

Avoidance Alternatives Form for activities that may require an overall benefit permit under clause 17(2)(c) of the *Endangered Species Act*

For Internal Use Only

Tracking Number	Lead District
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Note: It is anticipated that the completion of this form will take multiple extended sessions. It is recommended that proponents download and save the form and the associated guide to their local hard drive in order to more easily facilitate this task. Adobe Reader 10 is required to save, view and add data to the form. If you require this version of Adobe, [select download](#) to download it for free. To review the entire form, [select view](#). It is strongly recommended that while completing the form, proponents read all associated tabs and help buttons to ensure the information requirements are clearly understood.

Personal information in this form is collected under the authority of Section 53 of the *Endangered Species Act, 2007*. The information provided will be used for the purposes of administering the Act and its Regulations. Questions about the use of this information should be directed to the species at risk representative at the local MNR office (http://www.mnr.gov.on.ca/en/ContactUs/2ColumnSubPage/STEL02_179002.html) for the location where the proposed activity will take place.

Fields marked with an asterisk (*) are mandatory.

1. Contact Information

Proponent Contact Information check this box if the proponent is a private individual

Legal Last Name* Rivard	Legal First Name* Jean-Luc	Legal Middle Initial(s)
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Full Mailing Address

Unit No.	Street No.* 98	Street Name* Rue Lois	P.O. Box
Rural Route	Postal Station	Lot No.	Concession
City/Town* Gatineau	Province* Quebec	Postal Code* J8Y 3R7	
Telephone No.* 819 243-7392 ext. 117	Fax No.	Email (if available) jlrivard@brigil.com	

Primary Contact for Proponent

Is the proponent the primary contact for this form?*

Yes No

Last Name* McKinley	First Name* Andrew	Middle Initial(s)
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Position/Title
Senior Biologist

Legal Name of Organization/Company
McKinley Environmental Solutions

Full Business Mailing Address

Unit No.	Street No.* 3151	Street Name* Strandherd Drive	P.O. Box 45505
Rural Route	Postal Station	Lot No.	Concession
City/Town* Ottawa	Province* Ontario	Postal Code* K2J 0P9	
Business Telephone No.* 613 620-2255 ext.	Business Fax No.	Business Email (if available) mckinleyenvironmental@gmail.com	

Authorization*

I, Jean-Luc Rivard, Director - Land Development, Brigil Homes (proponent's name), authorize Andrew McKinley, Senior Biologist - McKinley Environmental Solutions (primary contact's name)

to disclose information required by the Ministry of Natural Resources for the purpose of administering the *Endangered Species Act, 2007* and its Regulations in accordance with the *Freedom of Information and Protection of Privacy Act, 1990*.

2. Consideration of reasonable alternatives that would not adversely affect protected species at risk or habitat (i.e., avoidance alternatives)

In Table 1, please describe the alternative approaches to the activity that would not adversely affect the protected species at risk or habitat(s) for MNR's consideration. For multiple species, add additional rows. For each alternative listed, provide the rationale for how it would completely avoid adverse effects on 1) the protected species (**avoidance of all adverse effects on species**) or 2) the protected habitat (**avoidance of all adverse effects on protected habitat**).

Note: MNR will consider the information provided and assess whether or not the activity avoidance alternatives completely avoid adverse effects on protected species and habitat.

If proponents do not elect to proceed with avoidance alternatives that completely avoid adverse effects to species at risk or their habitat, then they will be advised to complete the Application for an overall benefit permit under clause 17(2)(c) of the *Endangered Species Act*, and the information presented in this form will be used to assist MNR to assess the permit application and determine whether it meets the legislated requirements of clause 17(2)(c) of the ESA.

2. Consideration of reasonable alternatives that would not adversely affect protected species at risk or habitat (i.e., avoidance alternatives)

Table 1. Alternative approaches considered to avoid potential adverse effects on protected species or habitat (e.g., alternative locations) and any contravention of subsection 9(1) or 10(1) of the ESA. If this information is available in an existing report, proponents can copy and paste the relevant information into the appropriate spaces below and reference the title, author and date of the report(s) from which the copy and paste sections originate.

