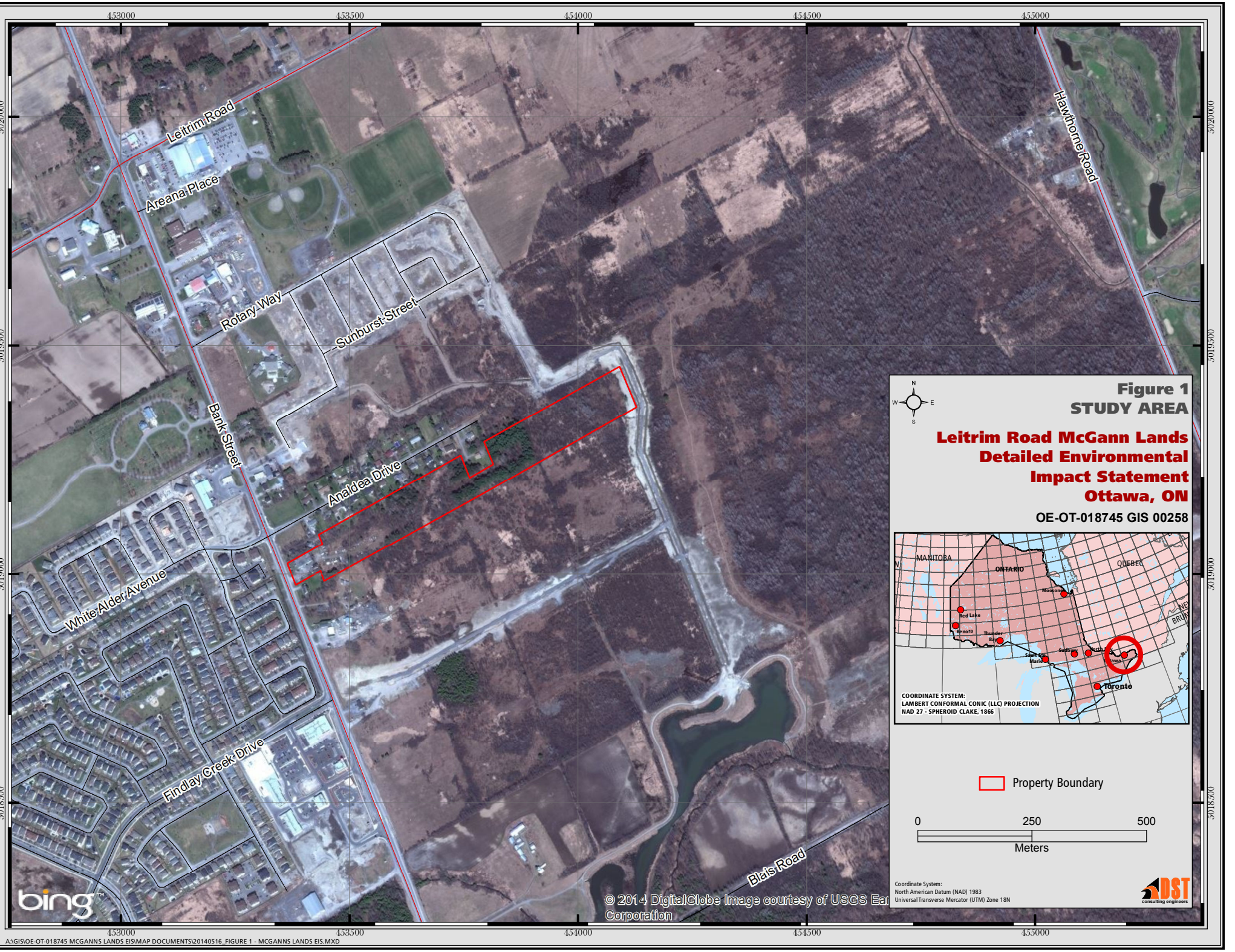
1.1 Executive Summary and Report Purpose

DST Consulting Engineers Inc. (DST) was retained by D.G Belfie Planning and Development Consulting Ltd., on behalf of Mr. David McGann (the Client), to conduct a Detailed Environmental Impact Statement (EIS) and selected Species at Risk (SAR) surveys for the Leitrim Road – McGann Lands Development (Figures 1 & 2). The Leitrim Road – McGann Lands (the Site) consists of an area of approximately 7.5 hectares located approximately one kilometer south of the intersection of Bank Street and Leitrim Road, at 4747 Bank Street, in the City of Ottawa (the City), Ontario (Figures 1 & 2). The Detailed EIS study is required to support the Draft Plan of Subdivision and Zoning Application for the Site, which is located in Urban Expansion Area (UEA) 9A. The development will involve the construction of a residential subdivision, including semi-detached lots and townhouses, as well as mixed use/commercial buildings along Bank Street. The Site will be serviced with municipal sewer and water. This will include the construction of approximately 68 semi-detached units (34 blocks), 128 back-to-back townhouses and 108 stacked townhouses (Kollaard 2014) (Figure 2).

As shown in Figure 1, the Site is bordered on the north and northeast by residential developments (north of Analdea Drive), on the west by Bank Street and mixed commercial and residential development, and on the south by vacant lands owned by Claridge Homes Inc., which form a section of UEA 9A. Currently the western portion of the Site is occupied by a single-storey building used as a small trailer and hitch sales and service, former mini-storage spaces, an abandoned single family dwelling, and two (2) storage sheds. All structures will be demolished as part of the development. The remainder of the site consists of undeveloped land (deciduous forested areas, conifers, meadows and sparsely vegetated areas (Refer to Section 3.2 for additional information).

This EIS provides details on the potential impacts and recommended mitigation measures associated with the proposed residential development. This report draws on findings and conclusions detailed in previously completed reports for the study area. Previously completed reports were reviewed to obtain background information for the Leitrim Road – McGann Lands. These reports include: *Vegetation Assessment of Claridge Lands and McGann Lands* (The vegetation assessment – MEP 2013), *Tree Conservation Report: Proposed Development and Conserved Vegetation* (Lennox 2014), *Geotechnical Investigation: Proposed Residential Development, 4747 Bank Street, Part of Lot 18, Concession 5, City of Ottawa, Ontario* (Kollaard 2014), *Phase I Environmental Assessment 4747 Bank Street, City of Ottawa, Ontario* (Kollaard 2013), and *Stage 1 & 2 Archeological Assessment 4747 Bank Street, Part Lot 18, Concession 5, Geographic Township of Gloucester, (Rideau Front), City of Ottawa* (Adams 2013). In addition, information provided by the South Nation Conservation Authority (SNCA), the Ontario Ministry of Natural Resources (OMNR), the Natural Heritage Information Center (NHIC) and the City was integrated into this report.

DST reviewed the vegetation information provided in the completed TCR (Lennox 2014) and vegetation inventory completed by MEP (2013) to characterize vegetative communities on Site. Neither report documented the occurrence of endangered Butternut Trees on Site. DST also performed a tree survey in June 2014 and no Butternut Trees were found on the property. In addition to Butternut, consultation with OMNR indicated the potential for several SAR birds and/or their habitats to be present on Site including Bobolink, Eastern Meadowlark, Barn Swallow, Red-headed Woodpecker, Henslow's Sparrow and Whip Poor Will, as well as SAR reptiles including Eastern Milksnake. To support the Detailed EIS requirements, DST conducted SAR field surveys to document and assess the potential presence of these SAR and the presence of other wildlife. All SAR surveys were conducted according to OMNR survey protocols for these species. During these surveys no SAR species were identified on-site. OMNR also noted that two turtle SAR (Blanding's Turtle and Eastern Musk Turtle) had the potential to occur in the region, but no suitable habitats were found on the Site or in the immediate vicinity which would support these two species. Generally speaking, the Site represents low quality terrestrial habitat with a small and heavily degraded cattail marsh present in the central portion of the Site. There is no significant aquatic habitat present and the property is located in an area of planned and ongoing urban development. Few significant environmental concerns were identified associated with the proposed development as no significant natural features were noted. Proposed development mitigation measures include sediment and erosion controls, protection of trees located on adjacent properties, timing restrictions and mitigation to protect potential migratory birds' nests and other wildlife, etc. Provided that mitigation measures are applied appropriately, it is not anticipated that the development will have a significant adverse environmental impact.



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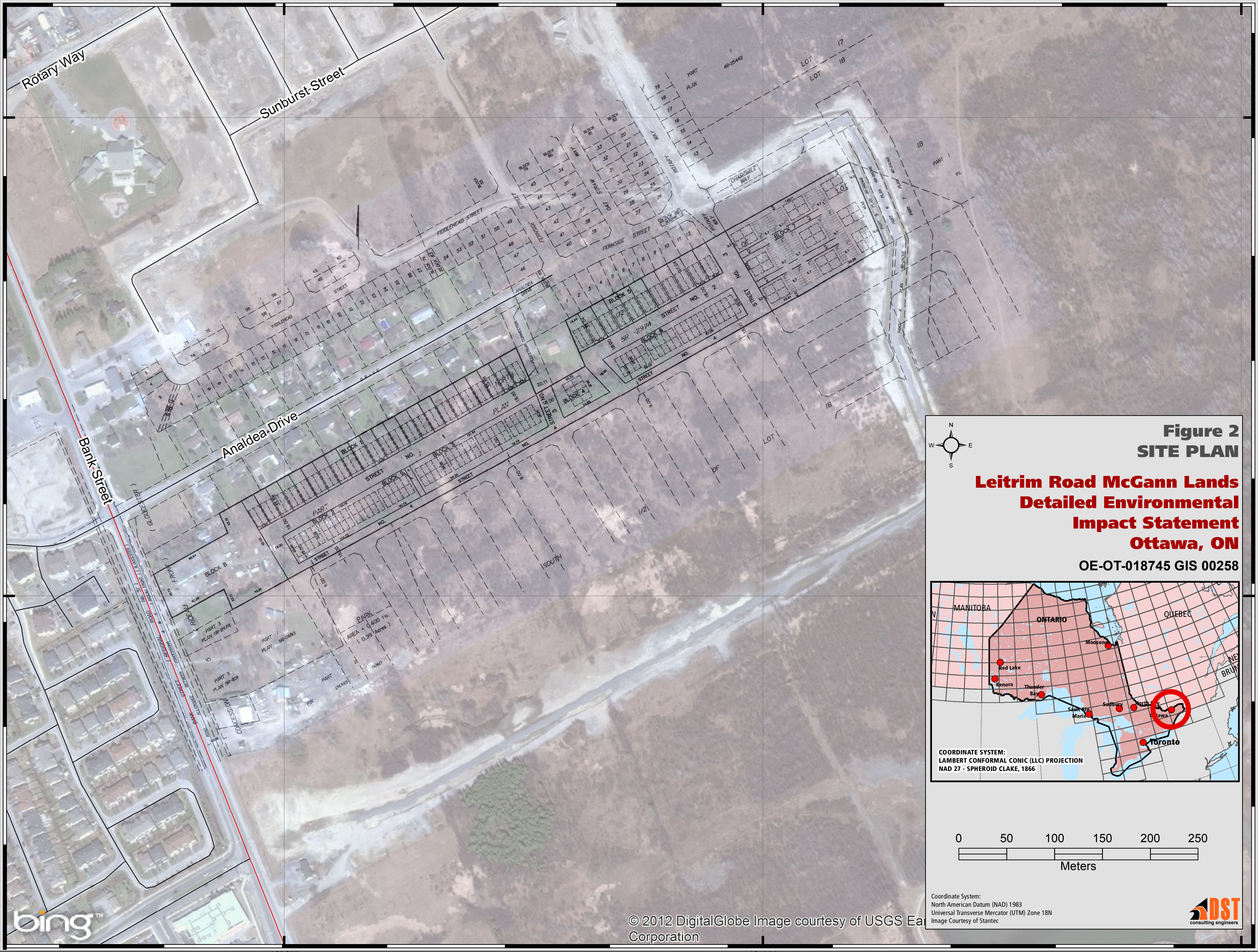

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1.2 Scoping the Environmental Impact Statement

This Detailed EIS was undertaken following the City of Ottawa's (the City) Environmental Impact Statement Guidelines.

Following the City guidelines, the Environmental Impact Statement (EIS) includes the following:

- Documentation of existing natural features on and around the site;
- Identification of potential environmental impacts of the project;
- Recommendations for ways to avoid and reduce any negative impacts; and
- Propose ways to enhance natural features and functions.

The City's EIS process differentiates between projects which require a Full Site Impact Statement (Detailed EIS) and those which require a Scoped Site Impact Statement (Scoped EIS). A Detailed EIS is required in the case of McGann Lands, as the undertaking involves a Plan of Subdivision and Zoning Application.

This EIS was prepared in accordance with the City's EIS Guidelines with guidance from the *Natural Heritage Reference Manual* (OMNR 2010). The major objective of this EIS is to demonstrate that the zoning bylaw amendment and plan of subdivision will not negatively affect the significant features and functions of the study area, and that impacts will be minimized through mitigation measures.

As specified in the City's EIS guidelines, the Detailed EIS should include the following information:

- Description of the Site and the Natural Environment including:
    - All relevant information obtained through review of background documents and formal consultation with the City, the Ontario Ministry of Natural Resources (OMNR), and Conservation Authorities;
    - Background review of land use planning documents (e.g. subwatershed studies, secondary plans, environmental management plans, official plan, etc.);
    - Description of the Site and natural environment;
    - Natural Heritage Information Center (NHIC search) for significant features and Species at Risk (SAR) occurrences;
    - Creation of Ecological Land Classification (ELC) mapping using existing vegetation information;
    - List of wildlife species observed, reported or expected to occur on or adjacent to the site;
    - Summary of SAR survey methods and results,
    - An assessment for the Site's suitability for any significant species;
    - An assessment of whether or not any significant wildlife habitat is present on or adjacent to the Site;
    - A description of ecological functions provided by the Site and identification of any functions that have contributed to the area being identified as significant;

  - An assessment of the significance of the function, using quantitative information if possible and relating this to the quality and integrity of the area;
  - An assessment of the sensitivity of the function to the type of development proposed;
  - The use of photographs to illustrate and accompany the EIS; and,
  - A descriptive summary of each natural heritage feature known to be present on or adjacent to the site and environmental constraints.

- Description of the Proposed Project including:
  - Information about all phases of the project (including site preparation, construction and post-construction landscaping);
  - Intended use of the property once construction is complete;
  - Any related off-site works by the proponent;
  - Current and proposed Official Plan designations and/or zoning; and,
  - Any associated changes in permitted land use.

- Assessment of Impacts:
  - Comparison of proposed project activities to the natural environment and identification of all activities that will change or cause stress to the natural features and ecological function both on- and off-site;
  - Classification of the potential environmental effects into negative impacts and positive environmental effects and characterization using standard criteria; and,
  - Evaluation of the significance of the potential impacts of development, with respect to the sensitivity and significance of the features and/or ecological function affected.

- Mitigation and Monitoring Recommendations:
  - Identification of mitigation measures to minimize or alleviate impacts;
  - Measures to achieve positive impacts;
  - Description of potential cumulative impacts and mitigation to address these; and,
  - Monitoring requirements and recommended monitoring actions.

1.3 Description of Undertaking

The Leitrim Road – McGann Lands development includes approximately 7.5 hectares that will be developed as part of Urban Expansion Area (UEA) 9A. A Zoning By-law amendment and a Draft Subdivision Approval will be required to ready the land for development. The project will involve the construction of a residential subdivision, including semi-detached lots and townhouses as well as mixed use/commercial buildings along Bank Street. This will include the construction of approximately 68 semi-detached units (34 blocks), 128 back-to-back townhouses and 108 stacked townhouses (Kollaard 2014). The proposed development will be accessed by local residential roadways. Surface drainage will be by means of swales, catch

basins and storm sewers. The proposed development will be linked to the existing development to the north via a road connection to Rotary Way and a pedestrian connection to Analdea Drive, and via road connections to the proposed development to the south on the Claridge Lands.
Note that at the time of preparation of this EIS, the subdivision application hasn't been submitted, and as such a schedule of activities was not available. The following represents a summary of the major steps that will be part of this undertaking:

- Demolition of existing buildings in the western portion of the Site;
- Tree clearing;
- Topsoil stripping;
- Installation of underground site services;
- Installation of storm water management systems;
- Installation of roadways; and
- Housing construction.

