

FOTENN

INTEGRATED ENVIRONMENTAL REVIEW STATEMENT

936 MARCH ROAD

DRAFT

December 11, 2018



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1.0 INTRODUCTION

Fotenn Consultants Inc. has been retained by Minto Communities to prepare an Integrated Environmental Review Statement (IERS) in support of the proposed Plan of Subdivision for 936 March Road, located in the Kanata North community of the City of Ottawa.

Minto Communities is proposing a subdivision consisting of 856 residential units, a school site, and associated parkland in the Kanata North Expansion Area. An associated Zoning By-law Amendment would rezone lands to permit the proposed building types and uses. The development, as well as all supporting infrastructure including roadways and municipal services, will be accessed from March Road and be integrated with future communities to the North.

The requirements for an IERS are outlined in Section 4.7.1 of the City of Ottawa Official Plan which states:

Policy 4.7.1 (1)

Subdivision, and site plan and rezoning applications requiring an Environmental Impact Statement, Tree Conservation Report or landform feature assessment, will be accompanied by an integrated environmental review statement demonstrating how all the studies in support of the application influence the design of the development with respect to effects on the environment and compliance with the appropriate policies of section 4. The appropriate policies and studies will be identified through pre-consultation at the beginning of the design and review process.

Policy 4.7.1 (2)

The integrated environmental review statement will provide:

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

2.0 SUBJECT LANDS AND PROJECT DESCRIPTION

2.1 Description of Site

The subject lands, which are municipally known as 936 March Road, are located east of March Road and west of March Valley Road. The lands are legally known as *Part of Lot 12, Concession 4* in the Geographic Township of March. The Draft Plan of Subdivision has a total area 79.05 hectares and has frontage along March Road and March Valley Road. The subject lands consist of parcels located both east and west of the abandoned Beachburg rail corridor that runs north-south through the eastern end of Kanata.