Description of Avoidance Alternative	Explanation of how all adverse effects on species will be avoided	Explanation of how all adverse effects on habitat will be avoided	Effectiveness in meeting the main purpose of the activity	Potential limitations (e.g., biological, technical and economic feasibility)
<p>Barn Swallow</p> <p>As described in Table 3 of the Information Gathering Form, there is one (1) existing structure within the Site (the collapsing barn). One (1) intact Barn Swallow nest and one (1) degraded nest were observed within the collapsing barn. The collapsing barn will be demolished once construction begins.</p>	<p>The collapsing barn will be demolished during the initial stage of construction. Building demolition will be undertaken outside of the Barn Swallow nesting season (September 1st, 2021 to April 30th, 2022). Individuals of the species will not be directly affected, as demolition will be undertaken outside of the nesting season.</p>	<p>The removal of the collapsing barn will remove Barn Swallow habitat. Prior to the demolition of the collapsing barn, the demolition activity will be registered through the Ministry of Environment, Conservation, and Parks (MECP) Online Impact Registration Process. The MECP Online Impact Registration Process requires construction of artificial Barn Swallow nesting structures in order to compensate for impacts to Barn Swallow habitat (e.g. the demolition of buildings containing Barn Swallow nests). One (1) artificial Barn Swallow nesting structure is anticipated to be required to offset the impacts associated with the demolition of the collapsing barn. The location and configuration of the artificial Barn Swallow nesting structure will be determined as part of the MECP Online Impact Registration Process. The construction of the Barn Swallow artificial nesting structure will be completed</p>	<p>The collapsing barn is a derelict structure which overlaps the development area, and hence must be removed in order to allow the development to proceed.</p>	<p>As described in the previous columns, the demolition activity will be registered through the Ministry of Environment, Conservation, and Parks (MECP) Online Impact Registration Process. The mitigation, habitat compensation, and monitoring requirements specified by the MECP Online Impact Registration Process will be fulfilled as described in the previous columns. This approach is anticipated to be technically feasible and economically viable.</p>

Description of Avoidance Alternative	Explanation of how all adverse effects on species will be avoided	Explanation of how all adverse effects on habitat will be avoided	Effectiveness in meeting the main purpose of the activity	Potential limitations (e.g., biological, technical and economic feasibility)
		<p>prior to the start of the 2022 Barn Swallow nesting season (e.g. before May 1st, 2022). The three (3) year Barn Swallow artificial nesting structure monitoring program will be undertaken in 2022, 2023, and 2024. Monitoring includes three (3) visits each year between May and September, as well as the ongoing maintenance of a monitoring record report.</p>		

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<p>Blanding’s Turtle - Alternative 1 (Preferred Alternative) – Proceed with Development Plan</p> <p>The Concept Land Use Plan and Conceptual Draft Plan of Subdivision are included in Appendix A. The Site will be developed to accommodate several condo and residential mixed use blocks. The development will also include a mixture of single detached homes and townhomes, as well as a 1.00 ha School Block, a 4.26 ha Community Park, and a 1.60 ha Stormwater Management Pond. The Site development will also include construction of several roads. The main road through the Site will cross the North Branch (Tributary #3) and will require installation of a wildlife passage culvert (discussed in the next column). A 6 m wide recreational pathway will be included along the northern edge of the minimum 40 m wide North Branch watercourse corridor.</p>	<p>Alternative #1 (Preferred Alternative) will not avoid all impacts to the species. The following summarizes potential impacts from the undertaking on individual Blanding’s Turtles at the construction stage:</p> <ul style="list-style-type: none"> • Removal of habitat features and displacement of wildlife from existing habitat areas; • Potential injury or mortality of adults in terrestrial habitats due to vehicle impacts, during excavations, or during land clearing; and • Interruption of movement to essential foraging, breeding, or overwintering areas due to site hoarding or sediment and erosion control fencing. <p>Following completion of construction, the following summarizes operational and long term impacts which may affect Blanding’s Turtles:</p> <ul style="list-style-type: none"> • Potentially increased risk of road mortality due to increased road density and increased traffic; 	<p>Aspects of the development are anticipated to positively affect Blanding’s Turtle and their habitat. However, even with positive impacts and mitigation measures accounted for, it is anticipated that the development as a whole will result in a net loss of Blanding’s Turtle habitat. The Kanata North Urban Expansion Area (KNUEA) Environmental Management Plan (EMP) establishes minimum 40 m wide corridors of retained and/or enhanced habitat around the tributaries of Shirley’s Brook (Novatech 2016b). Within the Site, a minimum 40 m wide corridor was identified to retain the North Branch (Tributary #3). As shown in the Concept Land Use Plan (Refer to Appendix A), the minimum 40 m wide corridor within the Site is approximately 1.58 ha in size.</p>	<p>The Preferred Alternative (Alternative #1) will allow the development to proceed and is considered economically viable and technically feasible. The extent of retained habitat conforms to the recommendations of the Kanata North Urban Expansion Area (KNUEA) Community Design Plan (CDP) and Environmental Management Plan (EMP) (Novatech 2016a; 2016b).</p>	<p>As noted in the previous columns, potential impacts to individuals of the species will be mitigated through the installation of the temporary and permanent fencing system, as well as the application of the mitigation measures described in Columns #2 and #3. Under Alternative #1, habitat enhancement works are intended to be undertaken to improve the quality of the Category 2 habitat within the 40 m wide North Branch corridor. The habitat enhancement, habitat creation, and offsite habitat compensation measures will be discussed in greater detail in the CPAF form. Alternative #1 is anticipated to maintain the habitat functionality of the North Branch of Shirley’s Brook and its potential to provide a movement corridor.</p>