As specified in the *Planning Act*, a minimum of 5% of subdivision lands must be set aside as a parkland commitment. For smaller developments, it is often more feasible to instead make a cash-in-lieu contribution. The McGann Lands development parkland requirements will be met through a cash-in-lieu parkland contribution.

2.0 METHODOLOGY

2.1 Agency Consultation

Formal consultation was undertaken with the City, the South Nation Conservation Authority (SNCA), and the OMNR Kemptville District. Records of correspondence are provided in Appendix A. Information and requirements outlined by these agencies have been integrated throughout this report (as noted below). In addition to the information included in Appendix A, SNCA and OMNR both provided additional information by phone. This information is noted in the following sections.

2.2 Terrestrial Environment and Vegetation

A Tree Conservation Report (TCR) was completed to support this EIS (Lennox 2014), and can be found in Appendix B. Information from the TCR is integrated throughout this report.
In addition to the TCR, several studies exist that describe the features and functions of the terrestrial environment of the McGann Lands. These documents include:

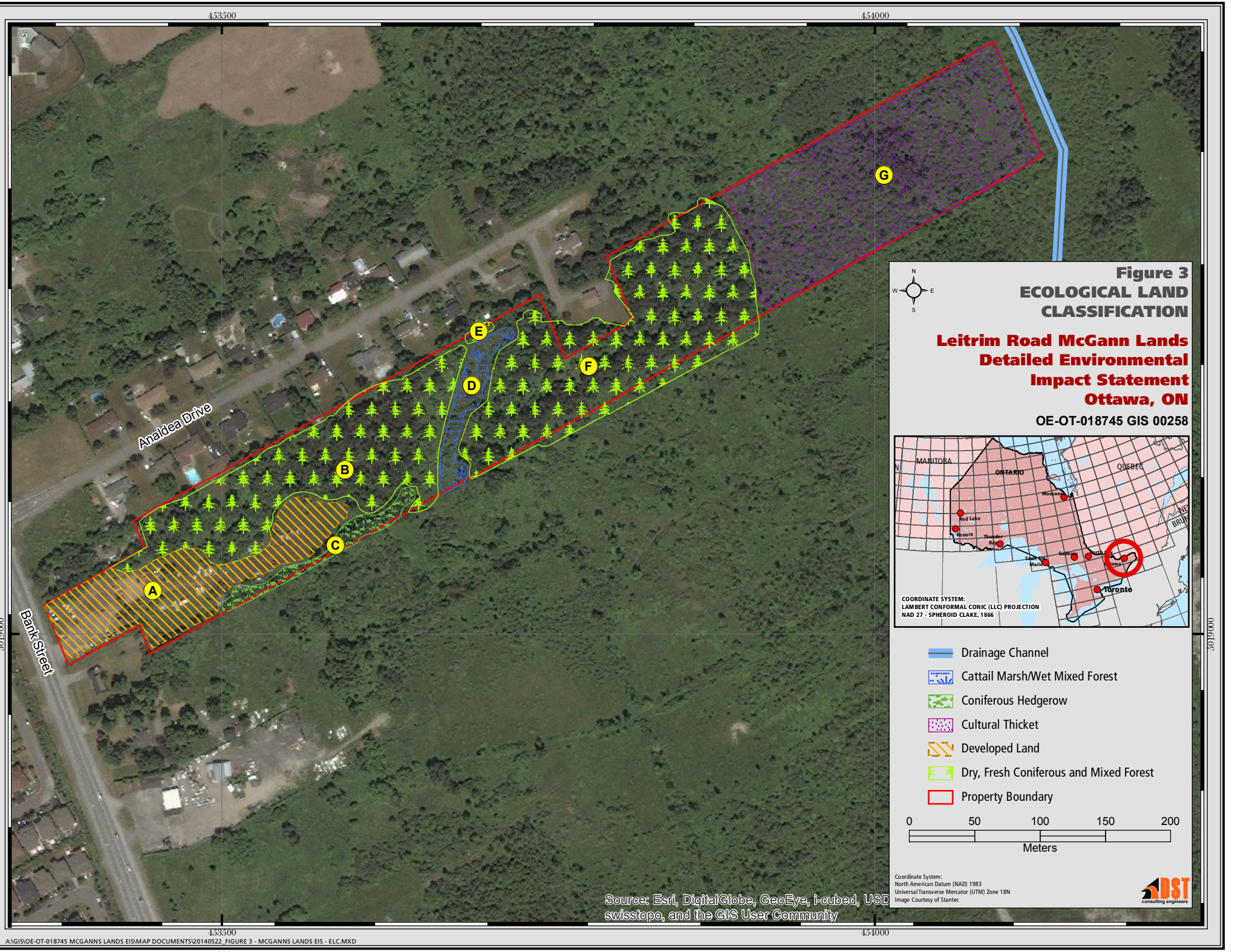
- Muncaster Environmental Planning (MEP) (2013) Vegetation Assessment of Claridge Lands and McGann Lands. (Included in Appendix C).
- Adams Heritage (2013) Stage 1 & 2 Archeological Assessment 4747 Bank Street, Part Lot 18, Concession 5, Geographic Township of Gloucester, (Rideau Front), City of Ottawa.
- Kollaard Associates Engineers (Kollaard) (2014) Geotechnical Investigation: Proposed Residential Development, 4747 Bank Street, Part of Lot 18, Concession 5, City of Ottawa, Ontario.

In addition to reviewing these background studies, colour aerial photography was used to assess the natural features in the McGann Lands. The OMNR was contacted to request information regarding the occurrence of natural heritage features and SAR. DST also performed an independent search on the Natural Heritage Information Center (NHIC) for the above-mentioned information. The City was contacted and provided DST with the pre-consultation meeting minutes and other information. Lastly, the SNCA provided background watershed and aquatic habitat information. Records of Correspondence are provided in Appendix A.

The background documentation and colour aerial photography was used to assess the natural environment features in the general vicinity of the study area. ELC information provided by MEP (2013) was used to create an ELC map, as shown in Figure 3. Ecological units were defined based on species present, the wetness index of the species, dominant species, locations of standing water and other drainage observations, health, age, topography and soil conditions. The ecological units are described using the terminology and methodology recommended by the ELC system (Lee et al. 1998). Other aspects of the surveys included photographs of

representative site features and observations on the level of disturbance from human activities and non-native flora and fauna.

Surveys for the presence of SAR plants including Butternut (*Juglans cinerea)* were completed by DST during the 2014 survey season. A Butternut Survey was performed on May 26, 2014. Rare plant survey transects were completed using the *Standardized Methodology for the Survey of Rare Plants* from the Saskatchewan Conservation Data Center (SCDC 2012). All trees found along the transects were identified to species. Vegetation transects were spaced 30 m apart and covered the entire length of the Site. Surveys were conducted during the growing season when leaves were fully developed on the Butternut Trees. As no Butternut Trees were identified on site, a Butternut Health Assessment (BHA) was not completed (Refer to Section 3.4).



A:\GIS\OE-OT-018745 MCGANNS LANDS EIS\MAP DOCUMENTS\20140522_FIGURE 3 - MCGANNS LANDS EIS - ELC.MXD

2.3 Aquatic Environment and Fisheries

DST performed a search of the NHIC as part of the review to determine the occurrence of natural heritage features and aquatic SAR. NHIC mapping did not show the presence of any known significant wetlands or other aquatic features on Site. DST also consulted with the SNCA and OMNR to request information regarding the presence of aquatic features. Lastly, DST conducted a site walkthrough in the early spring to determine the extent and depth of standing water. Due to the absence of significant permanent water features, detailed aquatic assessments and fish surveys were not undertaken. As noted in Section 3.5, due to the small size of the wetland, its isolation from nearby wetlands, and lack of open water, it was determined that a wetland assessment was not necessary (Discussed in greater detail in Section 3.5).

2.4 Wildlife and Species at Risk Surveys

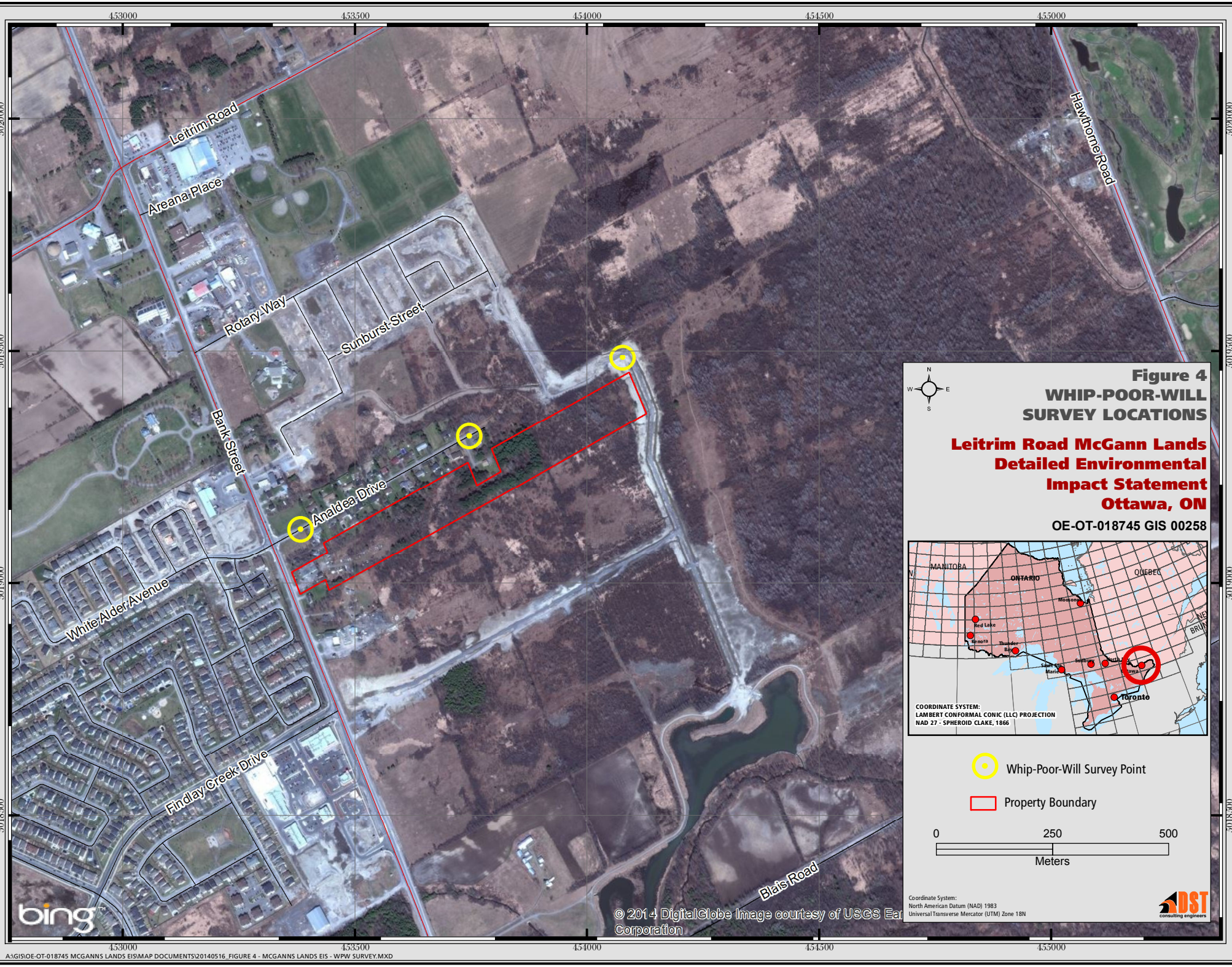
The vegetation assessment (MEP 2013) and the TCR (Lennox 2014) provided brief information on the presence of wildlife in the area (Refer to Appendix B & C). Both studies report bird and mammal species in the area that consist of common urban species.

The OMNR was contacted to request information regarding the occurrence of wildlife and SAR (Appendix A). DST also performed an independent search on the NHIC for the above-mentioned information. Both the NHIC and the OMNR information indicated the potential (unconfirmed) for several SAR and/or their habitats to be present in the area. OMNR indicated the potential for several SAR birds and/or their habitats to be present on Site including Bobolink, Eastern Meadowlark, Barn Swallow, Red-headed Woodpecker, Henslow's Sparrow and Whip Poor Will, as well as SAR reptiles including Eastern Milksnake. OMNR also indicated the potential for endangered Butternut Trees to be found on Site (see previous sections). To support the Detailed EIS requirements and based on the information provided by the OMNR, DST conducted SAR surveys in order to document and assess potential SAR concerns and the presence of other wildlife. Surveys were performed as follows:

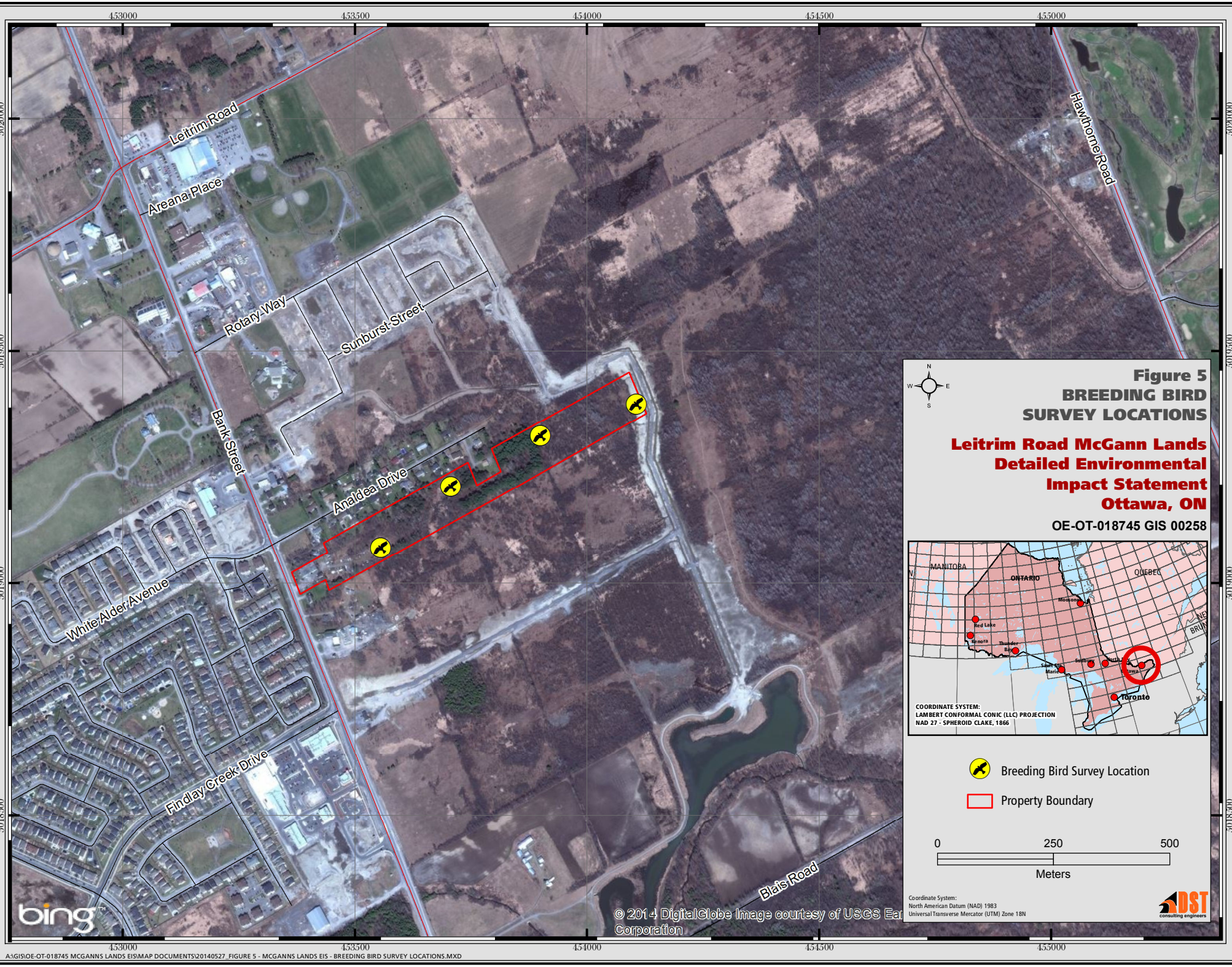
- DST completed the Whip Poor Will surveys following the methodology outlined in the OMNR *Draft Survey Protocol for Eastern Whip-poor-will (Caprimulgus vociferus) in Ontario* (August 2012). Three (3) Whip Poor Will surveys were conducted on May 20, June 11 and June 18, 2014. The surveys were conducted when the face of the moon was greater than 50% illuminated and above the horizon. Surveys were conducted on clear nights, warmer than 10°C, and not during overcast conditions or when precipitation was stronger than an intermittent drizzle, nor when wind averages were greater than 12 kilometers per hour. The surveys began once the moon had risen over the horizon, or approximately 15 minutes after sunset, and ended no later than 15 minutes before sunrise (Refer to Section 3.6 for specific survey conditions). Three (3) pre-determined survey points were chosen on Site (Figure 4). Points were separated by a minimum of 300 m and included habitats within 250 m of the Site; at each point, two (2) observers

listened to bird calls and recorded any Whip Poor Will calls detected. If a call was heard, the observers triangulated the call to determine the calling distance and the likelihood that the bird was present on the property. The triangulation was undertaken as described in the OMNR protocol.