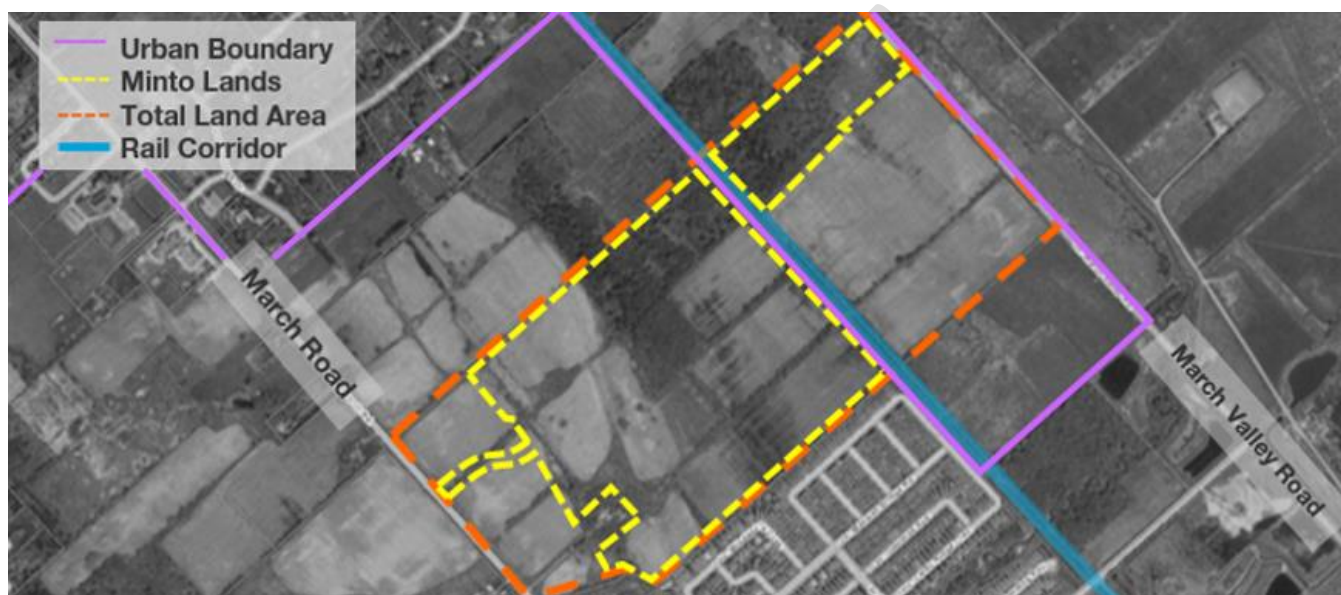


Figure 1: Subject lands and surrounding area

The subject lands are relatively flat, other than slopes associated with the creek that runs through the east end of the subject lands. The parcel located east of the rail corridor will consist of a woodlot and stormwater management pond, but is currently characterised by farmland and a wooded area. The creek corridor running through the subject lands contains most of the vegetation found on the lands; the remainder of the property is currently vacant farmed lands. There is one driveway which leads to a farm house which will be retained by the owner of the lands (2559688 Ontario Inc) and is the only structure on the subject lands.

2.2 Description of Project

The proposed Plan of Subdivision would create 64 blocks and 18 streets. A future east-west collector road will serve the subdivision, providing access to March Road. The following uses are proposed on the subject lands:

- 455 detached dwellings; 401 townhouse dwellings;
- A neighbourhood park;
- A smaller parkette;
- A school block;
- Two commercial blocks;
- A woodlot and storm management pond; and
- Environmental protection lands.

3.0

SUMMARY OF TECHNICAL STUDIES

This section provides an overview of the technical studies that were completed in support of the Draft Plan of Subdivision for the development of the subject lands. These studies fall into three groups: engineering studies, planning studies, and environmental studies.

A summary of the existing environmental conditions and identified potential environmental effects related to the proposed development is presented for each study, as required in Section 4.7- *Environmental Protection* of the Official Plan. Each summary uses the exact language used in the technical study, where possible.

3.1 Engineering Studies

3.1.1 Transportation Impact Assessment

A Transportation Impact Assessment prepared by CGH Transportation was submitted to the City of Ottawa in accordance with the Transportation Impact Assessment Guidelines. The report identifies the range of analyses required to understand how well the development proposal aligns with City of Ottawa policies and objectives and if the transportation network requires modification to offset development impacts. The transportation network was designed in conjunction with the Kanata North Urban Expansion Area (KNUA) Community Design Plan (CDP) Transportation Master Plan (TMP).

The report concludes that the study area transportation network will accommodate site-generated traffic volumes. Furthermore, by providing transit stops along Street 1 (the proposed east-west collector), it was demonstrated that 95% of proposed units would be within 400m of transit. CGH Transportation notes that they will work with Brigil and their Transportation Consultant to obtain a Roadway Modification Approval (RMA) for an access intersection between the two developments. As the report and plan were prepared within the context of the Kanata North CDP and associated TMP; the proposed development, with intersection control will function with the Study Area Road Network.

3.1.2 Functional Servicing Report

A Functional Servicing Report was prepared by DSEL (September 2018) which assesses the adequacy of public services for the proposed site. Given that the lands are located within the Kanata North CDP area, the KNUA Master Servicing Study (MSS) applies. The MSS was completed to provide a conceptual servicing strategy for the overall development of the Kanata North Urban Expansion Area. The MSS identifies existing environmental constraints, describes the neighbourhood-level services required within the study area and identifies required infrastructure to support the development of the area. The proposed servicing has been designed to follow the preferred plan in the MSS. There are minor alterations to road alignment and land use locations within the study area.

The subject lands will be serviced by municipal water, wastewater and stormwater services as outlined below:

Water

The study area lies within the City of Ottawa 2Ww pressure zone, with existing 200mm and 300mm diameter watermain exist within the residential subdivision to the south. Water supply and servicing was contemplated as part of the MSS design, which included connecting to the existing 200mm watermain to the south and extending a watermain within March Road.

Per the MSS, the study area will be serviced entirely from the Zone 2Ww pressure zone. Water will be delivered via a trunk 300mm diameter watermain running through the site and connecting to the existing watermain. Water will be provided through watermain on each street, connection to the trunk.

A complete hydraulic analysis will be prepared at the time of detailed design. The watermain network will be sized to meet maximum hour and maximum day plus fire flow demands and conform to all relevant City Standards and policies.