<p>The Site will receive municipal services. Stormwater runoff will be addressed by the new Stormwater Management (SWM) Pond. The new SWM Pond will outlet clean water to the North Branch. As described in the previous row, the collapsing barn that is currently found within the Site will be demolished prior to development.</p>	<ul style="list-style-type: none"> • Potentially increased density of predators due to increases in the populations of suburban and urban wildlife following development; and • Potentially increased human usage of remaining habitat areas, including increased recreational usage, human interference with turtles, and degradation of trails and back of lots. 			
<p>The Community Design Plan (CDP) and the associated Environmental Management Plan (EMP) for the Kanata North Urban Expansion Area (KNUEA) were approved by Ottawa City Council in 2016 (Novatech 2016a; 2016b). Notably, the KNUEA EMP establishes minimum 40 m wide corridors which are to be retained and/or enhanced surrounding the tributaries of Shirley’s Brook (Novatech 2016b). Within the Site, a minimum 40 m wide corridor was identified to retain the North Branch (Tributary #3). As shown in the Concept Land Use Plan (Appendix A), the minimum 40 m wide corridor within the Site is approximately 1.58 ha in size.</p>	<p>As shown in the Concept Land Use Plan (Refer to Appendix A), the main road through the Site will cross the North Branch. The future road crossing will include a suitable wildlife passage culvert that will allow Blanding’s Turtles (and other wildlife) to pass beneath the new road. Per the Kanata North Urban Expansion Area (KNUEA) Environmental Management Plan (EMP) (Novatech 2016b), the wildlife passage culvert will include a box culvert that is a minimum of 1.8 m wide x 1.2 m high. The width of the Right of Way of the main road through the Site will be 24 m, and hence the wildlife passage culvert will be 24 m long.</p>	<p>The North Branch is not proposed to be realigned within the Site, however, the existing inline pond that is found along the North Branch will be reshaped during the development of the Site, in order to fit the inline pond within the minimum 40 m wide watercourse corridor (Refer to Column #1 of this row for additional detail). Habitat restoration and enhancement works will also be undertaken within the minimum 40 m wide corridor in order to improve the quality of the habitat for Blanding’s Turtles, fish, and other wildlife. The habitat enhancement features will be discussed in greater detail in the CPAF form. Although the North Branch watercourse corridor will ultimately be narrower than identified in the General Habitat Description for Blanding’s Turtle (e.g. 60 m wide), it is anticipated that the habitat enhancement works within the 40 m wide corridor will result in an improvement in habitat quality.</p>		