- Three (3) breeding bird surveys were undertaken on May 26, June 2, June 18, 2014 in the early morning on clear days with no precipitation and low wind speeds. Point count surveys were completed following the *OMNR Wildlife Monitoring Programs and Inventory Techniques – Technical Manual* (Konze & McLaren 1998). In order to comply with the timing outlined in the *Survey Methodology under the Endangered Species Act, 2011 for Dolichonyx oryzivorus (Bobolink)* (OMNR 2011) and Eastern Meadowlark survey protocol guidelines, the surveys were separated by at least one (1) week and were completed between the last week of May and end of July. These surveys addressed requirements for Bobolink, Eastern Meadowlark, Barn Swallow, Red-headed Woodpecker and Henslow's Sparrow and also provided a general list of bird species at the Site. Survey locations are shown in Figure 5.
- The reptile surveys were undertaken on May 26, June 2, and June 18, 2014. Three (3) cover disturbance surveys were completed throughout the Site to survey for the presence of reptiles, with an emphasis on Eastern Milk Snake. The surveys were spaced at least one (1) week apart. The presence of other reptiles and amphibians including turtles, salamanders, and frogs encountered during the surveys was also recorded. The protocols described in the *Amphibian and Reptile Monitoring in the Great Lakes Network National Parks: Review and Recommendations* were used to guide the cover disturbance survey (Casper 2004).



A:\GIS\OE-OT-018745 MCGANNS LANDS EIS\MAP DOCUMENTS\20140516_FIGURE 4 - MCGANNS LANDS EIS - WPW SURVEY.MXD


453000
453500
454000
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455000
5020000
5019500
5019000
5018500
Leitrim Road
Areana Place
Rotary Way
Sunburst Street
Bank Street
Analdea Drive
White Alder Avenue
Findlay Creek Drive
Blais Road
Hawthorne Road
N
W
E
S
Figure 5
BREEDING BIRD
SURVEY LOCATIONS
Leitrim Road McGann Lands
Detailed Environmental
Impact Statement
Ottawa, ON
OE-OT-018745 GIS 00258
MANITOBA
ONTARIO
QUEBEC
Moosonee
Red Lake
Kenora
Thunder Bay
Sault Ste Marie
Sudbury
Toronto
COORDINATE SYSTEM:
LAMBERT CONFORMAL CONIC (LLC) PROJECTION
NAD 27 - SPHEROID CLAKE, 1866
Breeding Bird Survey Location
Property Boundary
0
250
500
Meters
Coordinate System:
North American Datum (NAD) 1983
Universal Transverse Mercator (UTM) Zone 18N
DST
consulting engineers
bing
© 2014 DigitalGlobe Image courtesy of USGS Ear
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A:\GIS\OE-OT-018745 MCGANNS LANDS EIS\MAP DOCUMENTS\20140527_FIGURE 5 - MCGANNS LANDS EIS - BREEDING BIRD SURVEY LOCATIONS.MXD

3.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

3.1 Site Context

Kollaard (2014) undertook a geotechnical assessment of the Site. The purpose of the investigation was to identify the subsurface conditions at the Site based on a limited number of test pits and boreholes, and was to provide guidelines on the geotechnical engineering aspects of the project design; including construction considerations. Subsurface conditions encountered at the Site included humus layer, silty sand and gravel, silty clay and glacial till. Fill materials were encountered from the surface at one borehole. The fill material consisted of topsoil, silty clay, gravel, cobbles, wood and brick. Bedrock geology maps indicated that the Site is underlain by grey shale, sandy shale with some dolomitic layers of the Oxford formation. Where bedrock was observed during the geotechnical assessment, a visual assessment of the bedrock confirmed that the bedrock was grey/black shale. Based on a review of topographical maps for the site area it was expected that the upper groundwater flow is to the southeast towards the North Castor River located approximately 7 km south/southeast of the subject site (Kollaard 2014). A Stage 1 & 2 archaeological assessment was carried out by Adams Heritage (Adams 2013). No evidence of archaeological sites were encountered and no artifacts were recovered.

3.2 Terrestrial Environment and Vegetation

NHIC mapping, and reports completed by Lennox (2014) and MEP (2013) did not indicate the presence of significant natural features on the property; only non-significant woodlots were identified. Two provincially significant wetlands (PSW) including the Albion Road Wetland and Findlay Creek Wetland were noted approximately 1 km to the southwest and to the east of the property, respectively. Neither of these wetlands will be directly impacted by the undertaking and both are too far away to be significantly impacted by activities on Site. Historical information regarding regionally rare plant occurrences on the Site and from the surrounding area were obtained from the NHIC and is summarized as follows:

- ✓ Property grid:
  - o Southern Twayblade (*Neottia bifolia*)
  - o American Waterwort (*Elatine americana*)
  - o Twin-stemmed Bladderwort (*Utricularia geminiscapa*)
  - o Greene's Rush (*Juncus greenei*)
  - o Lurking Leskea (*Plagiothecium latebricola*)
  - o Limestone Oak Fern (*Gymnocarpium robertianum*)
  - o Northern Long Sedge (*Carex folliculata*)
- ✓ Surrounding grids
  - o Southern Twayblade (*Neottia bifolia*)
  - o Twin-stemmed Bladderwort (*Utricularia geminiscapa*)
  - o Greene's Rush (*Juncus greenei*)

- Lurking Leskea (*Plagiothecium latebricola*)
- Northern Long Sedge (*Carex folliculata*)
- Large Purple Fringed-orchid (*Platanthera grandiflora*)

However, note that the last observation dates for the above-mentioned species range from 1891 to 1978.

Table 1 (below) outlines the plant species that were recorded by MEP (2013) as part of the vegetation survey work.

Table 1: Overview of species recorded during the vegetation surveys (MEP 2013). Refer to Appendix C for scientific names.

Area	Dry-fresh Coniferous and Mixed Forests	Coniferous Hedgerow	Cultural Thicket	Cattail Marsh	Drainage Channels (East of Property)
	✓ White Pine, ✓ Red Pine, ✓ Red Maple, ✓ White Birch, ✓ Manitoba Maple, ✓ Trembling Aspen, ✓ White Elm, ✓ White Ash, ✓ Green Ash, ✓ Common Buckthorn, ✓ Red Raspberry, ✓ Tartarian Honeysuckle, ✓ Narrow-leaved Meadowsweet ✓ Common Burdock, ✓ Garlic Mustard, ✓ Beggar-ticks, ✓ Yellow Avens, ✓ Enchanter's Nightshade, ✓ New-England Aster, ✓ Flat-topped Aster, ✓ Heart-leaved Aster, ✓ Wild Cucumber, ✓ Common Strawberry, ✓ Wild Parsnip, ✓ Canada Thistle, ✓ Thicket Creeper, ✓ Poison Ivy, ✓ White Snakeroot, ✓ Rough-stemmed Goldenrod.	✓ White Pines	✓ Slender Willow, ✓ Glossy Buckthorn, ✓ Tartarian Honeysuckle, ✓ Red-osier Dogwood, ✓ Japanese Smartweed, ✓ Red Raspberry, ✓ Manitoba Maple stems.	✓ Broad-leaved Cattail ✓ Joe-pye-weed, ✓ Royal Fern, ✓ Sensitive Fern, ✓ Purple Loosestrife, ✓ Water Horsetail, ✓ Bittersweet Nightshade, ✓ Spotted Jewelweed, ✓ Purple Aster, ✓ Red-osier Dogwood shrubs, ✓ Red Elderberry.	✓ Broad-leaved Cattail, ✓ Water Plantain, ✓ Water Smartweed, ✓ Purple Loosestrife, ✓ Pussy Willow shrub, ✓ Reed Canary grass, ✓ Blue Vervain, ✓ Horseweed, ✓ Red Clover, ✓ Field-sow Thistle, ✓ Canada Thistle, ✓ Small White Aster, ✓ Panicled Aster, ✓ New England Aster, ✓ Colt's-foot, ✓ Common Plantain, ✓ Tufted Vetch, ✓ Wild Carrot, ✓ Curled Dock ✓ Slender Willow shrubs.

As shown in Figure 3, five (5) ELC types were identified during the ELC study. These included:

- Dry Fresh Coniferous Forest and Mixed Forest Type;
- Coniferous Hedgerow Ecosite;
- Cultural Thicket;
- Broad Leaf Cattaill Marsh; and
- Drainage Channels (east of the property).

Additional detail on stand level plant composition is provided in the vegetation assessment in Appendix C.

3.3 Tree Conservation Report

The Tree Conservation Report (TCR) was completed by James B. Lennox & Associates Inc, (2014) and is included in Appendix B. The TCR report noted that the dominant deciduous tree species within the McGann Lands include Green Ash (*Fraxinus pennsylvanica*) and White Elm (*Ulmus americana*). Most of these trees were dead and in poor condition at the time of the study, mainly due to pests and pathogens such as the Emerald Ash Borer (*Agrilus plannipennis*) and Dutch Elm Disease (*Asomycete microfungi*). Most of the Site has been historically cleared and the remaining tree cover is primarily secondary growth interspersed with highly disturbed patches. Two large Bitternut Hickories (*Carya cordiformis*), as well as saplings and young trees are present on-site. The TCR also notes the presence of Black Cherry (*Prunus serotina*), White Pine (*Pinus strobus*), White Spruce (*Picea glauca*), Red Pine (*Pinus resinosa*), and Scot's Pine (*Pinus sylvestris*).

Lennox (2014) notes that "…the best and most 'distinctive trees' as defined by the City of Ottawa By-Law are two (2) large Bitternut Hickories (500 mm dbh and 550 mm dbh respectively). Other trees on Site in order of importance include Black Cherry, White Pine, White Spruce, Red Pine, and Scot's Pine. The existing Trembling Aspen and Manitoba maple are in generally good condition but are not desirable for retention due to their incompatibility with any proposed development."

A detailed inventory of the trees on site including their size, number, and condition is provided in the TCR report (Appendix B).

3.4 Plant Species at Risk

Butternut (*Juglans cinerea*) was declared a nationally endangered species by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in November of 2003 and is also listed as endangered under the Ontario *Endangered Species Act* (ESA). Butternut is primarily at risk due to the effects of a disease known as the Butternut Canker. Butternut Canker is a fungal disease responsible for the loss of approximately one third of the eastern Ontario Butternut population. It is possible for a tree to live many years with the Canker, although most only live a few years after infection (OMNR 2014). In Canada, Butternut can be found in Quebec, New

Brunswick, and areas in Ontario (southwestern to south of the Canadian Shield) (OMNR 2013). This species grows well in moist, well-drained soils, preferring to grow in small clearings within a forest, or at the forest edge (OMNR 2014). Butternut is generally common in the Ottawa area and is known from a variety of Sites across the region.

No Butternut trees were noted on-site during the vegetation assessment (MEP 2013) and the Tree Conservation study completed by Lennox (2014). DST performed a Butternut Survey on May 26, 2014 utilizing the methodology outlined in Section 2.2. No Butternut trees were noted on Site during this survey. Because no Butternut have been found on Site, a Butternut Health Assessment (BHA) was not conducted.

3.5 Aquatic Environment and Fisheries

During the vegetation assessment, MEP (2013) noted the presence of drainage channels east of the property, west of the Smith Crowding Municipal Drain. After consultation with the SNCA, DST was requested to confirm the presence/absence of drainage/watercourses on Site and whether the drainage channels were within the Site. SNCA recommended that if watercourses were identified on-site, the presence of fish (if any) should be recorded. A walkthrough along the eastern edge of the property was conducted on May 26, 2014 to document the condition of the drainage channels. The location of the drainage channels were found to be east of the property line and are not within the current study area. DST found that the drainage channels are no longer present. At the time of the Site inspection, very little standing water was noted which will likely dry out over the summer months. As the drainage channels are no longer present, no fish habitat could be present.

DST performed a search on the NHIC regarding the occurrence of natural heritage features and aquatic SAR. As noted previously, there were no significant natural water features shown on the property by NHIC mapping. Two significant wetlands (the Albion Road Wetland and the Findlay Creek Wetland) were noted approximately 1 km to the southwest and to the east of the property, respectively. A small cattail marsh in the middle of the property was identified by the vegetation assessment (MEP 2013) and OMNR characterized this as an Unevaluated Wetland (Figure 3). On May 12, 2014 DST performed a site visit, and noted that the wetland was very small and consisted of a depression at the middle of the site mainly comprised of woody growth with some small patches of cattail (Photo 1). The deepest pools were only 7 cm deep during the spring melt and no larger areas of water were present (Photo 2). During later visits in June it was observed that virtually no standing water remained in the wetland. Following a telephone discussion with Shaun Thompson (District Ecologist, OMNR Kemptville) on May 28th 2014, it was confirmed that due to the small size of the wetland, the lack of permanent water, the lack of aquatic plant diversity, and its isolation from other wetlands, a wetland assessment was not necessary.

Photo 1: Small cattail marsh in the middle of the property (May 26, 2014).

Photo 2: Deepest pool of 7 cm deep, observed during spring melt (May 12, 2014).

3.6 Wildlife and Species at Risk

The vegetation assessment (MEP 2013) and the TCR (Lennox 2014) provide brief information on the presence of wildlife in the area (Refer to Appendix B and C). Both studies report bird and mammal species in the area that consist of common urban species including:

Birds:

- Yellow-rumped Warbler;
- White-throated Sparrow;
- Chipping Sparrow;
- Song Sparrow;
- Rose-breasted Grosbeak;
- Ring-billed Gull;
- American Robin;
- Black-capped Chickadee;
- White-breasted Nuthatch;
- Wild Turkey;
- Dark-eyed Junco;
- American Crow;
- Hairy Woodpecker;
- Red-tailed Hawk;
- Gray Catbird; and
- Mourning Dove.

Mammals:

- White Tailed Deer;
- Raccoon;
- Grey Squirrel; and
- Red Squirrel.

Reptiles and Amphibians:

- Northern Leopard Frogs;

NHIC data were reviewed and occurrence records for Bobolink *(Dolichonyx oryzivorus)* were noted in two grids adjacent to the property. The OMNR was contacted to request information regarding the presence of significant wildlife features or SAR on-site. OMNR stated that the following SAR had the potential (unconfirmed) to be present. OMNR recommended that surveying following provincial survey protocols be completed to address these species:

- Barn Swallow (threatened)

- Bobolink (threatened)
- Blanding's Turtle (threatened)
- Eastern Musk Turtle (threatened)
- Whip poor will (threatened)
- Henslow's Sparrow (endangered)
- Red Headed Woodpecker (special concern)
- Sensitive Species (endangered)
- Milksnake (special concern)
- Snapping Turtle (special concern)
- Butternut (endangered)

Discussion with Kerry Reed of OMNR Kemptville (DST personal communication May 12, 2014), confirmed that the listing of the species classified as a Sensitive Species was based on historical occurrences at the larger wetlands located adjacent to the property (Albion Road Wetland and Findlay Creek Wetland) and not from the Site itself. As such, it is unlikely that this species would be present on Site and hence this species was not targeted in the surveys performed for the EIS. With respect to the Blanding's Turtle and Eastern Musk Turtle, OMNR confirmed that these species were only noted in reference to occurrences in the larger wetlands in the general region. For most of their life cycle, Blanding's Turtles tend to prefer relatively shallow wetlands (on average 30 cm deep and usually ranging from 25 to 120 cm deep), though they require access to deeper pools for vital life processes including hibernation (Kiviat 1997; Hartwig 2004; Millar & Blouin-Demers 2011). On May 12, 2014, DST assessed the potential for the small wetland on-site to provide overwintering habitat for Blanding's Turtle. The deepest pools were noted to be approximately 7 cm deep, which is not likely to be deep enough to allow for overwintering. As discussed previously, the wetland was noted to be of poor quality, isolated, of a small size, and had no open water. As such, it is most likely unsuitable as foraging or overwintering habitat for either turtle species.