Wastewater

The wastewater servicing strategy for the study area was considered within the MSS, with a portion of the study area draining to the south and the remaining portion draining to the east. A network of local gravity sewers is proposed within the study area to convey flow to existing and proposed offsite sanitary sewers which would see the majority of the wastewater drain into the existing sanitary infrastructure at East March Trunk and Briar Ridge Pump Station. Sufficient residual capacity exists within the East March trunk sanitary sewer to accommodate the preferred alignment.

Stormwater Management

A network of local gravity sewers is proposed within the study area to capture stormwater and convey the flows to the proposed trunk storm sewer network. The eastern portion of the site currently drains into Shirley's Brook via Tributary 2. The trunk storm sewer is to outlet into a proposed drainage swale which then flows to the Stormwater pond 3 through the streets and sewer network. Stormwater Pond 3 is to be located in the north-east portion of the site, as considered in the MSS and CDP. At the time of detailed design, the possibility to downsize the storm infrastructure will be analyzed and a minor stormwater strategy will be proposed, deviating from the MSS. The storm sewer network, and stormwater management facility designs are to be designed in conformance with all relevant City of Ottawa and MOECC Guidelines.

The report by DSEL also considers Utilities and Erosion and Sediment control as part of their study:

Utilities

Utility services were consulted as part of the MSS process to provide information regarding their existing infrastructure. Per the MSS, DSEL has begun coordination with the utility services to confirm the servicing plan for the study area.

Erosion and Sediment Control

To control soil erosions, prior to topsoil stripping, earthwork or underground construction the following controls will be implemented:

- Silt fence will be installed around the perimeter of the active part of the site and will be maintained throughout construction;
- Catch basins will have inserts installed during construction to protect from silt entering the storm sewer system;
- Specific recommendations to the Contractor will be included in contract documents; and,
- The Contractor will, at every rainfall, complete inspection and guarantee proper performance.

3.1.3 Traffic Noise Feasibility Assessment

The Traffic Noise Feasibility Assessment was prepared by Gradient Wind Engineering (December 2018) to support the applications. The assessment analyzes road traffic noise impacts on the development, as directed by the City Environmental Noise Control Guidelines. The report notes that the major source of roadway noise affecting the development are the internal Collectors Street No. 1 and No. 2, which are identified on Schedule E- *Urban Road Network* of the City of Ottawa's Official Plan. A detailed traffic noise study will be required at the time of the Site Plan Control approval for the commercial development.

The assessment is based on theoretical noise prediction methods that conform to the Ministry of the Environment and Climate Change (MOECC) and City of Ottawa requirements, noise level, future vehicular traffic volumes; and a concept plan prepared by NAK Design Strategies dated August 7, 2018, in addition to a Draft Plan of Subdivision dated September 12, 2018. The results of the study indicated that noise levels due to roadway traffic over the site will range between approximately 59 and 61 dBA during the daytime period. Results also indicated that outdoor living areas in proximity to the roads (approximately 20 metres from Street 1 and 2) may require noise control measures.

Mitigation measures are outlined in the study such as distance setbacks, Insertion of noise insensitive land uses between the source and sensitive points of reception, orientation of buildings to provide sheltered zones in rear yards, shared outdoor amenity areas, earth berms (sound barriers) and acoustic barriers to mitigate noise impacts on the affected properties.

In summary, the report demonstrates that roadway noise impacts can be adequately mitigated.

3.1.4 Geotechnical Investigation Report

The Geotechnical Investigation was prepared by Paterson Group (December 2018) to determine subsoil and groundwater conditions for the site and provide geotechnical recommendations for the design of the proposed development. The field investigation was performed in June and July 2018 through 38 boreholes.

Generally, the subsurface profile encountered at the test holes consists of a thin topsoil layer underlain by silty sand in the central portion of the site, and by a silty clay deposit in the remainder of the site. Where encountered, the silty sand had a thickness of approximately 0.5 to 1.5 m, and was underlain by the silty clay. The silty clay deposit was observed to generally increase in thickness from west to east across the site, from approximately 0.75 m in the western portion of the site to 7.8 m near the eastern boundary of the site.

Based on available geological mapping, the bedrock in the western half of the subject site consists of interbedded sandstone and dolomite of the March formation, while the bedrock in the eastern half of the subject site consists of dolomite of the Oxford formation, with overburden drift thicknesses ranging from 3 to 10 m.