<p>The corridor width was extensively studied as part of the KNUEA EMP process, and 40 m wide corridors were deemed to be sufficient to protect the significant natural heritage features and functions of the tributaries of Shirley’s Brook (Novatech 2016b). As described in greater detail in Section 4.2.1 of the Combined Environmental Impact Statement and Tree Conservation Report, the 40 m wide corridor was studied extensively and was determined to adequately address concerns related to potential slope and bank stability, maintenance of natural vegetation and ecological buffers, conveyance of stormwater runoff, and maintenance of fish habitat (MES 2020).</p> <p>The corridor was also demonstrated to be sufficient to contain the floodplain and meander belt of the North Branch (Novatech 2016b). The majority of the existing riparian vegetation surrounding the North Branch will be preserved within the 40 m wide watercourse corridor.</p>	<p>The Ontario Ministry of Natural Resources and Forestry (OMNRF) guidance document - Best Management Practices for Mitigating the Effects of Roads on Amphibian and Reptile Species at Risk in Ontario (Gunson et al. 2016) recommends that for culvert crossings that are between 15 m and 25 m in length, the minimum culvert size should be 1.8 m x 1.0 m. As such, the proposed culvert size conforms to the recommendations of Gunson et al. (2016). As discussed in greater detail below, the minimum 40 m wide North Branch watercourse corridor will include fencing designed to prevent Blanding’s Turtles from leaving the watercourse corridor to enter the development area. The fencing will be required to connect to the wildlife passage culvert, to ensure there are no gaps in the system. The road crossing and the new wildlife passage culvert will be constructed during the Blanding’s Turtle overwintering season (October 15th to April 15th), while also respecting the sensitive in-water work timing window (July 1st to March 15th). In combination, these requirements necessitate that the construction of the road crossing and the wildlife passage culvert will be undertaken between October 15th, 2021 and March 15th, 2022.</p>	<p>In addition, Blanding’s Turtle exclusion fencing will be required surrounding the minimum 40 m wide watercourse corridor in order to mitigate the risk that Blanding’s Turtles may leave the corridor to enter the development and/or roads (refer to the previous column for additional detail). As described in the previous column, one (1) new wildlife passage culvert is also anticipated to be required where the main road through the development will cross the North Branch. In addition to mitigating the potential impacts of the new development, the installation of Blanding’s Turtle exclusion fencing may benefit Blanding’s Turtles by reducing the existing risk of road mortality along March Road.</p>		
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<p>As shown in the vegetation mapping included in Appendix A, the area beyond the 40 m wide watercourse corridor predominantly consists of Fallow Fields (Graminoid Meadow) and Cultivated Fields (soybean fields), and hence has little riparian habitat value under existing conditions (MES 2020).</p> <p>The condition of the North Branch and its riparian corridor is summarized in Section 3.4.1 of the Combined Environmental Impact Statement and Tree Conservation Report (MES 2020). Blanding's Turtle Category 2 habitat extends 30 m from the water's edge on both sides of the watercourse, thereby, Category 2 habitat occurs within a 60 m wide corridor around the North Branch (OMNRF 2014a). The 40 m wide watercourse corridors established by the KNUEA EMP imply a loss of Blanding's Turtle Category 2 habitat 20 m wide (10 m on either side of the watercourses).</p>	<p>Per the KNUEA EMP (Novatech 2016b), Blanding's Turtle exclusion fencing will be required surrounding the 40 m wide North Branch watercourse corridor. A sketch of the temporary and permanent Blanding's Turtle exclusion fencing is included in Appendix A. Per the attached Fence Sketch, fencing will be installed along the development edges facing the 40 m wide North Branch watercourse corridor throughout the Site. In the vicinity of the 927 and 941 March Road properties, the proponent will install fencing at the limit of the Site. Where the North Branch runs through the 927 and 941 March Road properties, the fence will be at the proponent's property line, as opposed to being located at the edge of the 40 m wide corridor. This is necessary as the proponent does not own the 927 and 941 March Road properties, and hence cannot install fencing at the edge of the 40 m wide corridor where it passes through those properties.</p>	<p>As described in Table 3 of the Information Gathering Form, no Category 1 habitat features were noted within the Site. The 40 m wide watercourse corridors established by the KNUEA EMP imply a loss of Blanding's Turtle Category 2 habitat 20 m wide (10 m on either side of the watercourses). The reshaping of the inline pond will also result in a loss of Category 2 habitat. Narrowing of the North Branch into the minimum 40 m wide corridor, as well as the reshaping of the inline pond, will reduce the extent of Category 2 habitat within the Site from approximately 2.88 ha (pre-development) to approximately 1.58 ha (post development). This results in a net loss of Category 2 habitat of approximately 1.3 ha. It is anticipated that the loss of Category 2 habitat will be partially offset by the proposed habitat enhancement works within the 40 m wide watercourse corridor (discussed in greater detail in the CPAF form).</p>		
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<p>As discussed in greater detail in Column 3 of this row, the total Category 2 habitat loss associated with the development of the Site is approximately 1.3 ha. The majority of the Category 2 habitat that occurs beyond the 40 m wide watercourse corridor consists of Fallow Fields (Graminoid Meadow), Cultivated Fields (soybean fields), and/or other degraded field edges with little habitat functionality.</p> <p>The North Branch is not proposed to be realigned within the Site, however, the existing inline pond that is found along the North Branch will be reshaped during the development of the Site, in order to fit the inline pond within the minimum 40 m wide watercourse corridor (discussed below). The KNUEA EMP (Novatech 2016b) recommends that habitat enhancement features should be installed within the 40 m wide watercourse corridors, in order to improve the quality of habitat for Blanding's Turtles (as well as other wildlife) compared to existing conditions. The habitat enhancement features will be discussed in further detail as part of the CPAF form.</p>	<p>This arrangement will ensure that the 40 m wide corridor is enclosed by fencing along its entire length throughout the Site, and also that Blanding's Turtles will not be able to enter the future development. However, the fencing installed by the proponent will not prevent turtles from entering the 927 and 941 March Road properties. The proponent cannot prevent turtles from leaving the 40 m wide corridor to enter the 927 and 941 March Road properties, as it is not possible to install fencing within a property that they do not own. The owners of the 927 and 941 March Road properties may be required to install additional fencing at the edge of the 40 m wide watercourse corridor in the future, if they develop those properties.</p>	<p>As described in Table 3 of the Information Gathering Form, approximately 16.1 ha of Category 3 habitat occurs within the Site. All 16.1 ha of Category 3 habitat will be removed by the development.</p> <p>The majority of the Category 2 habitat loss results from the narrowing of the Category 2 habitat from 60 m to 40 m wide (as a result of confining the North Branch within the minimum 40 m wide watercourse corridor). As such, the majority of Category 2 habitat loss will consist of the removal of terrestrial buffer areas adjacent to the watercourse, as opposed to the direct removal of aquatic habitat. As described in Table 3 of the Information Gathering Form, the majority of the area of Category 2 habitat removal currently consists of Fallow Fields (Graminoid Meadow) (Refer to Figure 3, Appendix A). The Fallow Fields can be considered degraded riparian habitats that offer relatively little Blanding's Turtle habitat functionality.</p>		
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<p>Although the North Branch corridor will ultimately be narrower than identified in the General Habitat Description for Blanding’s Turtle (e.g. 60 m wide), it is anticipated that the habitat enhancement works within the 40 m wide corridor will result in an improvement in habitat quality. Please refer to Section 4.2.2 of the Combined Environmental Impact Statement and Tree Conservation Report for additional detail (MES 2020). The installation of the habitat enhancement features will be undertaken during the Blanding’s Turtle overwintering season (October 15th to April 15th), while also respecting the sensitive in-water work timing window (July 1st to March 15th). In combination, these requirements necessitate that the installation of the habitat enhancement features be undertaken between October 15th, 2021 and March 15th, 2022.</p>	<p>Temporary fencing will be required at the construction stage. The development may be constructed in phases, and temporary fencing will be installed surrounding the work area of each development phase, in order to ensure that turtles are excluded from each work area whenever work is occurring. Temporary fencing will be maintained and remain in place until the permanent fencing can be installed. Temporary fencing installed at the construction stage typically consists of wire re-enforced silt fencing that is buried at the bottom. As each phase of development is completed, the temporary fencing will be converted to permanent Blanding’s Turtle exclusion fencing. Where necessary, temporary fencing will be maintained to close any gaps in the permanent fencing system, until the permanent fencing system has been fully installed.</p>	<p>Similarly, although approximately 16.1 ha of Category 3 habitat will be removed by the development, it should be noted that the majority of this area is currently Cultivated Fields (planted with soybeans). Although Blanding’s Turtles may be capable of traversing these areas, they are relatively inhospitable and hazardous. Blanding’s Turtles traversing the KNUEA are more likely to follow the tributaries of Shirley’s Brook, rather than moving overland, and hence most of the Category 3 habitat is unlikely to provide any significant habitat function. Therefore, both the Category 2 habitat and the Category 3 habitat that will be removed by the development can be considered low quality habitat (DST 2015).</p>		