Wildlife and SAR surveys were completed for the remaining SAR identified by OMNR, following the methodology outlined in Section 2.4. Breeding bird and reptile cover disturbance surveys were completed on May 26, June 2, and June 18, 2014. Whip Poor Will surveys were completed on May 20, June 11 and June 18, 2014. Survey conditions during Whip Poor Will Surveys are shown in Table 2 (below). All existing structures on Site (west edge of the property) will be demolished as part of the future development. As such, the structures were checked for Barn Swallow nests and none were found. None of the existing structures have chimneys that would be suitable for Chimney Swift nesting. No SAR were identified within the study Site during any of these surveys. During these surveys the following wildlife were noted:

Birds:

- Chipping Sparrow;
- American Robin;

- Common Grackle;
- Common Yellowthroat;
- White-breasted Nuthatch;
- Killdeer;
- Alder Flycatcher;
- Song Sparrow;
- American Goldfinch;
- American Crow;
- Chestnut-sided Warbler;
- American Woodcock;
- Grey Catbird;
- Mourning Dove;
- Northern Flicker;
- Downy Woodpecker;
- American Redstart;
- Black Capped Chickadee;
- Veery;
- Yellow Warbler;
- Spotted Sandpiper; and
- Fox Sparrow.

Mammals:

- White Tailed Deer;
- Eastern Cottontail Rabbit;
- Raccoon;
- Grey Squirrel; and
- Red Squirrel.

Reptiles and Amphibians:

- Grey Tree Frog; and
- Northern Leopard Frog.

The following table represents conditions during the Whip poor will surveys:

Table 2: Whip poor will Surveys Conditions

Visit #	**1**	**2**	**3**
Date	May 20, 2014	June 11, 2014	June 18, 2014
Time on-Site	11:00 pm	2:00 am	11:50 pm
Weather Conditions	Clear	Clear	Clear
Illumination of Moon (%)	50	50	50
Air Temperature (ºC)	15	15	18

Wind Speed (km/hr)	10	<20	10
Precipitation	None	None	None
Cloud Cover (%)	5%	32%	25%
SAR observed	***None***	***None***	***None***

Photo 3: Chestnut-sided Warbler (May 26, 2014).

Photo 4: Spotted Sandpiper in flooded area near new road (May 26, 2014).

Photo 5: Alder Flycatcher (May 26, 2014).

3.7 Significant Natural Features

As noted previously, the best and most “distinctive trees” on site are two large Bitternut Hickories (500 mm dbh and 550 mm dbh respectively). Overall, the terrestrial habitats on Site do not represent significant natural features and the woodlots do not meet the definition of a significant woodlot (Lennox 2014).

As discussed previously, the only potentially significant aquatic habitats on-site include the small cattail marsh located in the middle of the property and the drainage channels located east of the property. As discussed above, the drainage channels east of the property line no longer exist and the standing water noted along the new road does not provide permanent fish habitat. Due to the small size of the cattail marsh, the lack of permanent water, the lack of aquatic plant diversity, its isolation from other wetlands, and its highly degraded condition, it was determined that the wetland does not represent a significant natural feature. The NHIC search and OMNR consultation did not identify any other significant natural features on Site. As no plant or animal SAR were noted on Site (as discussed above), it is presumed that the Site does not represent significant SAR habitat.

No other significant natural features were noted on the property.

3.8 Linkages

As previously noted, two significant wetlands – the Albion Road Wetland and the Findlay Creek Wetland - were noted approximately 1 km to the southwest and to the east of the property, respectively. However, it is unlikely that the proposed development functions as a movement corridor between these wetlands as it is a highly disturbed and relatively small Site within the larger landscape and does not significantly block wildlife movement within the context of the larger landscape. As such, it is not suspected that the linkages between the significant wetlands will be impacted by the proposed development.

4.0 PROJECT DESCRIPTION

4.1 The Concept Plan and Land Uses

The Leitrim Road – McGann Lands consists of an area of approximately 7.5 hectares located approximately one kilometre south of the intersection of Bank Street and Leitrim Road in the City of Ottawa, Ontario (Figures 1 & 2). As shown in Figure 1, the Site is bordered on the north and northeast by residential developments (north of Analdea Drive), on the west by Bank Street and mixed commercial and residential development, and on the south by vacant lands owned by Claridge Homes Inc., which form a section of UEA 9A. Currently the western portion of the Site is occupied by a single-storey building used as a small trailer and hitch sales and service, former mini-storage spaces, an abandoned single family dwelling, and two (2) storage sheds. All structures will be demolished as part of the development. The remainder of the site consists of undeveloped land (deciduous forested areas, conifers, meadows and sparsely vegetated areas (as discussed previously).

The development of these lands is part of Urban Expansion Area (UEA) 9A. The concept plan of subdivision is shown in Figure 2. The Site will involve the construction of, a residential subdivision, including semi-detached lots and townhouses. This includes approximately 68 semi-detached units (34 blocks), 128 back-to-back townhouses and 108 stacked townhouses (Kollaard 2014) as well as mixed use/commercial buildings along Bank Street. The site will be serviced with municipal sewer and water. Site preparation will include removal of vegetation and trees and topsoil stripping.

4.2 Stormwater Management

Stormwater management for the Site will be addressed as part of the larger regional planning for the entire expansion area on the east side of Bank Street, which includes the McGann, Claridge and Urbandale lands. An existing stormwater pond is located off Site, south of the property. As part of the Environmental Management Plan (EMP) for the UEA, which is being prepared by Golder Associates (personal communication, Deborah Beflie, April 29, 2014), different options for the expansion to the stormwater pond are being proposed. Both the EMP and the stormwater management report are currently being prepared and will be designed to address these issues for the whole UEA. Environmental impacts and mitigation related to the regional stormwater management plan should be assessed as part of the development and review process for that plan. The McGann Lands will not include stormwater management facilities within the development area.

5.0 DESCRIPTION OF ENVIRONMENTAL IMPACTS

5.1 Potential Impacts to Terrestrial Habitat, Vegetation and Trees within the Development Area

As noted in the TCR (Lennox 2014), the dominant deciduous tree species within the McGann Lands include Green Ash (*Fraxinus pennsylvanica*) and White Elm (*Ulmus americana*). However, most of these trees were dead and in poor condition at the time of the study, mainly due to pests and pathogens such as the Emerald Ash Borer (*Agrilus plannipennis*) and Dutch Elm Disease (*Asomycete microfungi*). The existing Trembling Aspen and Manitoba Maple are in generally good condition but are not desirable for retention due to their incompatibility with any proposed development. Due to the intensity of the proposed development in the area, the TCR suggested that most trees on the property would not likely survive the lowering of the water table and construction activities. The majority of the Site has been historically cleared and the remaining tree cover is primarily secondary growth interspersed with highly disturbed patches, and has minimal terrestrial habitat value.

In addition to the direct loss of woody vegetation, tree clearing will result in the reduction in associated wildlife habitat. The tree cover on Site represents low quality habitat for terrestrial wildlife. Furthermore, surrounding properties are already developed or planned developments, and as such, development of the McGann Lands will not significantly impact surrounding natural areas. Nesting birds and wildlife may be impacted directly by tree clearing activities, and impacts should be mitigated as described in Section 6.4.

As noted previously, there were no Butternut Trees noted on site and hence no negative impacts on Butternut Trees are anticipated.

5.2 Potential Impacts to Aquatic Habitats

As previously discussed, the drainage channels that previously existed east of the Site were no longer present when DST conducted the site visits, and potential impacts of drain removal could not be assessed. Very little standing water was noted in this area, which will likely dry over the summer months. For these reasons, the area located east of the property is not considered a significant fish habitat and development impacts are deemed minimal.

Land development will result in the removal of the small cattail marsh in the central portion of the Site. However, as noted previously, due to the small size of the wetland, the lack of permanent water, the lack of aquatic plant diversity, its isolation from other wetlands, and the fact that it is already highly degraded, this small wetland is not considered a significant habitat feature and hence aquatic habitats are deemed negligible.

5.3 Potential Servicing and Stormwater Impacts

As noted above in Section 4.2, stormwater management for the Site will be addressed as part of the larger regional planning for the entire expansion area on the east side of Bank Street, which includes the McGann, Claridge and Urbandale lands. An existing stormwater pond is located off Site, south of the property. Environmental impacts and mitigation related to the regional stormwater management plan should be assessed as part of the development and review process for that plan. The McGann Lands will not include stormwater management facilities within the development area.

Both during and after construction, site preparation could lead to natural areas being exposed to erosion and conveyance systems being exposed to sediment loadings. Overland flow to the Smith Crowding municipal drain, located to the east of the property, will be minimized by the presence of the vegetative working buffer around the municipal drain, which will help to slow overland water flow and to improve water quality before it reaches the municipal drain. Sediment and erosion control measures will also be utilized during construction in order to further mitigate impacts to aquatic habitats, adjacent areas, and sewer systems. As discussed in Section 6.4, well-established sediment and erosion control techniques will be utilized to significantly reduce the potential impacts of sediment and erosion.

5.4 Potential Impacts to Adjacent Natural Environment Areas

All other areas surrounding the McGann Lands are scheduled for urban development or have already been developed. As such, there is little potential for significant impacts on natural values in these areas. The two significant wetlands (the Albion Road Wetland and the Findlay Creek Wetland) located in the region of the property are far from the Site (approximately 1 km to the southwest and to the east of the property, respectively). Due to the distance of these wetlands from the Site, it is unlikely that they will be directly impacted by the development.

5.5 Potential Wildlife and Species at Risk Impacts

Removal of the trees on Site may impact wildlife which utilize these trees, including the relatively common bird and mammal species listed in Section 3.6. In addition to the direct loss of woody vegetation, tree clearing will result in the reduction in associated wildlife habitat. To avoid impacts to nesting birds, tree removal will be undertaken to avoid the core migratory bird breeding season of April 15th to July 31st. As no SAR were found to be present on Site and no suitable SAR habitat have been noted, it is not likely that SAR will be impacted by this undertaking. While unlikely, the potential exists that wildlife or SAR from adjacent areas may enter the development Site and could be injured or killed during the construction stage. Mitigation measures to address this possibility are outlined below.

6.0 MITIGATION OF IMPACTS

6.1 Terrestrial Habitat and Vegetation Mitigation

Tree Conservation Mitigation Measures are outlined in the TCR (Appendix B). Due to the intensity of the proposed development in the area, the TCR suggested that most trees on the property would not likely survive the lowering of the water table and construction activities. Furthermore, it is anticipated that the Green Ash and White Elm trees will likely become infected and succumb to the aforementioned diseases (Section 3.3). The Tree Conservation Report recommends that, subject to geotechnical recommendations, the post-development landscaping/planting plan should concentrate on tree and shrub species native to area, including: Red Oak (*Quercus rubra*), Bur Oak (*Quercus macrocarpa*), American Basswood (*Tilia Americana*), Freeman's Maple (*Acer x "Freemanii"*) and Sugar Maple (*Acer saccharum*), as well as coniferous trees such as White Pine (Pinus strobus) and White Spruce (*Picea glauca*) (Lennox 2014).

Finally, in order to mitigate the effect of the site development on adjacent properties, it was suggested that grading and servicing of the developed residences backing on the backyards of the Analdea Street residences should be minimized.

The following represents a summary of the tree protection measures for trees that are being retained within the Site or areas adjacent to construction;

- Erect a fence at the critical root zone (CRZ) of retained trees;
- Do not place any material or equipment within the CRZ of retained trees;
- Do not attach any signs, notices, or posters to any tree;
- Do not raise or lower the existing grade within the CRZ of retained trees without approval;
- Tunnel or bore when digging within the CRZ of a tree;
- Do not damage the root system, trunk, or branches of retained trees; and,
- Ensure that exhaust fumes from all equipment are not directed towards any tree's canopy.

As noted previously, there are no Butternut Trees located on site, and hence no mitigation measures are required.

6.2 Sediment and Erosion Control Measures

During construction, site preparation could lead to erosion and sedimentation to existing streams and conveyance systems. Although construction is only a temporary situation, a sediment and erosion control plan will be prepared to identify mitigation measures to reduce unnecessary construction sediment loadings. These measures will include the following:

- Groundwater in trenches will be pumped into a filter mechanism, such as a trap made up of geotextile filters and straw, 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. These bulkheads will trap any sediment carrying flows, thus preventing any construction-related contamination of existing sewers;
- Seepage barriers will be constructed in any temporary drainage ditches;
- Construction vehicles will leave the site at designated locations. Exits will consist of a bed of granular material, in order to minimize the tracking of mud off-site;
- Any stockpiled material will be properly managed to prevent these materials from entering the sewer systems. The stockpiles as well as equipment fuelling and maintenance areas will be located a minimum of 30 meters from the municipal drain, ditches and other conveyance routes.; and
- Until rear yards will be sodded or until streets are asphalted and curbed, all catch basins and manholes will be constructed with a geotextile filter fabric installed between the structure frame and cover.

Location and details of proposed sediment and erosion control features will be developed prior to construction. A spills action plan will also be developed to prevent impacts from spills during the construction phase.

6.3 Wildlife and Species at Risk Mitigation

The following mitigation measures will be undertaken to mitigate impacts to wildlife and potential impacts to SAR:

- To avoid impacts to nesting birds, tree removal will be undertaken to avoid the core migratory bird breeding season of April 15th to July 31st;
- If bird nesting sites are discovered on-site, a qualified biologist will be retained to advise on how to avoid impacts to the nest;
- Silt fencing will be arranged to also function as temporary wildlife fencing to prevent turtles, frogs, mammals, and other wildlife from entering the work area;
- The fencing and work area will be inspected prior to commencement of work to ensure that the arrangement will reduce the likelihood of wildlife entering the work area;
- Silt fencing will be put in place prior to the commencement of work on-site. The silt fencing should be in place prior to critical nesting seasons;
- Prior to vegetation clearing, preconstruction sweeps of vegetated areas will be undertaken to ensure wildlife are not present; and
- Should a SAR be discovered on-site during construction, measures will be taken to prevent harm to the animal and OMNR will be contacted immediately to discuss how to proceed.

7.0 CUMULATIVE EFFECTS

The following represent potential cumulative effects associated with the development of the McGann Lands:

- Cumulative effect of loss of forest habitat (e.g. cumulative loss of wildlife habitat) in the region;
- Cumulative effect of stormwater inflow to existing conveyance systems;
- Cumulative effect of increased human population in the area; and,
- Cumulative effect of development on wildlife.

As discussed, most of the areas around the McGann Lands are already cleared habitats. Development on this property will contribute to the overall loss of habitats in the region. Potential cumulative effects associated with stormwater inflow from McGann Lands and surrounding properties include potential cumulative impacts of reduced water quality, increased sediment inflow, inflow of contaminants, and associated changes to the aquatic vegetative community. However, as discussed previously, the majority of the Site has been historically cleared and the remaining tree cover is primarily secondary growth interspersed with highly disturbed patches, and hence has minimal terrestrial habitat value. No significant natural features were noted on Site or in the immediate vicinity. Mitigation measures have been identified to address each of these cumulative impacts.