Practical refusal to augering on inferred bedrock was encountered between 0.3 and 3.7 m depth. Based on available geological mapping (NR Can), the subject site is located in an area where the bedrock consists of interbedded limestone and shale of the Verulam formation and interbedded limestone and dolomite of the Gull River formation in the east and west, respectively. The overburden drift thickness is estimated to be between 0 to 10 m below the west portion of the site, and 10 to 25 m below the east portion of the site.

Based on Paterson's observations, the long-term groundwater level is anticipated at a 2.5 to 4.5 m depth at the time of study.

Paterson concluded that from a geotechnical perspective, the subject site is satisfactory for the proposed development. It is expected that low rise wood framed buildings could be founded on conventional shallow footings placed on an undisturbed, silty sand, silty clay, glacial till or surface-sounded bedrock bearing surface. Should existing grades be raised at the site for the proposed development, it is expected that several options, such as engineered fill or well graded blast rock, would act as suitable subgrade material. If higher than permissible grade raises are required, preloading with or without a surcharge, lightweight fill, and/or other measures should be investigated to reduce the risks of unacceptable long-term post construction total and differential settlements.

3.1.5 Phase 1 Environmental Site Assessment

The purpose of the Phase 1 Environmental Site Assessment (ESA) prepared by Paterson Group (December, 2018) was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject lands.

Historically, the Phase I Property was first developed in the late 1800's as a farmstead with the existing residential dwelling and outbuildings. The Beachburg rail corridor transects the eastern portion of the site in an approximate north-south direction. Based on the aerial review, miscellaneous items were stored in the vicinity of the outbuildings since the early 1990's. The historical use of the adjacent and neighbouring properties was primarily vacant or agricultural with occasional farmsteads or residential dwellings.

Following the historical research, a site visit was conducted to assess the subject site and Phase I ESA study area. At the time of the site visit, the current uses of the adjacent and neighbouring properties of the study area were observed as vacant or agricultural land along with residential dwellings. Based on the historical research in combination with observations made at the time of the site visit, potentially contaminating activities which have resulted in APECs on the Phase I Property include on-site fuel storage and the storage of miscellaneous items by Fuller Construction.

Based on the results of the Phase I ESA, it is Paterson's opinion that a Phase II ESA is required for the subject lands. Further to this, based on the age of the residential dwelling (late 1800's) possible asbestos-containing materials (ACMs) observed during the site visit. Prior to any future demolition Paterson recommends a designated substance survey.

3.1.6 Phase II Environmental Site Assessment

The Phase II ESA prepared by Paterson Group in November 2018 was to address potentially contaminating activities (PCA's) that were identified in the Phase I ESA. The subsurface investigation consisted of drilling three (3) boreholes, each constructed with monitoring wells, as well as the excavation of 8 test pits.

A concentration of molybdenum exceeding the MECP Table 2 standard was identified near the surface soil in one sample. At the time of the Phase II ESA, small metal pieces of scrap metal, bottles, paint chips and misc. debris were observed on the ground surface. The concentration is not considered to represent a significant concern to the property. Paterson recommends that the top 0.5m of soil be removed from the immediate vicinity of the soil samples and that Paterson personnel be present to monitor the removal process.

In terms of groundwater, Paterson notes that if the monitoring wells installed on the subject site are not going to be used in the future, or will be destroyed during site redevelopment, they should be abandoned according to Ontario Regulation 903. At this time, it is recommended that an attempt be made to maintain the integrity of the monitoring wells for possible future groundwater monitoring.

In regards to the farmhouse dwelling units, Paterson did not address the storage of furnace oil within the basement of the dwelling at the time of the Phase II ESA. While potential for impacts to the underlying soil and groundwater is considered to be low, it is recommended that the sub-slab area in the vicinity of the furnace be assessed. If evidence of subsurface petroleum hydrocarbon impacts is identified, an additional borehole with a monitoring well installation could be placed near the southwest corner of the residential dwelling to confirm there has been no impact to the groundwater.

3.1.7 Environmental Impact Statement and Tree Conservation Report

An Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) were prepared by McKinley Environmental (October 2018). The report addresses the existing vegetation, potential tree retention, Species at Risk and other natural features. The major objective of the study is to assess potential impacts on the natural features and functions of the subject site and surrounding area.