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<p>A 6 m wide recreational pathway is required by the KNUEA CDP along the northern edge of the 40 m wide North Branch corridor (Novatech 2016a). The pathway will be located outside of the 40 m wide watercourse corridor and will be separated from the watercourse corridor by the Blanding's Turtle exclusion fencing (discussed in the next column).</p> <p>The Site development will include reshaping of the inline pond, which is required in order for the inline pond to fit within the minimum 40 m wide watercourse corridor. The inline pond is an artificial feature that is maintained by a concrete weir. The inline pond is a relatively shallow feature, with much of its substrate consisting of bedrock. The presence of bedrock at the bottom of the inline pond likely limits its functionality as Blanding's Turtle habitat, as Blanding's Turtles require soft substrate that they can burrow into for overwintering (OMNRF 2014a).</p>	<p>Permanent fencing may consist of several different configurations, as described in The Best Management Practices for Mitigating the Effects of Roads on Amphibian and Reptiles Species in Ontario (Gunson et al. 2016). Generally, permanent Blanding's Turtle exclusion fencing must consist of a barrier a minimum of 60 cm tall that is buried into the ground and which is impassable to Blanding's Turtles of all sizes. The fencing material is typically required to be durable with little maintenance for a minimum of fifteen (15) years. Products typically used may include some combination of: A) Stone retaining walls or gabion baskets 60 cm tall; B) Chain link fencing with plastic inserts; or C) Purpose built Blanding's Turtle exclusion fencing constructed from plastic sheeting or wire mesh. The Fence Sketch shows the anticipated location of the permanent fencing (Refer to Appendix A). The detailed permanent fence design, including the materials to be used, will be identified at the detailed design stage.</p>	<p>DST (2015) discusses in detail how the potential loss of habitat may impact the regional population of Blanding's Turtles. As described in Table 3 of the Information Gathering Form, comparatively few Blanding's Turtles have been found within the Site and the remainder of the KNUEA. The existing Category 2 habitat within the Site is comparatively small and degraded, and the Site provides comparatively little core wetland habitat compared to the nearby South March Highlands and Shirley's Bay, where larger regional sub-populations of Blanding's Turtles are found. DST (2015) conclude that the main ecological significance of the Site is afforded by its position approximately halfway between the comparatively large sub-populations of Blanding's Turtles found to the west (in the South March Highlands) and to the east (around Shirley's Bay).</p>		
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<p>As discussed in Table 3 of the Information Gathering Form, through previous consultation with the Ontario Ministry of Natural Resources and Forestry (OMNRF), it was determined that the inline pond does not qualify as a Category 1 Blanding’s Turtle habitat feature. Instead, the inline pond falls within the definition of Category 2 habitat. The inline pond has a generally flat profile with approximately 50 cm of water depth noted on May 12th, 2018. MEP (2016) noted that standing water depths within the inline pond reached 75 cm in the spring of 2013. The inline pond was observed to contract significantly in the late summer, with the wetted area of the inline pond reduced by as much as 50% by July 2018. Notably, the northern approximately 50% of the inline pond was dry by July 2018, whereas the southern half of the inline pond remained hydrated. The southern half of the inline pond is likely to remain hydrated throughout the summer in most years. Because the northern approximately 50% of the inline pond is seasonally dry, it is anticipated that reshaping of the inline pond can be completed without significant disturbance to fish and turtle habitat, provided that the reshaping is completed during a period with low water levels.</p>	<p>Mitigation for Species at Risk (SAR) and wildlife during construction is summarized here. These recommendations include provisions from the City of Ottawa (2015) Protocol for Wildlife Protection During Construction, as well as requirements specific to Blanding’s Turtle:</p> <ul style="list-style-type: none"> • Pre-Stressing: Prior to vegetation removal, the area will be pre-stressed by traversing the Site with a loud noise such as an excavator horn. This will encourage wildlife to leave the area; • Tree Clearing Direction: In order to provide an opportunity for wildlife to leave the area, trees will be cleared towards the Open Space Blocks that will form the 40 m wide North Branch corridor; • Temporary Exclusion Fencing: As described above, temporary Blanding’s Turtle exclusion fencing (wire re-enforced silt fencing) will be required to mitigate the risk of Blanding’s Turtles entering the construction Site. The fencing requirements are described above. The fencing will also mitigate risks for other wildlife including frogs, snakes, and other species of turtles; 	<p>The KNUEA, and in particular the tributaries of Shirley’s Brook, may provide a linkage between the major adjacent sub-populations, even though traveling from Shirley’s Bay to the South March Highlands (or vice versa) would require a Blanding’s Turtle to traverse large expanses of poor quality habitat, while exposing itself to a significant risk of road mortality as it crosses Old Second Line Road, Carp Road, March Road, March Valley Road, and other roadways.</p> <p>It is likely that the tributaries of Shirley’s Brook provide the main viable movement corridor through the KNUEA for Blanding’s Turtles under current conditions. It is also likely that adjacent upland areas shown as Category 3 habitat offer only a hazardous movement corridor with little functional benefit.</p>		
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<p>As discussed in Column 3 of this row, the loss of Category 2 Blanding's Turtle habitat associated with the reshaping of the inline pond has been quantified and is included in the total estimate of Category 2 habitat loss (Refer to Column 3 of this row for further information regarding the quantification of habitat loss).</p> <p>As described in Table 3 of the Information Gathering Form, MEP (2016) previously assessed the Stormwater Swale (Tributary #4) and determined that the feature is not ecologically significant. In consultation with the Ontario Ministry of Natural Resources and Forestry (OMNRF), it was determined that the Stormwater Swale does not qualify as Category 2 Blanding's Turtle habitat. The Stormwater Swale does not provide significant fish or amphibian habitat functionality (Refer to Table 3 of the Information Gathering Form for additional details). The primary effect that the removal of the Stormwater Swale may have on downstream areas would be a reduction in the flow of water and nutrients to downstream areas.</p>	<ul style="list-style-type: none"> • Inspections: Construction stage monitoring will include, at a minimum, weekly inspections by a Qualified Biologist during initial Site clearing, the installation of mitigation measures, the installation of aquatic habitat enhancement features within the minimum 40 m wide North Branch corridor, and other critical/high risk work phases. As noted below, full time monitoring by a Qualified Biologist during dewatering is required; • Sweeps: Prior to vegetation clearing, preconstruction sweeps of vegetated areas will be undertaken by a Qualified Biologist to ensure Blanding's Turtles and other wildlife are not present. A designated staff member will be required to conduct daily sweeps each morning prior to the commencement of work to ensure that wildlife have not entered the work area. The designated staff member will also periodically inspect the temporary exclusion fencing to ensure there are no gaps or holes in the fence; 	<p>As such, DST (2015) recommended that mitigation and/or habitat compensation within the KNUEA should focus on: A) Enhancing the quality of habitat within the riparian corridors surrounding the tributaries of Shirley's Brook; and B) Reducing road mortality, both within the KNUEA and in adjacent areas. Within the Site itself, these management priorities will be addressed by enhancing the quality of habitat within the minimum 40 m wide North Branch corridor (described in greater detail in the CPAF form), and by fencing the minimum 40 m wide watercourse corridor (described in Column #2 of this row).</p> <p>The net loss of Blanding's Turtle habitat will require offsite habitat compensation measures. Specific offsite habitat compensation measures will be developed and presented in detail within the CPAF form.</p>		
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The Kanata North Urban Expansion Area (KNUEA) Environmental Management Plan (EMP) identified that the Stormwater Swale will be decommissioned, and that flows that are currently conveyed by the feature will be rerouted to the North Branch via a new stormwater sewer (Novatech 2016b). This arrangement will maintain the hydrological and nutrient contributions of the Stormwater Swale to downstream areas.