8.0 MONITORING PLAN OUTLINE

The contractor or developer will be responsible for implementing and monitoring the mitigation measures outlined previously. Regular inspection and maintenance of the erosion control measures and other mitigation measures by agents of the proponent during construction will include the following:

- The contractor will inspect and maintain the filters and sediment and erosion control measures used for trench dewatering, the geotextile fabric on catch basins and manholes, the bulkhead barriers and the seepage barriers. The maintenance will include sediment removal and disposal, and material replacement as required;
- Construction vehicles and chemicals, fuels and other potentially hazardous materials remain in designated controlled areas;
- Inspections should be undertaken during periods of in-water work, vegetation clearing, etc. as noted above; and,
- All construction and sediment fencing outlined in the sediment and erosion control plan will be regularly inspected to ensure the proper function of the fencing. Any accumulated sediment will be removed and the sediment fencing will be keyed in properly to ensure no surface flow and associated potential sediment contamination under the fencing. Any breaks in the construction fencing will be fixed immediately to ensure no direct damage to the vegetation in surrounding properties. The contractor will be held responsible for all damage to vegetation outside of the work areas.

After construction, it will be ensured that all sediment and construction fencing is removed and sodding, seeding and tree planting are conducted correctly and as soon as weather permits. The success of all vegetative plantings will be assessed through visual inspections as detailed in the landscaping warranty. Any plantings that are dead or dying will be replaced.

9.0 CONCLUSIONS

DST Consulting Engineers Inc. (DST) was retained by D.G Belfie Planning and Development Consulting Ltd., on behalf of Mr. David McGann (the Client), to conduct a Detailed EIS and selected SAR surveys for the Leitrim Road – McGann Lands Development (Figures 1 & 2). The Site consists of an area of approximately 7.5 hectares located approximately one kilometer south of the intersection of Bank Street and Leitrim Road, in the City of Ottawa, Ontario (Figures 1 & 2). The Detailed EIS study is required to support the Draft Plan of Subdivision and Zoning Application for the Site, which is located in UEA 9A. The development will involve the construction of a residential subdivision, including semi-detached lots and townhouses, as well as mixed use/commercial buildings along Bank Street. The Site will be serviced with municipal sewer and water. This will include the construction of approximately 68 semi-detached units (34 blocks), 128 back-to-back townhouses and 108 stacked townhouses (Kollaard 2014) (Figure 2).

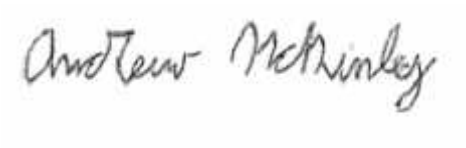
DST reviewed the vegetation information provided in the completed TCR (Lennox 2014) and vegetation inventory completed by MEP (2013) to characterize vegetative communities on Site. Neither report documented the occurrence of endangered Butternut Trees on Site. DST also performed a tree survey in June 2014 and no Butternut Trees were found on the property. In addition to Butternut, consultation with OMNR indicated the potential for several SAR birds and/or their habitats to be present on Site including Bobolink, Eastern Meadowlark, Barn Swallow, Red-headed Woodpecker, Henslow's Sparrow and Whip Poor Will, as well as SAR reptiles including Eastern Milksnake. To support the Detailed EIS requirements, DST conducted SAR field surveys to document and assess the potential presence of these SAR and the presence of other wildlife. All SAR surveys were conducted according to OMNR survey protocols for these species. During these surveys no SAR species were identified on-site. OMNR also noted that two turtle SAR (Blanding's Turtle and Eastern Musk Turtle) had the potential to occur in the region, but no suitable habitats were found on the Site or in the immediate vicinity. Generally speaking, the Site represents low quality terrestrial habitat with a small and heavily degraded cattail marsh present in the central portion of the Site. There is no significant aquatic habitat present and the property is located in an area of planned and ongoing urban development. Few significant environmental concerns were identified associated with the proposed development as no significant natural features were noted. Proposed mitigation measures include sediment and erosion controls, protection of trees located on adjacent properties, timing restrictions and mitigation to protect potential migratory birds' nests and other wildlife, etc. Provided that mitigation measures are applied appropriately, it is not anticipated that the development will have a significant adverse environmental impact.

10.0 CLOSURE

We trust that the above meets your present requirements; should you have any questions or concerns regarding this report, please feel free to contact the undersigned at your convenience.

Sincerely,

For **DST CONSULTING ENGINEERS INC.**



Andrew McKinley, PhD, MA.Sc., BA (Hons.), EP
Senior Biologist

Terry Honsberger, M.Sc., B.Sc.(Hons.)
Senior Biologist / Junior Associate

11.0 REFERENCES

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APPENDIX A

Records of Correspondence

M E M O / N O T E D E S E R V I C E

To / Destinataire	File Meeting Notes – Sept. 24, 2013 Follow-up Action Items Review of OP Section 3.12	File/N° de fichier: PC 2013-0244
From / Expéditeur	Cathlyn Kaufman Development Review – Suburban - Southeast Planning and Growth Management	Date: Oct. 10, 2013

Subject: Pre-consultation Meeting – Part of Urban Expansion Area (UEA) 9A
For Subdivision Draft Approval and Zoning By-law Amendment
Where: City Hall, 110 Laurier Avenue, Rooms 4102E & 4103E
Date: September 24, 2013
Time: 9:00 am to 11:00 am

Those in attendance:
City: Cathlyn Kaufman, File Lead Planner
Don Morse, Urban Design Planner
Asad Yousfani, Transportation Prj. Manager
André Laplante, Project Coordinator, Waste Collection Services
Martha Copestake, Forester, Planning
Jennifer Boyer, Planner, Land Use & Natural Systems
Nadege Balima, Junior Infrastructure Engineer
Jennifer Hemmings, Parks Planner

Land Owners: David McGann, Maureen O'Higgins and Dan McGann

Planning Consulting: D.G. Belfie Planning and Development Consulting Ltd.: Debbie Belfie

Engineering Consultant: IBI : Bob Wingate

South Nation Conservation (SNC): Angela Coleman

Regrets: Gord Elliott, Infrastructure Project Manager
Charles Warnock, Prg. Mgr. Suburban East
Matthew Hayley, Planner
Sean Tracey, Assistant Deputy Fire Chief, Fire Protection
Jeff Bristow, Engineer, Fire Protection
Amy MacPherson, Planner, Land Use & Natural Systems
Mathieu Leblanc, Environmental Planner, South Nation Conservation

Copy to Joe Zagorski, Senior Project Manager, Infrastructure Planning

Purpose:

A pre-consultation meeting for a Draft Plan of Subdivision and a Zoning Application for a proposed subdivision in part of Urban Expansion Area (UEA) 9A immediately adjacent to the Leitrim community.

Location Summary Details:

The lands are located east of Bank Street, south of Analdea Drive and the Lemay 'Findlay by the Park' subdivision (D07-16-10-0010). South of this 7.56 hectare property is a ± 29 parcel owned by Claridge which form the other section of UEA 9A.

Layout Rationale

The proposed plan illustrates a shared public road with Claridge along the southern property line (shown as Street #12) and a public road along Streets #1, #2 & #3.

For Blocks 1 & 4 – 9 metre wide single family lots are proposed
For Blocks 2, 3 & 5 – 3 story back to back townhouses are proposed (See Back to Back Concept)
For Block 6 – 2 ½ storey stacked townhouses are proposed.
For Block 7 – Commercial Use

Review of Proposal

An overall review of proposed Subdivision by Debbie Belfie was presented. Unit types and their possible location within the subdivision were reviewed as set out above. Residential design issues, street width characteristics, density of the back to back blocks and road alignment within the subdivision and linkages to development to the north and proposed layouts to the south were highlighted. No unit count could be provided at this time. It was noted that Block 7 is presently used for trailer sales and is proposed to continue as commercial. It was noted that the McGanns will not be developing the land but will proceed with getting a Draft Subdivision Approval and a Zoning By-law Amendment to ready the land for development.

Items discussed in an Open Forum

1. Urban Design –
    - proposed Commercial Block along Bank Street would provide buffering for the residential area.
    - Back to Back Townhouses – this is new unit type for the Leitrim Area
        - limit repetition of unit type by ensure no long blocks are proposed
        - change roadway width from proposed 16 metres to 16.5 metres or even better 18 metres.
        - the 18 m roadway width does allow for more green space in front of the units, more room for a street trees and sidewalk.
    - linkages between development to the north and proposed development to the south are good
        - connection to Analdea Drive discussed, if not a road then a pathway.
        - Street 3 - to be a continuation of Rotary Way and will be a bus route
        - Street 12 – shared street with Claridge, will need Claridge's agreement.
    - a coloured sketch by Don Morse was provided to Debbie Belfie to illustrate shared Street 12 and the impact of Claridge layout.
2. Transportation: A Community Transportation Study is required
    - this study shall include both UEA 9 A & 9B.
    - limit to entrances onto Bank Street
    - needs to be a discussion with Councillor Steve Desroches about how to link Analdea Drive into this UEA without encouraging cut through traffic. This will avoid a long dead end road that City Operations does not support.
    - remove Street 12 extension east of Street 3.
3. Waste Management: for single family units and free hold units with driveways – pick up is provided
    - for the Planned Unit Development on Block 6, it was noted that pad collection is no longer acceptable.

- there must be a waste enclosure
- a copy of the 'Solid Waste Collection Guidelines for Multi-Unit Residential Development' was provided to Debbie Belfie at the meeting.

4. Forestry :
   - this area is subject to Tree Permit requirements
   - there has been some tree removal along the north property line by Lemay to allow grading onto the McGann lands. A Tree Permit was received for this area.
   - Jim Lennox will be doing the Urban Tree Conservation Report that will meet the City's requirements.
   - Bernie Muncaster will undertake the official Butternut Survey.
   - trees on adjacent properties (i.e. Analdea Drive) will have to be pick up and must not be harmed by site works required for the subdivision.
   - no trees can be cut at this time.
   - it is recognized that there is no park in this area.
   - some tree retention was discussed for Blocks 1 & 4 and it was recognized that trees would probably would be hard to retain in Blocks 3 & 5.
5. South Nation Conservation: aquatic habitat to be documented and identified see Number #6 below
   - Additional Notes add by SNC – Oct 2/13
     - Watercourses have been identified on the lot in question. These should be documented and impacts from the proposed development on theses watercourses will need to be discussed in the submitted EIS. SNC will review the submitted EIS.
     - Any proposed development and/or site alteration (e.g. decommissioning, piping, relocating, etc.) within the watercourses will require a permit from SNC under Ontario Regulation 170/06 *Development Interference with Wetlands, Alteration to Shorelines and Watercourses.*
     - SNC requests to be circulated and will review the Stormwater Management Plan.
6. Natural Systems: Master Drainage Plan update is required
   - coordination of servicing between three property owners (McGann, Claridge & Urbandale-Kellam)
   - there is to be a Natural Systems Approach to deal with species at risk and butternuts
   - surface water, groundwater and fish habitat features are to be identified.
   - EIS for the subdivision is to be a separate site specific document
   - EIS requirement – address potential habitat for species at risk, include a consult with MNR to identify species of interest and on site work to review for species (e.g. butternut bobolink, meadowlark, whip-poor –will.
   - what is to be retained of the watercourse?
   - a Tree Conservation Report (TCR) is required.
7. Parks – the McGann's subdivision will be a cash-in-lieu parkland contribution
   - for the UEA 9A & 9B area, there will be a Community Park and 2 smaller neighbourhood parks
   - there should be a connection to allow residents to get to the Lemay/Claridge Park to the north.
8. Engineering – at this time there are no available services
   – Master Servicing Study for UEA 9A & 9B underway by IBI.
   - Environmental Studies will not include UEA 8A, a separate document will be submitted for UEA 8A.
   - ensure that storm sewer pipes are designed for the Back to Back density.

   Note: Back to Backs will have a very high run-off coefficient as they are considered extreme hard surface site (c= 0.8 -0.85) with virtually no grass.
   - consider worst case scenario just in case proposed mixed use/commercial becomes residential to meet housing unit requirements.
   - Stormwater Pond Expansion, if necessary, to be within urban expansion area.
   - impact on any existing wells to be determined.
   - internal servicing option for Block 7 discussed (proposed Commercial Block with Bank Street frontage)
   - the current minimum road width is 16.5 metres
   - sketch with red line comments from Gord Elliott provided to IBI.

9. Items noted during the meeting
   - the actual boundaries of the UEA 9A – does UEA 9A include a very small portion of the Lemay lands?
   - The UEAs are to satisfy a need for additional urban residential development – there is a question about commercial/mixed land use proposed along Bank Street.
   - follow the Urban Design Guidelines for Greenfield Neighbourhoods.
   - Zoning for Back to Backs- 6 metre front yard setback requirement discussed.
   - Zoning Application may be pre-mature until the Draft Subdivision is finalized to ensure that zoning boundaries are in the correct locations.
   - Development Charges and/or Front Ending requirements for this development together with the other UEA owners east of Bank Street were discussed.
   - Subdivision and Zoning Applications may come in at the same time to received 10% discount.
10. Sent to Debbie Belfie in an e-mail Oct. 1/13 because the OP Section 3.12 was not reviewed at the meeting.
    Summary of OP Section 3.12
    - Will develop primarily for residential purposes, although minor, non residential to meet the needs of the neighbourhood may also be located here.
    - Studies as required under #3
        a) Identify the location, timing and cost of roads and transit facilities, water and wastewater services, public utilies, stormwater management facilities etc. required on-site and off-site to service area.
        b) Identify the natural heritage systems on the site – this was discussed at the meeting.
        c) Recreational Pathway – there was some discussion on this at the meeting.
        d) Housing Mix being consistent with this subsection – to be in Planning Rationale
        e) Affordable housing and design targets as set out in the OP
    - #4 – Proponents of development will prepare a Financial Implementation Plan
    - #5 – An OP amendment may be required to implement infrastructure and open space provisions of plans approved for individual area.
    - Note: Development may proceed once the City is satisfied that the requirements of this section have been met and the City has approved the plan of subdivision.
11. Action Items:
    - receive information on the position of including Mixed Use/Commercial land uses in UEAs 9A and 9B from Ian Cross.
        - response sent from Ian Cross to Debbie Belfie Sept. 24/13
    - determine if Lemay triangle can be included with the McGann property for development with Ian Cross.
        - done Sept. 27/13 – Lemay lands are in as the UEA lands are described as 'Claridge and others'.
    - it was advised that Debbie Belfie and the McGanns meet with Councillor Steve Desroches to discuss subdivision development and determine approach to be taken with the Analdea Drive linkage.
    - find out ESA requirement - requirement is as per Official Plan requirement – O. Reg. 153/04.
        – done Sept. 25/13 – e-mail to Debbie Belfie
    - Meeting to be organized by City to review Concept Plan for UEA 9A & 9B when final Concept Plan is presented to City by the Ownership Group which may include McGanns, Claridge Homes and Urbandale. Regional Group may also be involved due to the sizing of the Blais Stormwater Pond.
        - City is waiting to receive Final Concept Plan which may be depended on the outcome of the overall Master Servicing Study.

Ministry of Natural Resources

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10 Campus Drive
Kemptville, ONK0G 1J0

Tel.: (613) 258-8204
Fax.: (613) 258-3920

Ministère des Richesses naturelles

District de Kemptville
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Mon. May 12, 2014

Andrew McKinley
DST Consulting Engineers
203-2150 Thurston Drive
Ottawa
K1G 5T9
(613) 748-1415 ext 252
amckinley@dstgroup.com

Attention: Andrew McKinley

Subject: Information Request - Developments
Project Name: Leitrim Road McGann Lands EIS
Site Address: 4747 Bank Street, Ottawa
Our File No. 2014_GLO-2589

Natural Heritage Values

The Ministry of Natural Resources (MNR) Kemptville District has carried out a preliminary review of the area in order to identify any potential natural resource and natural heritage values.

The MNR works closely with partner agencies and local municipalities in order to establish concurrent approval process and to achieve streamlined and efficient service delivery. The MNR strongly encourages all proponents to contact partner agencies (e.g. MOE, Conservation Authority, etc.) and appropriate municipalities early on in the planning process. This provides the proponent with early knowledge regarding agency requirements and approval timelines.