It is anticipated that habitat enhancement measures will be required within the 40 m wide watercourse corridor adjacent to the existing channel, in order to improve the quality of the aquatic habitat and riparian areas for Blanding's Turtles (as well as other wildlife). Habitat improvements are anticipated to be required to meet the requirements of a future Overall Benefit Permit for Blanding's Turtle under the Ontario Endangered Species Act. Due to the presence of Butternut Trees and Blanding's Turtle, an Overall Benefit Permit under Clause 17(2)(C) of the Ontario Endangered Species Act is anticipated to be required.

The McKinley report notes that, pending that the regulatory, mitigation, and avoidance measures outlined in this report are implemented appropriately, the development is not anticipated to have a significant negative effect on the natural features and functions.

Tree cover within the Study Area is present within the vegetated Riparian Corridor surrounding the North Tributary, the Cultural Woodlot adjacent to the farmhouse at 936 March Road, within the various Coniferous and Deciduous Hedgerows, within Woodlot S-20 and the surrounding areas of recent regrowth, and within Woodlot S-23 and the adjacent areas of recent regrowth. The report notes that trees may not be able to be retained in the development lands, but can be retained in the open space blocks on are development edges.

The KNUFA Environmental Management Plan (EMP) establishes a minimum 40 m wide corridor of retained and/or enhanced habitat around the tributaries of Shirley's Brook. Within the Study Area, this corridor is provided by several connected open space blocks that separate the commercial blocks (owned by 2559688 Ontario Inc.) from the Minto Communities development (the subject lands). It is anticipated that habitat enhancement measures will be required within the 40 m wide watercourse corridor adjacent to the existing channel, in order to improve the quality of the aquatic habitat and riparian areas for Blanding's Turtles (as well as other wildlife).

The habitat of threatened Blanding's Turtle was confirmed within the Study Area, it is anticipated that habitat enhancement measures will be required within the 40 m wide watercourse corridor adjacent to the existing channel, in order to improve the quality of the aquatic habitat and riparian areas for Blanding's Turtles. Eastern Wood Pewee were also documented calling from the western part of Woodlot S-23. Barn Swallows were also observed, although no evidence of nesting within the Study Area was noted. During the 2018 Whip Poor Will Call surveys, Grey Tree Frogs, Green Frogs, and Spring Peepers were documented calling in association with the North Tributary, which suggests that the watercourse also provides amphibian breeding habitat. Snapping Turtle were also observed within the North Tributary. The North Tributary is therefore considered Significant Wildlife Habitat.

Other than the features listed above, no stick nests, migratory bird stopover points, heron rookeries, caves, bedrock fissures, wetlands, bobolink or meadowlark were noted within the Study Area.

According to the report, a total of 127 Category 2 Butternut Trees and 22 Category 3 Butternut Trees were identified. As shown below, the majority of Butternut Trees are clustered within either the Cultural Woodlot surrounding the farmhouse at 936 March Road or the western part of Woodlot S-23. Depending on the schedule of development, the Ontario Endangered Species Act requirements for the development of the Southeast Quadrant of the KNUFA may be addressed either by obtaining separate Overall Benefit Permits for the development of the Commercial Blocks and the Minto Site, or by obtaining a single combined permit for the entire quadrant.

The report recommends a variety of mitigation measures, such as tree planting guidelines and tree retention guidelines. More specifically, the KNUFA EMP establishes the Tributary Corridor. The report notes that habitat enhancements should be implemented to improve the quality of habitat for the aquatic environment and Blanding's Turtles, along with a wildlife passage culvert under Street #1 and exclusion fencing will be required. Further, special mitigations relating to the servicing, stormwater management, and sediment and erosion controls will supplement the environmental mitigation measures. A variety of other mitigation measures are recommended to adequately maintain the aquatic and terrestrial environment in light of the development.

Finally, the report notes that Pending that the regulatory, mitigation, and avoidance measures outlined in this report are implemented appropriately, the development of the Southeast Quadrant of the KNUFA is not anticipated to have a significant negative effect on the natural features and functions.