• Awareness Training:
Contractor Awareness Training Packages will be prepared and utilized to complete contractor awareness training. Contractor awareness training will be provided by a Qualified Professional, who will train designated supervisors from each contractor, who will be designated as Qualified Members. Qualified Members will be required to communicate the awareness and mitigation requirements to their respective staff. Each contractor will be required to have at least one (1) Qualified Member on Site at all times who has completed the training provided by the Qualified Professional. The Awareness Training will include a summary of the required mitigation measures, training on emergency procedures to relocate Blanding's Turtles, and training on the identification of Blanding's Turtles and other Species at Risk (SAR). The Contractor Awareness Training Packages will include instructions to report SAR encounters to the Natural Heritage Information Center (NHIC) and the Ministry of Environment, Conservation, and Parks (MECP). All SAR encounter information will be reported in a timely manner;

Blanding's Turtle - Alternative #1 (Preferred Alternative) - Continued

- Vehicle Operation: Vehicles and equipment are to be operated on Construction Travelways (e.g. roads within the Site) at a speed at which drivers are able to identify SAR and stop safely to avoid wildlife;
- Equipment Washing: All equipment shall be washed, refueled, and serviced to prevent fuel and other deleterious substances from entering wetlands and watercourses. Any machinery operated within the high water mark of a wetland or waterbody must arrive on Site in a clean condition and shall be maintained free of fluid leaks, invasive species, and noxious weeds;
- Spills: A spill response plan will be developed. The spill response plan is to be implemented in the event of a sediment release or spill of a deleterious substance. An emergency kit will be kept on Site any time development activities are taking place;
- Species at Risk (SAR) Encounters: If Species at Risk (SAR) are encountered in the work area, construction in the vicinity must be stopped immediately and measures must be taken to ensure the SAR is not harmed. The project biologist and the Ministry of Environment, Conservation, and Parks (MECP) must be contacted to discuss how to proceed prior to the recommencement of work;