Natural heritage features and values contribute to the province's rich biodiversity and provide habitat for a variety of species. The following Natural Heritage values were identified:

- Municipal Drain, Smith Crowding Municipal Drain
- Unevaluated Wetland (Not evaluated per OWES)

Municipal Official Plans contain additional information related to natural heritage features. Please see the local municipal Official Plan for more information such as specific policies and direction

pertaining to activities which may impact natural heritage features. For planning advice or Official Plan interpretation, please contact the local municipality.

Where natural values and natural hazards exist (e.g., floodplains), there may be additional approvals and permitting required from the local Conservation Authority. The MNR strongly recommends contacting the local Conservation Authority for further information and approvals. Please see the MNR Kemptville Information Guide (2012) for contact information pertaining to Conservation Authorities located within the Kemptville District area.

For additional information and online mapping tools, please see the Natural Heritage Information Centre (NHIC), where additional data and files can be downloaded in both list and digital format. In addition sensitive species information can be requested and accessed through the NHIC at NHICrequests@ontario.ca.

Water

Where the site is adjacent to or contains a watercourses or waterbodies, additional considerations apply. If any in-water works are to occur, there are timing restriction periods for which work in water can take place (see below). Appropriate measures should be taken to minimize and mitigate impact on water quality and fish habitat, including:

- including the installation of sediment and erosion control measures;
- avoiding removal alteration or covering of substrates used for fish spawning, feeding, over-wintering or nursery areas; and
- debris control measures should be put in place to manage falling debris (e.g. spalling).

A work permit from the MNR may be required pending further details regarding the proposed works. No encroachment on the bed or banks of the waterbody (e.g. abutments, embankments, etc.) is permitted until MNR approval and clearance has been issued. In order for MNR staff to determine when a work permit is required, additional information can include:

- Detailed drawings (existing and proposed)
- Location mapping
- Registered Plan survey
- Site photographs
- Public Lands Act Forms - application forms, ownership form and landowner notification form.

The MNR does not have any water quality or quantity data available. We recommend that the Ministry of the Environment be contacted for such data along with the local Conservation Authority. For further information regarding fish habitat and protocols, please refer to the following interagency, document, *Fish Habitat Referral Protocol for* Ontario at: http://www.mnr.gov.ca/264110.pdf

Timing restriction periods in MNR Kemptville District*:

Warmwater	→ March 15 – June 30
	→ March 15 – July 15 for St. Lawrence River & Ottawa River
Coldwater	→ October 1 – May 31
Mixed lakes	→ October 1 – June 30 (Big Rideau & Charleston)

** Please note: Additional timing restrictions may apply as it relates to Endangered and Threatened Species, including works in both water and wetland areas.*

	FISH SPECIES	TIMING WINDOW
Spring:	Walleye	March 15 to May 31
	Northern Pike	March 15 to May 31
	Lake Sturgeon	May 1 to June 30
	Muskellunge	March 15 to May 31
	Largemouth/Smallmouth Bass	May 1 to July 15
	Rainbow Trout	March 15 to June 15
	Other/Unknown Spring Spawning Species	March 15 to July 15

	FISH SPECIES	TIMING WINDOW
Fall:	Lake Trout	October 1 to May 31
	Brook Trout	October 1 to May 31
	Pacific Salmon	September 15 to May 31
	Lake Whitefish	October 15 to May 31
	Lake Herring	October 15 to May 31
	Other/Unknown Fall Spawning Species	October 1 to May 31

Additional approvals and permits may be required for the proposed works as it relates to the Fisheries Act. Please contact your local Conservation Authority and the Department of Fisheries and Oceans to determine requirements and next steps. Where the Fisheries Act is triggered and habitat compensation, mitigation measures or best management practices are being considered; as the MNR is charged with the management of Provincial fish populations, the MNR requests ongoing involvement in such discussions in order to ensure population conservation. Furthermore, local Conservation Authorities may also have additional approvals for works in and adjacent to water and wetland features. Finally, Transport Canada's Navigable Waters Protection Division may require review and approval of the proposed project. Please contact these local agencies directly for more information.

As per the Natural Heritage Reference Manual (Section 13; OMNR 2010) the MNR strongly recommends that an Ecological Site Assessment be carried out to more thoroughly determine the presence of natural heritage features, and Species at Risk and their habitat located on site. The MNR can provide survey methodology for particular species at risk and their habitats. In addition, the local planning authority may have more details pertaining to the requirements of the assessment process, which will result in allow for the municipality to make planning decisions which are consistent with the Provincial Policy Statement (2005).

Species at Risk

With the new Endangered Species Act (ESA, 2007) in effect, it is important to understand which species and habitats exist in the area and the implications of the legislation. A review of the Natural Heritage Information Centre (NHIC) and internal records and aerial photograph interpretation indicate that there is a potential for the following Threatened (THR) and/or Endangered (END) species on the site or in proximity to it:

- Barn Swallow (THR)

- Blanding's Turtle (THR)
- Bobolink (THR)
- Butternut (END)
- Eastern Musk Turtle (THR)
- Henslow's Sparrow (END)
- Sensitive Species (END)
- Whip poor will (THR)

All Endangered and Threatened species receive individual protection under section 9 of the ESA and receive general habitat protection under Section 10 of the ESA, 2007. Thus any potential works should consider disturbance of possible important habitat (e.g. nesting sites). Please note that as of June 30, 2013 general habitat protection applies to all Threatened and Endangered species. The habitat of these listed species is protected from damage and destruction and certain activities may require authorization(s) under the ESA. Please keep this date in mind when planning any species and habitat surveys

Species receiving General Habitat protection:

- Barn Swallow (THR)
- Blanding's Turtle (THR)
- Bobolink (THR)
- Butternut (END)
- Eastern Musk Turtle (THR)
- Henslow's Sparrow (END)
- Sensitive Species (END)
- Whip poor will (THR)

If the proposed activity is known to have an impact on the species mentioned above or any other SAR, an authorization under the Endangered Species Act, 2007 (ESA) may be required. It is recommended that MNR Kemptville be contacted prior to any activities being carried out to discuss potential survey and mitigation measures to avoid contravention of the ESA.

Habitat has been identified within the project area that appears suitable for one or more species listed by SARO as Special Concern (SC). In Addition, one or more Special Concern species has been documented to occur either on the site or nearby. Species listed as Special Concern are not protected under the ESA, 2007. However, please note that some of these species may be protected under the Fish and Wildlife Conservation Act. Species of Special Concern for consideration:

- Milksnake (SC)
- Snapping Turtle (SC)
- Red-headed Woodpecker (SC)

If any of these or any other species at risk are discovered throughout the course of the work, and/or should any species at risk or their habitat be potentially impacted by on site activities, MNR should be contacted immediately and operations be modified to avoid any negative impacts to species at risk or their habitat until further direction is provided by MNR.

Please note that information regarding species at risk is based on documented occurrences only and does not include an interpretation of potential habitat within or in proximity to the site in question. Although this data represents the MNR's best current available information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. i.e.: Species at Risk (SAR) or their habitat could still be present at the location or in the immediate area. It is the responsibility of the proponent to ensure that species at risk are not killed, harmed, or harassed; or their habitat is not damaged or destroyed through the activities carried out on the site. The MNR continues to strongly encourage ecological site assessments to determine the potential for SAR habitat and occurrences. When a SAR or potential habitat for a SAR does occur on a site, it is recommended that the proponent contact the MNR for technical advice and to discuss what activities can occur without contravention of the Act. If an activity is proposed that will contravene the ESA (such as Section 9 or 10), the proponent must contact the MNR to discuss the potential for a permit (Section 17). For specific questions regarding the Endangered Species Act (2007) or SAR, please contact a district Species at Risk Biologist at sar.kemptville@ontario.ca. For more information regarding the ESA (2007), please see attached ESA Information Sheet.

As of July 1, 2013, the approvals processes for a number of activities that have the potential to impact SAR or their habitat were changed in an effort to streamline approvals processes while continuing to protect and sustainably manage Ontario's natural resources. For those activities that require registration with the Ministry, businesses and individuals will be able to do so through a new online system. The online system will also include information to help guide individuals and businesses through the new processes. For further information on which activities are authorized through this new online registration process and how to apply, please refer to the following website: http://www.mnr.gov.on.ca/en/About/2ColumnSubPage/STDPROD_104342.html. General inquiries may be directed towards Kemptville District MNR, while questions and comments involving the new online forms can be directed to the Registry Approvals Service Centre (RASC) at 1-855-613-4256 or mnr.rasc@ontario.ca.

Please note: The advice in this letter may become invalid if:

- The Committee on the Status of Species at Risk in Ontario (COSSARO) re-assesses the status of the above-named species OR adds a species to the SARO List such that the section 9 and/or 10 protection provisions apply to those species.
- Additional occurrences of species are discovered.
- Habitat protection comes into force for one of the above-mentioned species through the creation of a habitat regulation (see general habitat protection above).

This letter is valid until: Tue. May 12, 2015

MNR is streamlining and automating its approvals processes for natural resource-related activities. Some activities that may otherwise contravene the ESA may be eligible to proceed without a permit from MNR provided that regulatory conditions are met for the ongoing protection of species at risk and their habitats. There are regulatory provisions for projects that have attained a specified level of approval prior to, or shortly after, the specified species or its habitat became protected under the ESA. There requirements include registering the activity with the Ministry of Natural Resources, taking steps to immediately minimize adverse effects on species and habitat, and developing a

mitigation plan. Anyone intending to use this regulatory provision is strongly advised to review Ontario Regulation 242/08 under the Endangered Species Act, 2007 for the full legal requirements.

For more information please check out the following link http://www.ontario.ca/environment-and-energy/development-and-infrastructure-projects-and-endangered-or-threatened-species

The MNR would like to advise, by way of this letter, that we continue to be circulated on information with regards to this project. If you have any questions or require clarification please do not hesitate to contact me.

Sincerely,

Kerry Reed
SAR Biologist
kerry.reed@ontario.ca

Encl.\
-ESA Infosheet
-NHIC/LIO Infosheet

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South Nation Conservation Authority
38 Victoria Street,
Finch, Ontario
K0C 1K0

April 21, 2014

Attn: Angela Coleman

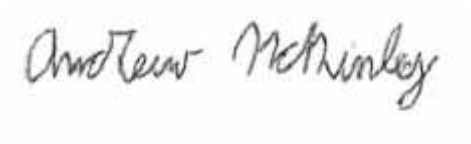
Re: Consultation for a Scoped Environmental Impact Statement (EIS) for the Draft Plan of Subdivision and Zoning Application for a proposed subdivision in part of an Urban Expansion Area (UEA) immediately adjacent to the Leitrim community.

A Scoped EIS is being conducted as part of a separate submittal, for the Draft Plan of Subdivision and Zoning Application for a proposed subdivision in part of an Urban Expansion Area (UEA) immediately adjacent to the Leitrim community. The City of Ottawa has asked that potential for Species at Risk (SAR) and SAR habitat be addressed within this report. DST would like to consult with you for any known occurrences of SAR or SAR habitat within this area, as well as the presence of any Natural heritage areas and on the presence of any watercourses and/or fish habitat as watercourses have been identified on the lot in question.

Please refer to the attached figure, which shows the site location.

We appreciate your time and look forward to hearing back from you.

Sincerely,



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APPENDIX B

Tree Conservation Report (Lennox 2014)

SITE PHOTOGRAPHS

FIGURE 1 (AREA "A") EXISTING STORAGE AREA

FIGURE 2 (AREA "B"): NOTE PHOMPOSIS ON SITE'S BITTERNUT HICKORIES

FIGURE 3 (AREA "G"): NOTE THE PRESENCE OF CATTAILS AND SPARSE WOODY VEGETATION

FIGURE 4 (AREA "I"): THIS PHOTO SHOWS THE HEIGHT OF THE PLANTED WHITE PINES IN AREA "I"

FIGURE 5 (AREA "L"):ONE OF SEVERAL LARGE APPLE TREES WITHIN THIS AREA

FIGURE 6 (AREA "M"): SPARSELY POPULATED BY WHITE ELMS, COMMON BUCKTHORN AND SPECKLED ALDER SHRUBS

1 TCR.1 TREE CONSERVATION REPORT: EXISTING CONDITIONS
SCALE 1:1500

VEGETATION OVERVIEW

PROPOSED DEVELOPMENT AND CONSERVED VEGETATION

The overall condition of the existing trees varies greatly. The majority of the deciduous trees are Green Ash *(Fraxinus pennsylvanica)* and White Elm *(Ulmus americana)*. Most of these trees are either dead or on poor condition. This is largely due to pathogens such as the Emerald Ash Borer *(Agrilus planipennis)* and Dutch Elm Disease *(Asomycete microfungi)*. With time we would expect these two (2) types of trees to all become infected and succumb to disease.

The best and most "distinctive trees" as defined by the City of Ottawa "By-law" are two (2) large Bitternut Hickory *(Carya cordiformis)* 500mm dbh and 550mm dbh. Other trees on site are in order of importance include: Black Cherry *(Prunus serotina);* White Pine *(Pinus strobus);* White Spruce *(Picea glauca);* Red Pine *(Pinus resinosa)* and Scot's Pine *(Pinus sylvestris).* The existing Trembling Aspen *(Poplulus tremuloides)* and Manitoba Maple *(Acer negundo)* are in generally good condition but are not desirable for retention due to their incompatibility with any proposed development.

In order to mitigate the effects of the development on existing residences grading and servicing of the proposed residences backing on the backyards of the Analdea Street residences should be minimized. Due to the intensity of the proposed development in other areas it is unlikely that many trees will survive the lowering of the water table, storm damage and construction activities. Subject to geotechnical recommendations, the proposed planting as part of the "Site Plan Approval" process should concentrate on tree and shrub species native to the area. This would include trees such as: Red Oak *(Quercus rubra);* Bur Oak *(Quercus macrocarpa);* American Basswood *(Tilia americana);* Freeman's Maple *(Acer x "Freemanii")* and Sugar Maple *(Acer saccharum).* Coniferous trees could include White Pine *(Pinus strobus)* and White Spruce *(Picea glauca).*

TREE INVENTORY

There are fifteen (15) vegetation areas identified on this site identified below and keyed into the aerial photograph of the site on this sheet.

COMPOSITION AND CONDITION OF VEGETATION BY AREA

A) This disturbed area is mainly composed of Manitoba Maple (*Acer negundo),* American Elm *(Ulmus Americana* as well as a several young Scots Pines (*Pinus sylvestris)* and several White Spruce (*Picea glauca)* adjacent to Bank Street. This area is currently occupied by "Leitrim Supply" as well as "A & A Storage." At the back of these buildings, there is a compacted gravel area that has been used as a storage area by the works, and is supports a much less dense area than the other areas onsite.

Figure 1: Existing Storage Yard (Area A)

50% MANITOBA MAPLE *Acer negundo* 50-300mm Cal. GOOD
20% WHITE ELM *Populus tremuloides* 100-300mm Cal. DEAD
15% TREMBLING ASPEN *Fraxinus pennsylvanica* 50-100mm Cal. GOOD
5% WHITE SPRUCE *Picea glauca* 100-300mm Cal. GOOD
5% SCOTS PINE *Pinus sylvestris* 50-150mm Cal. POOR-GOOD
5% WHITE PINE *Pinus strobus* 100-200mm Cal. GOOD

B) This area is unique from the other deciduous forested areas onsite due to the presence and abundance of Bitternut Hickories *(Carya cordiformis).* In addition to many saplings and young trees, there are two (2) distinctive specimens within this area located at UTM coordinates H1: (24N 320690 3838119) and H2: (24N 320690 3838119) respectively. Many of the bitternut hickories are infected with *phompopsis* galls, although this is not fatal. H2, is much less infected than H1, and also has better form than the latter. The main species in this area area White Elms (*Ulmus Americana)* ranging from dead-poor, isolated stands of Trembling aspen (*Populus tremuloides),*Multi-Stem Manitoba Maples *(Acer negundo) and* Green Ash *(Fraxinus pennsylvanica.)*

Figure 2: Note phomposis on H1 Bitternut Hickory *(Carya cordiformis)*

60% WHITE ELM *Ulmus americana* 100-300mm Cal. DEAD-POOR
10%BITTERNUT HICKORY *Carya cordiformis* 50-550mm Cal. FAIR-GOOD
10% TREMBLING ASPEN *Populus tremuloides* 100-200mm Cal. GOOD
10% GREEN ASH *Fraxinus pennsylvanica* 100-300mm Cal. DEAD-FAIR
10% MANITOBA MAPLE *Acer negundo* 100-200mm Cal. GOOD

C) This dense deciduous hedgerow is dominated by the invasive Common Buckthorn (*Rhamanus cathartica)* and Amur Honeysuckle (*Lonicera mackii.* There also a few relatively small American Elm (Ulmus Americana) trees in poor condition as well as several Trembling Aspen (Populus tremuloides) in small clumps throughout this area.