3.1.8 Planning Rationale

Fotenn Consultants prepared a Planning Rationale in support of the Plan of Subdivision and Zoning By-law Amendment applications in December 2018. The Planning Rationale provides a history of the applications affecting the subject lands and provides an analysis of the applicable policy and regulatory framework. The Rationale also provides a description of the proposed development, similar to the summary provided in Section 2.0 above.

The Planning Rationale identifies the required planning applications as a Plan of Subdivision application and a Zoning By-law Amendment application. The Zoning By-law Amendment application seeks to re-zone the subject lands to permit the residential, general mixed use, open space and institutional uses proposed for the area.

The subject lands are designated “General Urban Area” on Schedule B- *Urban Policy Plan* of the Official Plan. Overall, the proposed development conforms to the general intent of General Urban Area designation and advances the City’s strategic initiatives. The Planning Rationale presents evidence to support the development, in line with the relevant Official Plan policies. The development also implements the KNUFA CDP, which envisions a mix of residential, parks and schools for the subject lands. Further, the report addresses the KNUFA CDP’s vision for the commercial land located along March Road.

4.0

POTENTIAL CONCERNS, MITIGATION MEASURES, AND IMPLEMENTATION

4.1 Potential Concerns

The various studies prepared in support of the development applications, as summarized in Section 3.0 above, each describe existing environmental conditions and identify potential environmental effects related to the proposed development. As required in Section 4.7.1 of the Official Plan, the scope of environmental interactions between studies is summarized in Table 1 below.

	Functional Servicing Report	Transportation Impact Assessment	Geotechnical Study	Environmental Noise Impact Assessment	Planning Rationale	Tree Conservation Report	Environmental Site Assessment	Environmental Impact Statement
Noise & Vibration		X		X				X
Groundwater	X		X			X		X
Surface Water	X		X			X	X	X
Terrestrial Ecology					X	X	X	X
Geotechnical	X		X			X		X
Services	X		X					

4.2 Mitigation Measures and Implementation of Commitments

The following table outlines the mitigation measures contained within the technical studies summarized in Section 3.0 of this Integrated Environmental Review Statement.

Table 2: Mitigation Measures

Number	Potential Environmental Concern	Mitigation Measure
1	Servicing (Erosion and Sediment Control)	<p>An Erosion and Sedimentation Control Plan (ESCP) will be developed and implemented by the Owner's general contractor prior to development.</p> <p>Silt fence will be installed around the perimeter of the active part of the site and will be cleaned and maintained throughout construction, and maintained until the working area has been stabilized and re-vegetated.</p> <p>Catchbasins will have catchbasin inserts installed during construction to protect from silt entering the storm sewer system</p>

Number	Potential Environmental Concern	Mitigation Measure
		A list of further recommendations will be included in the Construction Contract
2	Protection of Groundwater Resources and Geotechnical Investigation	<p>A perimeter foundation drainage system be provided for the proposed structure.</p> <p>Where silty clay is anticipated at subgrade level, consideration should be given to installing subdrains during the pavement construction. The subgrade surface should be crowned to promote water flow to the drainage lines.</p> <p>Since a post-development groundwater lowering of 0.5m was assumed, a permissible grade raise restriction of 3 m is recommended for areas where building foundations are founded over a silty clay deposit</p>
3	Slope Stability / Creek Corridor	A 6m erosion access allowance is recommended to be applied from the top of stable slopes for the slopes adjacent to the watercourse.
4	Tree Protection	<p>Mitigation through the OMNRF regulations will be required for species at risk such as Butternut trees prior to development.</p> <p>Where feasible trees will be preserved within the open space blocks that will form the minimum 40 m wide corridors surrounding the North Tributary and the North Branch of Shirley's Brook.</p> <p>Where compatible with the park and school designs, trees could also be preserved within the park and schools blocks.</p> <p>Other mitigation measures include: marking the edge of the tree clearing area, ensuring that there is no harm to the CRZ of trees to be retained, do not attach anything to trees to be retained, ensure that fumes and exhaust are directed away from trees.</p>
5	Habitat Protection	<p>Tributary setbacks have been included to preserve the habitat in and around the creek corridor.</p> <p>A Blanding's Turtle habitat creation is recommended for the site, along with the artificial</p>