Blanding's Turtle - Alternative #1 (Preferred Alternative) - Continued

- General Provisions: General provisions for Site management include the following:
 - o Do not harm, feed, or unnecessarily harass wildlife;
 - o Drive slowly and avoid hitting wildlife;
 - o Keep the Site tidy and free of garbage and food wastes. Secure all garbage in appropriate sealed containers;
 - o Ensure proper Site drainage so that standing water does not accumulate on Site. This will reduce the likelihood that turtles and other wildlife may enter the Site;
 - o Any stockpiles should be properly secured with silt fencing to prevent wildlife from accessing areas of loose fill; and
- Timing Windows:
 - o The Blanding's Turtle active season is defined by the MECF as April 15th to October 15th each year. The Temporary Exclusion Fencing must be installed prior to work that would occur during the Blanding's Turtle active season;
 - o The core migratory bird nesting season is defined as April 15th to August 15th each year;
 - o The active season for bats in Ontario is April 1st to September 30th; and
 - o Therefore, initial vegetation clearing must be undertaken between October 16th and April 1st.

<p>Blanding's Turtle - Alternative #1 (Preferred Alternative) - Continued</p>	<p>In-water works are anticipated to be required in order to install the habitat enhancement features within the 40 m wide North Branch corridor (discussed in the next column) and during the installation of the North Branch road crossing. In addition to the mitigation measures outlined above, the following requirements apply to any in-water work:</p> <ul style="list-style-type: none"> • Dewatering: All dewatering operations must be supervised by a Qualified Biologist, who must be present during dewatering to relocate fish, turtles, and other wildlife. Full time supervision by a Qualified Biologist is necessary during initial water draw down; • Licenses: Prior to dewatering any areas that may contain fish and/or other aquatic wildlife, a Wildlife Scientific Collector's Authorization and License to Collect Fish for Scientific Purposes must be obtained from the Ontario Ministry of Natural Resources and Forestry (OMNRF). Relocation sites and detailed fish and wildlife salvage procedures will be identified during the fish and wildlife relocation license application process; 			
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<p>Blanding's Turtle - Alternative #1 (Preferred Alternative) - Continued</p>	<ul style="list-style-type: none"> • Fish and Wildlife Salvage: A salvage plan must be in place that will allow for the relocation of any fish, reptiles, and amphibians found within dewatering work areas. In accordance with the dewatering arrangement, the water level in any dewatering work areas must be drawn down to permit the safe removal of fish and wildlife. All removal activities will be undertaken before the area is completely dry, in order to avoid aquatic animals being exposed to dry conditions. During water draw down, a mesh net will be in place around any dewatering pumps to ensure that fish will not become entangled in the pumps; • Inspections: Once dewatering is complete, weekly construction stage inspections by a Qualified Biologist must be undertaken throughout the duration of any in-water works, including during the installation of all habitat enhancement features within the 40 m wide watercourse corridor; and 			
<p>Blanding's Turtle - Alternative #1 (Preferred Alternative) - Continued</p>	<ul style="list-style-type: none"> • Timing: All in-water work will be undertaken during the Blanding's Turtle overwintering season (October 15th to April 15th), while also respecting the sensitive in-water work timing window (July 1st to March 15th). In combination, these requirements necessitate that all in-water work be undertaken 			

	between October 15th and March 15th.			
Blanding's Turtle - Alternative #1 (Preferred Alternative) - Continued	<p>Following completion of construction, Homeowner Awareness and Education Packages will be provided to educate homeowners on the presence of Blanding's Turtles. These packages will highlight the role of the permanent exclusion fencing and will encourage homeowners not to interfere with the fencing. The Homeowner Awareness and Education Packages will also encourage residents to report SAR sightings directly to the MECP. Contact details for the MECP will be included. Information will also be included to help homeowners learn how to report sightings to the Natural Heritage Information Center, as well as through iNaturalist. The Homeowner Awareness and Education Packages will include recommendations to ensure homeowners help to preserve the retained habitat areas, including guidelines for proper garbage/compost storage to limit the attraction of predators. The Homeowner Awareness and Education Packages are to be developed by a Qualified Professional, and the MECP will be provided copies of these materials to review.</p>			