40% WHITE ELM *Ulmus americana* 50-200mm Cal. POOR-DEAD
20% TREMBLING ASPEN *Populus tremuloides* 50-300mm Cal. POOR-FAIR
20% GREEN ASH *Fraxinus pennsylvanica* 50-300mm Cal. POOR-FAIR
20% MANITOBA MAPLE *Acer negundo* 50-300mm Cal. GOOD

D) This area is a hedgerow of White Pine trees *(Pinus strobus)* with several volunteer White Elm trees *(Ulmus Americana)* in poor condition throughout the hedgerow. There are several small buckthorn shrubs in the understory.

70% WHITE PINE *Pinus strobus* 150-400mm Cal. GOOD
30% WHITE ELM *Ulmus americana* 250-300mm Cal. DEAD-POOR

E) This relatively low and flat area is dominated by isolated stands of Trembling Aspen *(Populus tremuloides),* Green Ash *(Fraxinus pennsylvanica)* that are mainly poor condition, White Elms *(Ulmus americana)* that are either dead or in poor condition, small Bitternut Hickory *(Carya cordiformis)* saplings and a few Red Pine *(Pinus resinosa)* that are in fair condition.

40% TREMBLING ASPEN *Populus tremuloides* 50-300mm Cal. GOOD
30% GREEN ASH *Fraxinus pennsylvanica* 50-300mm Cal. POOR-FAIR
10% MANITOBA MAPLE *Acer negundo* 50-300mm Cal. GOOD
10% WHITE ELM *Ulmus americana* 50-200mm Cal. POOR-GOOD
5% BITTERNUT HICKORY *Carya ovata* 50-200mm Cal. POOR
5% RED PINE *Pinus resinosa* 100-200mm Cal. FAIR-GOOD

F) This area is primarily planted Red Pines *(Pinus resinosa)* 300-400mm in DBH, with a few Manitoba Maples *(Acer negundo)* and small patches of Trembling Aspen *(Populus tremuloides).* All of these trees are in Good condition.

80% RED PINE *Pinus resinosa* 300-400mm Cal. GOOD
10% MANITOBA MAPLE *Acer negundo* 100-200mm Cal. GOOD
10% TREMBLING ASPEN *Populus tremuloides* 200-400mm Cal. GOOD
5% TREMBLING ASPEN *Populus tremuloides* 200-300mm Cal. GOOD

G) This area is one of the lower points on the site, and is sparsely comprised of Green Ash *(Fraxinus pennsylvanica)* in poor condition as well as a few scattered White Elms *(Ulmus Americana)* and healthy Black Cherries *(Prunus serotina,)* As shown in the photo below, much of this area is ephemerally saturated with water.

Figure 3: Note the presence of cattails and sparse vegetation

90% GREEN ASH *Fraxinus pennsylvanica* 100-300mm Cal. POOR-GOOD
5% WHITE ELM *Ulmus americana* 100-200mm Cal. DEAD-POOR
5% BLACK CHERRY *Prunus serotina* 200-300mm Cal. GOOD

H) Backing onto the adjacent residential lot, this area is a healthy White Cedar *(Thuja occidentalis)* hedge spanning the length of the homeowner's back property line, but located on the McGann Land property.

100% WHITE CEDAR *Thuja occidentalis* 50-100mm Cal. GOOD

I) This area is comprised of healthy White Pine *(Pinus strobus),* White Spruce *(Picea glauca)* and Red Pine *(Pinus resinosa).* It was estimated that these were planted approximately 30-40 years ago. Due to the dense planting and heavy shade, there is very little understory within this area.

40% WHITE SPRUCE *Picea glauca* 200-350mm Cal. GOOD
30% WHITE PINE *Pinus strobus* 300m-400m Cal. GOOD
30% RED PINE *Pinus resinosa* 200-300mm Cal. GOOD

FIGURE 4 (AREA "I"): THIS PHOTO SHOWS THE HEIGHT OF THE PLANTED WHITE PINES IN AREA "I"

J) This area is almost completely healthy Red Pines *(Pinus resinosa)* with a small clump of young Trembling Aspens *(Populus tremuloides).*

95% RED PINE *Pinus resinosa* 200-350mm Cal. POOR-GOOD
40% TREMBLING ASPEN *Populus tremuloides* 100-300mm Cal. POOR-GOOD

K) Essentially the void in between the planted conifers in zones J and I and the low wet area in zone G this area is comprised of early succession trees. It is mainly represented by Green Ash *(Fraxinus pennsylvanica)* in poor condition, isolated stands of Trembling Aspen *(Populus tremuloides),* scattered White Elm *(Ulmus Americana)* that range from dead-poor condition, and some healthy Black Cherry *(Prunus serotina)* specimens throughout the area

40% GREEN ASH *Fraxinus pennsylvanica* 100-300mm Cal. POOR-GOOD
40% TREMBLING ASPEN *Populus tremuloides* 100-300mm Cal. POOR-GOOD
10% WHITE ELM *Ulmus americana* 100-200mm Cal. DEAD-POOR
5% BLACK CHERRY *Prunus serotina* 200-300mm Cal. GOOD
5% WHITE SPRUCE *Picea glauca* 200-300mm Cal. GOOD

L) Located adjacent to the meadow, this area is comprised of a variety of species of trees and shrubs. The primary species of trees are Green Ash *(Fraxinus pennsylvanica)* in poor-fair condition, White Elms *(Ulmus Americana)* that range in condition from dead-poor, Manitoba Maples *(Acer negundo)* that are healthy but generally have poor form, a few varieties of planted Apple *(Malus spp.)* trees, isolated patches of Black Cherry *(Prunus serotina)* as well as several small Trembling Aspens *(Populus tremuloides).*
Figure 5: One of the several Apple *(Malus sp.)* Trees found in area "L"

60% GREEN ASH *Fraxinus pennsylvanica* 100-300mm Cal. POOR-GOOD
10% WHITE ELM *Ulmus americana* 100-200mm Cal. DEAD-POOR
10% MANITOBA MAPLE *Acer negundo* 100-200mm Cal. GOOD
10% APPLE *Malus sp.* 200-300mm Cal. GOOD
5% BLACK CHERRY *Prunus serotina* 200-300mm Cal. GOOD
5% TREMBLING ASPEN *Populus tremuloides* 100-200mm Cal. GOOD

M) According to a search on the City of Ottawa Geomap, this area was cleared within the last 5-10 years. This area is sparsely vegetated with early succession trees such as White Elms *(Ulmus Americana)* with most being dead, and some in poor condition. Common Buckthorn *(Rhamanus cathartica)* and Speckled Alder *(Alnus incana)* forming a dense thicket in some areas, and clumps of larger Trembling Aspen *(Populus tremuloides)* dispersed throughout the area.

Figure 6: Area M is sparsely populated by isolated White Elm *(Ulmus Americana)* and dense Buckthorn *(Rhamnus cathartica)* and Speckled Alder *(Alnus incana)* shrubs.

40% WHITE ELM *Ulmus americana* 100-200mm Cal. DEAD-POOR
30% COMMON BUCKTHORN *Rhamnus cathartica* 50-100mm Cal. GOOD
25% SPECKLED ALDER *Alnus alnifolia* 50-100mm Cal. GOOD
5% TREMBLING ASPEN *Populus tremuloides* 100-200mm Cal. GOOD

N) This area is the largest clump of Trembling Aspen *(Populus tremuloides)* within the area of cleared land. They range in health from Fair-Good and 100-200mm DBH in size.

100% TREMBLING ASPEN *Populus tremuloides* 100-200mm Cal. GOOD

O) This area is home to small but dense scrubby vegetation characteristic of the northern end of the site. With the exception of the White Elm Trees *(Ulmus americana)* the trees and shrubs are in good condition.

30% COMMON BUCKTHORN *Rhamnus cathartica* 50-100mm Cal. GOOD
30% SPECKLED ALDER *Alnus alnifolia* 50-100mm Cal. GOOD
30% TREMBLING ASPEN *Populus tremuloides* 100mm Cal. GOOD
10% WHITE ELM *Ulmus americana* 100-200mm Cal. DEAD-POOR

CLIENT:

Mr. David McGann
#3-15037 58th Avenue
Surrey, B.C.
V3S 8Z5

LOCATION PLAN

PLANNER: **D.G.Belfie Planning & Development Consulting Ltd.**
21 Pinecone Trail
Stittsville, ON K2S 1E1
613.836.6206 office
613.836.2387 fax

ARCHITECTS: Stantec Ltd.
1331 Clyde Avenue Ottawa ON K2C 3G4
Phone: (613) 724-3136
Fax: (613) 722-0769

LEGEND

VEGETATION AREA

EXISTING VEGETATION

No.	Issue	Date	DR	CK
1	ISSUED FOR CLIENT REVIEW	03/19/2014	ML	JL
1	ISSUED FOR CLIENT REVIEW	03/03/2014	ML	JL

JAMES B. LENNOX & ASSOCIATES INC.
LANDSCAPE ARCHITECTS
SUITE 200A HAMPTON PARK PLAZA, 1419 CARLING AVE. OTTAWA, ONTARIO K1Z 7L6
Tel. (613) 722-5168 **Fax. 1(866) 343-3942**

PROJECT
4747 BANK STREET

LEITRIM, ONTARIO

DRAWING
TCR-1 EXISTING CONDITIONS

STAMP

SCALE
1 : 1500

START DATE

PROJECT NO.
13-MIS-1367

PROJECT NORTH

DRAWING NO.
TCR.1

PLOT SIZE ARCH-E

SITE PHOTOGRAPHS

FIGURE 1 (AREA "A") EXISTING STORAGE AREA

FIGURE 2 (AREA "B"): NOTE PHOMPOSIS ON SITE'S BITTERNUT HICKORIES

FIGURE 3 (AREA "G"): NOTE THE PRESENCE OF CATTAILS AND SPARSE WOODY VEGETATION

FIGURE 4 (AREA "I"): THIS PHOTO SHOWS THE HEIGHT OF THE PLANTED WHITE PINES IN AREA "I"

FIGURE 5 (AREA "L"):ONE OF SEVERAL LARGE APPLE TREES WITHIN THIS AREA

FIGURE 6 (AREA "M"): SPARSELY POPULATED BY WHITE ELMS, COMMON BUCKTHORN AND SPECKLED ALDER SHRUBS

1 TCR.2 TREE CONSERVATION REPORT: PROPOSED DEVELOPMENT AND CONSERVED VEGETATION
SCALE 1:1500

VEGETATION OVERVIEW

PROPOSED DEVELOPMENT AND CONSERVED VEGETATION

The overall condition of the existing trees varies greatly. The majority of the deciduous trees are Green Ash *(Fraxinus pennsylvanica)* and White Elm *(Ulmus americana)*. Most of these trees are either dead or on poor condition. This is largely due to pathogens such as the Emerald Ash Borer *(Agrilus planipennis)* and Dutch Elm Disease *(Asomycete microfungi)*. With time we would expect these two (2) types of trees to all become infected and succumb to disease.

The best and most "distinctive trees" as defined by the City of Ottawa "By-law" are two (2) large Bitternut Hickory *(Carya cordiformis)* 500mm dbh and 550mm dbh. Other trees on site are in order of importance include: Black Cherry *(Prunus serotina)*; White Pine *(Pinus strobus)*; White Spruce *(Picea glauca)*; Red Pine *(Pinus resinosa)* and Scot's Pine *(Pinus sylvestris)*. The existing Trembling Aspen *(Poplulus tremuloides)* and Manitoba Maple *(Acer negundo)* are in generally good condition but are not desirable for retention due to their incompatibility with any proposed development.

In order to mitigate the effects of the development on existing residences grading and servicing of the proposed residences backing on the backyards of the Analdea Street residences should be minimized. Due to the intensity of the proposed development in other areas it is unlikely that many trees will survive the lowering of the water table, storm damage and construction activities. Subject to geotechnical recommendations, the proposed planting as part of the "Site Plan Approval" process should concentrate on tree and shrub species native to the area. This would include trees such as: Red Oak *(Quercus rubra)*; Bur Oak *(Quercus macrocarpa)*; American Basswood *(Tilia americana)*; Freeman's Maple *(Acer x "Freemanii")* and Sugar Maple *(Acer saccharum)*. Coniferous trees could include White Pine *(Pinus strobus)* and White Spruce *(Picea glauca)*.

TREE INVENTORY

There are fifteen (15) vegetation areas identified on this site identified below and keyed into the aerial photograph of the site on this sheet.

COMPOSITION AND CONDITION OF VEGETATION BY AREA

A) This disturbed area is mainly composed of Manitoba Maple (*Acer negundo)*, American Elm (*Ulmus Americana* as well as a several young Scots Pines (*Pinus sylvestris)* and several White Spruce (*Picea glauca)* adjacent to Bank Street. This area is currently occupied by "Leitrim Supply" as well as "A & A Storage." At the back of these buildings, there is a compacted gravel area that has been used as a storage area by the works, and is supports a much less dense area than the other areas onsite.

Figure 1: Existing Storage Yard (Area A)

50% MANITOBA MAPLE *Acer negundo* 50-300mm Cal. GOOD
20% WHITE ELM *Populus tremuloides* 100-300mm Cal. DEAD
15% TREMBLING ASPEN *Fraxinus pennsylvanica* 50-100mm Cal. GOOD
5% WHITE SPRUCE *Picea glauca* 100-300mm Cal. GOOD
5% SCOTS PINE *Pinus sylvestris* 50-150mm Cal. POOR-GOOD
5% WHITE PINE *Pinus strobus* 100-200mm Cal. GOOD

B) This area is unique from the other deciduous forested areas onsite due to the presence and abundance of Bitternut Hickories *(Carya cordiformis)*. In addition to many saplings and young trees, there are two (2) distinctive specimens within this area located at UTM coordinates H1: (24N 320690 3838119) and H2: (24N 320690 3838119) respectively. Many of the bitternut hickories are infected with *phomopsis* galls, although this is not fatal. H2, is much less infected than H1, and also has better form than the latter. The main species in this area area White Elms (*Ulmus Americana)* ranging from dead-poor, isolated stands of Trembling aspen (*Populus tremuloides),*Multi-Stem Manitoba Maples *(Acer negundo) and* Green Ash *(Fraxinus pennsylvanica.)*

Figure 2: Note phomposis on H1 Bitternut Hickory *(Carya cordiformis)*

60% WHITE ELM *Ulmus americana* 100-300mm Cal. DEAD-POOR
10%BITTERNUT HICKORY *Carya cordiformis* 50-550mm Cal. FAIR-GOOD
10% TREMBLING ASPEN *Populus tremuloides* 100-200mm Cal. GOOD
10% GREEN ASH *Fraxinus pennsylvanica* 100-300mm Cal. DEAD-FAIR
10% MANITOBA MAPLE *Acer negundo* 100-200mm Cal. GOOD

C) This dense deciduous hedgerow is dominated by the invasive Common Buckthorn (*Rhamanus cathartica)* and Amur Honeysuckle (*Lonicera mackii.* There also a few relatively small American Elm (Ulmus Americana) trees in poor condition as well as several Trembling Aspen (Populus tremuloides) in small clumps throughout this area.

40% WHITE ELM *Ulmus americana* 50-200mm Cal. POOR-DEAD
20% TREMBLING ASPEN *Populus tremuloides* 50-300mm Cal. POOR-FAIR
20% GREEN ASH *Fraxinus pennsylvanica* 50-300mm Cal. POOR-FAIR
20% MANITOBA MAPLE *Acer negundo* 50-300mm Cal. GOOD

D) This area is a hedgerow of White Pine trees *(Pinus strobus)* with several volunteer White Elm trees *(Ulmus Americana)* in poor condition throughout the hedgerow. There are several small buckthorn shrubs in the understory.