Number	Potential Environmental Concern	Mitigation Measure
		<p>nesting area. Adequate turtle fencing is also required.</p> <p>Other mitigation measures include: pre-stressing the site, tree-clearing direction towards open space, temporary exclusion fencing, inspections, sweeps, awareness training along with the implementation of the general provisions for site management.</p>
6	Material Testing	<p>A report confirming the construction has been completed in general accordance with the recommendations could be issued upon request, following the completion of a satisfactory material testing and observation program by the geotechnical consultant.</p>
7	Roadway Noise	<p>Mitigation measures include: distance setbacks, Insertion of noise insensitive land uses between the source and sensitive points of reception, orientation of buildings to provide sheltered zones in rear yards, shared outdoor amenity areas, earth berms (sound barriers) and acoustic barriers to mitigate noise impacts on the affected properties from roadways.</p> <p>Further to this, Gradient recommends warning clauses to be inserted into the agreement of purchase and sale of all units affected by noise</p>

5.0

DESIGN WITH NATURE PRINCIPLES AND SUBDIVISION DESIGN

As outlined in Section 4.7.1(2) of the Official Plan, subdivision design is required to include a statement with respect to how the design with nature approach has influenced the design of the development and how it supports the following environmental objectives:

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

Section 8.0- *Glossary* of the City of Ottawa Official Plan defines “design with nature” as:

An approach that utilizes natural methods during site design to work with the terrestrial, aquatic, and biological characteristics of the site and the relationship between them. These measures may serve to reduce the reliance on technological solutions, which may be expensive, energy- or management-intensive, and less environmentally sensitive. This may include:

- / Retention of natural vegetation on slopes to reduce erosion;
- / Conservation of as many existing trees as feasible;
- / Use of appropriate natural infiltration techniques on site to reduce the need for stormwater management ponds;
- / Orientation of streets to maximise opportunities for passive solar heating and reflection of natural contours;
- / Protection of natural stream corridors and incorporation of natural features into open spaces.

The proposed development response to these principles and objectives as follows:

- / Trees to be removed will be replaced where possible within the proposed rights-of-way in consideration of the soil type, which the Geotechnical Report classifies as silty clay. Plantings will consist of native species and will contribute positively to an appropriate amount of vegetative cover within the Plan of Subdivision.
- / The Woodlot and Stormwater Management Pond will be dedicated to the City for preservation. The proposed neighbourhood park has been strategically located to provide a buffer to the creek corridor to be protected. The park design and multi-use pathway will enhance and protect the corridor.
- / Stormwater from the site will be directed via storm sewers to the stormwater management pond which will provide enhanced water quality and quantity control. Ultimately, stormwater will be controlled through the stormwater management system envisioned by the MSS and implemented through the design of the various subdivisions in the Kanata North area.
- / Through detailed design, opportunities to reduce the extent of paved areas and maintain/create green spaces will be maximized in order to allow for groundwater recharge. This is anticipated to avoid potential indirect impacts to the sensitive environmental areas on the site.

-
- / The natural creek corridor will be protected, through the 30m wide setback proposed in the Zoning By-law Amendment, as outlined in the supporting documents. The natural features will be protected as a buffer between the creek and the development.

6.0

ENERGY EFFICIENCY AND SUSTAINABLE DESIGN

Section 2.5.1- *Urban Design and Compatibility* of the Official Plan sets out design objectives and principles for new development within the City of Ottawa. The design objectives are qualitative statements of how the City wants to influence the built environment as the city matures and evolves. They are broadly stated, and are applied throughout all land use designations. The Design Principles are more specific, further describing how the City hopes to achieve each of the objectives.

As per Section 4.7.1 of the Official Plan, an Integrated Environmental Review Statement is required to consider Objective 7 and the associated principles. Objective 7 and its associated principles are:

To maximize energy-efficiency and promote sustainable design to reduce the resource consumption, energy use, and carbon footprint of the built environment.

Principles:

Design should:

- / Orient development to maximize opportunities for passive solar gain, natural ventilation, and use energy efficient development forms and building measures.
- / Consider use of renewable energy and alternative energy systems.
- / Maximize opportunities for sustainable transportation modes (walking, cycling, transit facilities and connections).
- / Reduce hard surfaces and maximize landscaping and site permeability on site.
- / Consider use of innovative green spaces such as green roofs, and measures that will reduce the urban heat island effect.
- / Maximize re-use and recycling of resources and materials.
- / Utilize green building technologies and rating systems such as Leadership in Energy and Environmental Design (LEED).
- / Utilize advanced water conservation and efficiency measures.

The proposed development has implemented efficient and sustainable design principles as follows:

- / The proposed development will provide a mix of housing in the Kanata North Community, in proximity to an arterial road that will eventually be served by transit. By developing the commercial blocks along March Road and enhancing multi-use pathways, residents will have easy access to sustainable modes of transportation, and giving them the opportunity to live in proximity to work and to shop locally.
- / The Draft Plan of Subdivision implements the vision of the Kanata North CDP in the creation of a public park, stormwater management pond, along with the maintenance of the Creek Corridor.
- / The development is maximizing opportunities for reduction of hard surfaces and increasing landscaping by proposing open space as well as fields associated with the school block. Furthermore, landscaping on properties will contribute to this permeability.
- / The proposed development will develop vacant lands within the City's urban boundary, making efficient use of existing infrastructure and public service facilities.

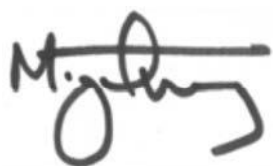
7.0 CONCLUSION

1.1 Concurrence of Study Team

This Integrated Environmental Review Statement has been reviewed and concurred with by the individual sub-consultants involved in the design team and preparation of technical studies, and by Minto Communities. Confirmation from each of the team members is included in Appendix A.

1.2 Conclusion

It is our professional opinion that this Integrated Environment Review Statement follows the policies set out in the Official Plan. We trust that this report is to your satisfaction. Should you have any questions, please do not hesitate to contact the undersigned.



Miguel Tremblay, MCIP RPP
Director, Planning + Development
Fotenn Consultants Inc.



Emilie Coyle, M.P.I
Planner
Fotenn Consultants Inc.

APPENDIX A: CONCURRENCE OF STUDY TEAM

Paterson Group

I have reviewed the sections of this Integrated Environmental Review Statement associated with the **Geotechnical Investigation, Hydrogeological Assessment, Phase I ESA and Phase II ESA**, as it relates to the proposed development of 936 March Road and concur with its related content and recommendations.

Geotechnical Investigation and Hydrogeological Assessment:

Date: _____

Signature: _____

David J. Gilbert, P. Eng.
Associate and Senior Engineer
Paterson Group

Phase I & II Environmental Site Assessment:

Date: _____

Signature: _____

Mark S. D'Arcy, P.Eng., Q.P.ESA
Associate and Senior Engineer
Paterson Group

DSEL

I have reviewed the section of this Integrated Environmental Review Statement associated with the **Functional Servicing Report**, as it relates to the proposed development of 936 March Road, by Minto Communities.

Functional Servicing Report

Date: _____

Signature: _____

Matt Wingate , P. Eng.
Associate and Senior Engineer

McKinley Environmental Solutions

I have reviewed the section of this Integrated Environmental Review Statement associated with the **Environmental Impact Statement and Tree Conservation Report**, as it relates to the proposed development of The Meadows Phase 5 by Tamarack Corporation.

Environmental Impact Statement and Tree Conservation Report

Date: _____

Signature: _____

Andrey McKinley, PhD, MA, BA (Hons), EP, RP Bio
Senior Biologist, McKinley Environmental Solutions

Gradient Wind Engineering Ltd.

I have reviewed the section of this Integrated Environmental Review Statement associated with the **Traffic Noise Feasibility Assessment**, as it relates to the proposed development of 936 March Road, by Minto Communities.

Traffic Noise Feasibility Assessment

Date: _____

Signature: _____
Joshua Foster , P. Eng.
Principal, Gradient Wind Engineering Ltd.

CGH Transportation

I have reviewed the section of this Integrated Environmental Review Statement associated with the **Transportation Impact Statement**, as it relates to the proposed development of 936 March Road, by Minto Communities.

Transportation Impact Statement

Date: _____

Signature: _____

Mark Crockford, P.Eng.
Director, CGH Transportation

Minto Communities

I have reviewed and concur with the content and recommendations of this Integrated Environmental Review Statement.

Date: _____

Signature: _____
Beth Henderson
Senior Land Development Manager
Minto Communities