70% WHITE PINE *Pinus strobus* 150-400mm Cal. GOOD
30% WHITE ELM *Ulmus americana* 250-300mm Cal. DEAD-POOR

E) This relatively low and flat area is dominated by isolated stands of Trembling Aspen *(Populus tremuloides),* Green Ash *(Fraxinus pennsylvanica)* that are mainly poor condition, White Elms *(Ulmus americana)* that are either dead or in poor condition, small Bitternut Hickory *(Carya cordiformis)* saplings and a few Red Pine *(Pinus resinosa)* that are in fair condition.

40% TREMBLING ASPEN *Populus tremuloides* 50-300mm Cal. GOOD
30% GREEN ASH *Fraxinus pennsylvanica* 50-300mm Cal. POOR-FAIR
10% MANITOBA MAPLE *Acer negundo* 50-300mm Cal. GOOD
10% WHITE ELM *Ulmus americana* 50-200mm Cal. POOR-GOOD
5% BITTERNUT HICKORY *Carya ovata* 50-200mm Cal. POOR
5% RED PINE *Pinus resinosa* 100-200mm Cal. FAIR-GOOD

F) This area is primarily planted Red Pines *(Pinus resinosa)* 300-400mm in DBH, with a few Manitoba Maples *(Acer negundo)* and small patches of Trembling Aspen *(Populus tremuloides).* All of these trees are in Good condition.

80% RED PINE *Pinus resinosa* 300-400mm Cal. GOOD
10% MANITOBA MAPLE *Acer negundo* 100-200mm Cal. GOOD
10% TREMBLING ASPEN *Populus tremuloides* 200-400mm Cal. GOOD
5% TREMBLING ASPEN *Populus tremuloides* 200-300mm Cal. GOOD

G) This area is one of the lower points on the site, and is sparsely comprised of Green Ash *(Fraxinus pennsylvanica)* in poor condition as well as a few scattered White Elms *(Ulmus Americana)* and healthy Black Cherries *(Prunus serotina.)* As shown in the photo below, much of this area is ephemerally saturated with water.

Figure 3: Note the presence of cattails and sparse vegetation

90% GREEN ASH *Fraxinus pennsylvanica* 100-300mm Cal. POOR-GOOD
5% WHITE ELM *Ulmus americana* 100-200mm Cal. DEAD-POOR
5% BLACK CHERRY *Prunus serotina* 200-300mm Cal. GOOD

H) Backing onto the adjacent residential lot, this area is a healthy White Cedar *(Thuja occidentalis)* hedge spanning the length of the homeowner's back property line, but located on the McGann Land property.

100% WHITE CEDAR *Thuja occidentalis* 50-100mm Cal. GOOD

I) This area is comprised of healthy White Pine *(Pinus strobus),* White Spruce *(Picea glauca)* and Red Pine *(Pinus resinosa).* It was estimated that these were planted approximately 30-40 years ago. Due to the dense planting and heavy shade, there is very little understory within this area.

40% WHITE SPRUCE *Picea glauca* 200-350mm Cal. GOOD
30% WHITE PINE *Pinus strobus* 300m-400m Cal. GOOD
30% RED PINE *Pinus resinosa* 200-300mm Cal. GOOD

FIGURE 4 (AREA "I"): THIS PHOTO SHOWS THE HEIGHT OF THE PLANTED WHITE PINES IN AREA "I"

J) This area is almost completely healthy Red Pines *(Pinus resinosa)* with a small clump of young Trembling Aspens *(Populus tremuloides).*

95% RED PINE *Pinus resinosa* 200-350mm Cal. POOR-GOOD
40% TREMBLING ASPEN *Populus tremuloides* 100-300mm Cal. POOR-GOOD

K) Essentially the void in between the planted conifers in zones J and I and the low wet area in zone G this area is comprised of early succession trees. It is mainly represented by Green Ash *(Fraxinus pennsylvanica)* in poor condition, isolated stands of Trembling Aspen *(Populus tremuloides),* scattered White Elm *(Ulmus Americana)* that range from dead-poor condition, and some healthy Black Cherry *(Prunus serotina)* specimens throughout the area

40% GREEN ASH *Fraxinus pennsylvanica* 100-300mm Cal. POOR-GOOD
40% TREMBLING ASPEN *Populus tremuloides* 100-300mm Cal. POOR-GOOD
10% WHITE ELM *Ulmus americana* 100-200mm Cal. DEAD-POOR
5% BLACK CHERRY *Prunus serotina* 200-300mm Cal. GOOD
5% WHITE SPRUCE *Picea glauca* 200-300mm Cal. GOOD

L) Located adjacent to the meadow, this area is comprised of a variety of species of trees and shrubs. The primary species of trees are Green Ash *(Fraxinus pennsylvanica)* in poor-fair condition, White Elms *(Ulmus Americana)* that range in condition from dead-poor, Manitoba Maples *(Acer negundo)* that are healthy but generally have poor form, a few varieties of Apple *(Malus spp.)* , isolated patches of Black Cherry *(Prunus serotina)* as well as several small Trembling Aspens *(Populus tremuloides).*

Figure 5: One of the several Apple *(Malus sp.)* Trees found in area "L"

60% GREEN ASH *Fraxinus pennsylvanica* 100-300mm Cal. POOR-GOOD
10% WHITE ELM *Ulmus americana* 100-200mm Cal. DEAD-POOR
10% MANITOBA MAPLE *Acer negundo* 100-200mm Cal. GOOD
10% APPLE *Malus sp.* 200-300mm Cal. GOOD
5% BLACK CHERRY *Prunus serotina* 200-300mm Cal. GOOD
5% TREMBLING ASPEN *Populus tremuloides* 100-200mm Cal. GOOD

M) According to a search on the City of Ottawa Geomap, this area was cleared within the last 5-10 years. This area is sparsely vegetated with early succession trees such as White Elms *(Ulmus Americana)* with most being dead, and some in poor condition, Common Buckthorn *(Rhamanus cathartica)* and Speckled Alder *(Alnus incana)* forming a dense thicket in some areas, and clumps of larger Trembling Aspen *(Populus tremuloides)* dispersed throughout the area.

Figure 6: Area M is sparsely populated by isolated White Elm *(Ulmus Americana)* and dense Buckthorn *(Rhamnus cathartica)* and Speckled Alder *(Alnus incana)* shrubs.

40% WHITE ELM *Ulmus americana* 100-200mm Cal. DEAD-POOR
30% COMMON BUCKTHORN *Rhamnus cathartica* 50-100mm Cal. GOOD
25% SPECKLED ALDER *Alnus alnifolia* 50-100mm Cal. GOOD
5% TREMBLING ASPEN *Populus tremuloides* 100-200mm Cal. GOOD

N) This area is the largest clump of Trembling Aspen *(Populus tremuloides)* within the area of cleared land. They range in health from Fair-Good and 100-200mm DBH in size.

100% TREMBLING ASPEN *Populus tremuloides* 100-200mm Cal. GOOD

O) This area is home to small but dense scrubby vegetation characteristic of the northern end of the site. With the exception of the White Elm Trees *(Ulmus americana)* the trees and shrubs are in good condition.

30% COMMON BUCKTHORN *Rhamnus cathartica* 50-100mm Cal. GOOD
30% SPECKLED ALDER *Alnus alnifolia* 50-100mm Cal. GOOD
30% TREMBLING ASPEN *Populus tremuloides* 100mm Cal. GOOD
10% WHITE ELM *Ulmus americana* 100-200mm Cal. DEAD-POOR

CLIENT:

Mr. David McGann
#3-15037 58th Avenue
Surrey, B.C.
V3S 8Z5

LOCATION PLAN

PLANNER: **D.G.Belfie Planning & Development Consulting Ltd.**
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613.836.2387 fax

ARCHITECTS: Stantec Ltd.
1331 Clyde Avenue Ottawa ON K2C 3G4
Phone: (613) 724-3136
Fax: (613) 722-0769

LEGEND

VEGETATION AREA

EXISTING VEGETATION TO BE REMOVED

No.	Issue	Date	DR	CK
2	ISSUED FOR CLIENT REVIEW	03/19/2014	ML	JL
1	ISSUED FOR CLIENT REVIEW	03/03/2014	ML	JL

1 **JAMES B. LENNOX & ASSOCIATES INC.**
LANDSCAPE ARCHITECTS
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Tel. (613) 722-5168 **Fax. 1(866) 343-3942**

PROJECT

4747 BANK STREET

LEITRIM, ONTARIO

DRAWING

TCR-2: PROPOSED DEVELOPMENT AND CONSERVED VEGETATION

STAMP

SCALE 1 : 1500

START DATE

PROJECT NO. 13-MIS-1367

PROJECT NORTH

DRAWING NO. TCR.2

PLOT SIZE ARCH-E

APPENDIX C

Vegetation Assessment (Muncaster Environmental Planning 2013)

Claridge Lands – September 12 and 17/2013

Most observations were made on September 17th starting at 08:20 with sunny skies, calm winds and an air temperature of 16° C. Map at the end of these notes identifies the photo locations.

(note see Kellam EIS/TCR for description of cedar forest that extends onto the Claridge Lands about 200 metres east of Bank Street)

(refer to 1976 aerial photography that shows Claridge lands in agriculture with a few hedgerows)

Cultural Meadow

Cultural meadow of common ragweed, common milkweed, meadow grass, timothy, brome grass, barnyard grass, orchard grass, tall goldenrod, Canada goldenrod, lady's thumb, red clover, white-sweet clover, bladder campion, chicory, common plantain, horseweed, common dandelion, purple loosestrife, thicket creeper, rough-fruited cinquefoil, field sow-thistle, evening primrose, common mullein, stinging nettle, curled dock, orchard grass, common burdock, common mugwort, wild carrot, tufted vetch, New England aster, butter-and-eggs, small white aster and common strawberry. Scattered regenerating poplar and white elm stems up to 20cm dbh are present along with red raspberry, red-osier dogwood, common buckthorn, glossy buckthorn and nannyberry shrubs.

An area of cattails, purple loosestrife and joe-pye-weed is in the north-central portion of the Claridge lands, 490 metres east of Bank Street.

Photo 1 – west end of Claridge lands looking east.

Photo 2 – Cultural meadow 300 metres west of Bank Street. View looking northeast

Photo 3 - *Cultural meadow 925 metres east of Bank Street. View looking north*

Wildlife – mourning dove, song sparrow, American goldfinch, Canada goose, blue jay, killdeer, ring-billed gull, turkey vulture, monarch butterfly, northern leopard frog, coyote, eastern garter snake.

SAR comment – too small/fragmented and too much woody vegetation for grassland Species at Risk

Deciduous Hedgerow

White elm (many dead) and Manitoba maple are dominant with an average dbh of 22cm. Trembling aspen and bur oak averaging 20cm dbh are also present, with less representation of red maple and green ash. A 35cm dbh bur oak appears to be in good condition in the deciduous hedgerow 450 metres east of Bank Street (Photo). Wild grape and thicket creeper growth is extensive on many of the trees. Common buckthorn and nannyberry shrubs are common among the hedgerow trees.

Wildlife note – a stone pile was observed to the east of the north portion of the deciduous hedgerow 400 metres east of Bank Street

Photo 4 – Intermittent north-south deciduous hedgerow 400 metres east of Bank Street

Photo 5 – Bur oak in deciduous hedgerow 400 metres east of Bank Street

Photo 6 – Manitoba maple dominant in north portion of north-south deciduous hedgerow 300 metres east of Bank Street

Cultural Thicket

Common buckthorn is dominant with slender willow and glossy buckthorn well represented. Narrow-leaved meadowsweet, Bebb's willow, nannyberry, red-osier dogwood and red raspberry are also present. Bur oak, white elm, trembling aspen, red maple, green ash and white birch up to 32cm dbh are present. As with the deciduous hedgerows many of the whit elm are dead. Ground flora included small white aster, flat-topped aster, panicled aster, wild grape, willow-herb, Canada goldenrod, purple loosestrife, sensitive fern, joe-pye-weed, nodding bur marigold, motherwort, field sow-thistle, thicket creeper, bull thistle, horseweed, wild carrot, common milkweed, wild parsnip, evening primrose, stinging nettle, reed canary grass, blueweed and Canada thistle. The grape growth is extensive in many areas.

Wildlife – spring peeper, northern flicker, killdeer, blue jay, grey catbird and black-capped chickadee

Photo 7 – Cultural thicket 190 metres east of Bank Street

Photo 8 – Cultural thicket 730 metres east of Bank Street

Willow Thicket

Slender willow is dominant with glossy buckthorn and Bebb's willow well represented and narrow-leaved meadowsweet and red-osier dogwood common. Scattered bur oak, trembling aspen, white elm, green ash, apple, grey birch and white birch trees are up to 28cm dbh. Ground flora included tufted vetch, small white aster, New England aster, panicled aster, reed canary grass, common milkweed, narrow-leaved goldenrod, Canada goldenrod, sensitive fern, wool grass and joe-pye-weed.

Wildlife – northern leopard frog, spring peeper, coyote and eastern garter snake

Photo 9 - Willow thicket 900 metres east of Bank Street. View looking north

McGann Lands – September 17/2013

(refer to Lennox TCR for detailed descriptions)

Dry-fresh Coniferous and Mixed Forests

Mature white pines up to 50cm dbh, with red pines up to 33cm dbh. Smaller red maple, white birch, Manitoba maple, trembling aspen, apple, white elm, white ash and green ash are also present. Rows of planted red pines are in the central portion of these lands. Common buckthorn is dominant in the understorey with red raspberry very common and tartarian honeysuckle and narrow-leaved meadowsweet present. Regenerating ash stems also present. Ground flora includes common burdock, garlic mustard, beggar-ticks, yellow avens, enchanter's nightshade, New-England aster, flat-topped aster, heart-leaved aster, wild cucumber, common strawberry, wild parsnip, Canada thistle, thicket creeper, poison ivy, white snakeroot and rough-stemmed goldenrod.

Wildlife observed – yellow-rumped warbler, black-capped chickadee, white-throated sparrow, rose-breasted grosbeak and raccoon.

Photo A – Coniferous forest in the central portion of the McGann lands

Photo B – White and red pines 525 metres east of Bank Street

Coniferous Hedgerow

A row of white pines up to 38cm dbh are along the south edge of these lands 230 metres east of Bank Street (Photo C).

Photo C – Row of white pines 230 metres east of Bank Street

Cultural Thicket

Slender willow is dominant in many areas, with glossy buckthorn dominant in others. Tartarian honeysuckle, red-osier dogwood, Japanese smartweed and red raspberry are also present. Regenerating Manitoba maple stems are common.

Wildlife observed – ring-billed gull, chipping sparrow, American robin, black-capped chickadee, white-breasted nuthatch, grey squirrel and historical beaver cutting adjacent to cattail marsh.

Photo D – Thicket habitat in the east portion of the McGann lands. This example is 600 metres east of Bank Street

Photo E – From east edge of McGann Lands, looking west

Cattail Marsh

Broad-leaved cattail dominant, with joe-pye-weed, royal fern, sensitive fern, purple loosestrife, water horsetail, bittersweet nightshade, spotted jewelweed and purple aster present. Red-osier dogwood shrubs common, with red elderberry at the edges. Northern leopard frogs were common.

Drainage Channels (for both properties)

Please see the Kellam EIS/TCR for a description of the dug channels on both sides of the north-south storm sewer in the east portion of the study area. With the west-east incised dug channel connection along the south side of the Lemay lands to the north of the Kellam lands, any flow that historically went onto the McGann and Claridge lands is now collected by the west-east dug channel and directed to the north-south dug channel to the east. Vegetation in the channels included broad-leaved cattail, water plantain, water smartweed, purple loosestrife and pussy willow shrubs. Erosion control blankets are along the slopes and through the bottom of the dug channel (Photo F). Vegetation on the upper banks of the channel included reed canary grass, blue vervain, horseweed, red clover, field-sow thistle, Canada thistle, small white aster, panicled aster, New England aster, colt's-foot, common plantain, tufted vetch, wild carrot, curled dock and slender willow shrubs.

Photo F – North-south dug channel on the west side of the stormwater sewer in the east portion of the study area, 820 meters west of Bank Street. View looking south to the Kellam lands

Photograph Locations

(base photo from Google Earth – April 8th, 2013)