<p>Blanding's Turtle - Alternative 2 – Proceed with the development while expanding the proposed 40 m wide North Branch corridor to a 60 m wide corridor.</p> <p>As described above for Alternative #1 (the Preferred Alternative), the Kanata North Urban Expansion Area (KNUEA) Environmental Management Plan (EMP) (Novatech 2016b) establishes minimum 40 m wide corridors of retained habitat surrounding the tributaries of Shirley’s Brook. The Brigil Kanata North development includes a minimum 40 m wide corridor surrounding the North Branch of Shirley’s Brook.</p> <p>Alternative #2 examines the feasibility of expanding the proposed 40 m wide North Branch corridor to a 60 m wide corridor.</p>	<p>Alternative #2 would not avoid all potential impacts to individuals of the species. Regardless of whether the North Branch watercourse corridor is 40 m wide or 60 m wide, the development would still be likely to impact individuals of the species. Even if a 60 m wide corridor were preserved surrounding the North Branch, the overall potential for construction stage and operational impacts to the species would be similar as described above (Refer to Alternative #1).</p>	<p>Alternative #2 would not avoid all impacts to the habitat of the species. Expanding the minimum North Branch corridor width from 40 m to 60 m would result in additional Blanding’s Turtle habitat retention. However, as described in Table 3 of the Information Gathering Form, the majority of the riparian habitat surrounding the North Branch can be considered low quality habitat. Under existing conditions, the majority of the area between 20 m to 30 m from the North Branch (on both sides) consists of Fallow Fields (Graminoid Meadow) and Cultivated Fields, which are of little ecological and/or riparian value. Expanding the North Branch corridor width from 40 m to 60 m would primarily result in the retention of areas that currently lack natural riparian vegetation and which are dominated by agricultural conditions. As such, expanding the North Branch corridor width is not anticipated to provide significant value in terms of preserving Blanding’s Turtle habitat functionality.</p>	<p>Expanding the width of the North Branch watercourse corridor would not support the main purpose of the development. Expanding the minimum corridor width from 40 m to 60 m would require the proponent to sacrifice a substantial area of prime development land along the length of the North Branch. This would result in a significant economic loss, while also requiring a major redesign of the development layout. Although the North Branch watercourse corridor will be narrower than identified in the General Habitat Description for Blanding’s Turtle (OMNRF 2014a), ultimately it is anticipated that the proposed habitat enhancement measures will result in an improvement in the habitat quality and functionality compared to existing conditions (the habitat enhancement measures will be discussed in greater detail in the CPAF form).</p>	<p>The corridor widths for the tributaries of Shirley’s Brook were extensively studied as part of the Kanata North Urban Expansion Area (KNUEA) Community Design Plan (CDP) and Environmental Management Plan (EMP) process, and options to expand the corridor widths were examined at that time (Novatech 2016b). Ultimately, the KNUEA CDP and EMP were approved with the 40 m wide corridors. At this stage, it is not feasible to change the planned land use within the KNUEA to widen the corridor widths, as doing so would require extensive redesign and re-engineering, and it would also require extensive re-engagement with the City of Ottawa, as the KNUEA CDP is already approved through an Official Plan Amendment. Within the Brigil Kanata North development, expanding the width of the North Branch watercourse corridor from 40 m to 60 m would require the proponent to sacrifice a substantial area of prime development land along the length of the North Branch.</p>
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<p>Blanding's Turtle - Alternative #2 - Continued</p>		<p>Although the North Branch watercourse corridor will ultimately be narrower than identified in the General Habitat Description for Blanding's Turtle (e.g. 60 m wide), it is anticipated that the proposed habitat enhancement/restoration works within the 40 m wide corridor will improve the ecological functionality of the Category 2 habitat, compared to existing conditions. The proposed habitat enhancement measures will be described in greater detail in the CPAF form.</p> <p>The North Branch corridor width was extensively studied as part of the Kanata North Urban Expansion Area (KNUEA) Environmental Management Plan (EMP) process, and the 40 m wide corridor was deemed to be sufficient to protect the significant natural heritage features and functions of the watercourse (Novatech 2016b).</p>		<p>The financial impact on the proponent would be extremely high due the high value of the land and money invested in the project. The economic impact for the community as a whole would be detrimental, given the loss of construction and maintenance jobs. This would also impact the City of Ottawa growth plans and density targets, as the Site is designated for future urban growth through an approved Official Plan Amendment. Expanding the width of the North Branch watercourse corridor is not considered a viable alternative, given the high economic cost and the impact on the planning and design process.</p>
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<p>Blanding's Turtle - Alternative #2 - Continued</p>		<p>As described in greater detail in Section 4.2.1 of the Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR), the 40 m wide North Branch corridor was studied extensively and was determined to adequately address concerns related to potential slope and bank stability, maintenance of natural vegetation and ecological buffers, conveyance of stormwater runoff, and maintenance of fish habitat (MES 2020). The minimum 40 m wide North Branch corridor was also demonstrated to be sufficient to contain the floodplain and meander belt of the watercourse (Novatech 2016b).</p>		<p>Also, as noted in Column #3 of this row, expanding the North Branch corridor width from 40 m to 60 m would primarily result in the retention of areas that currently lack natural riparian vegetation and which are currently dominated by Fallow Fields (Graminoid Meadow) and Cultivated Fields. As such, expanding the North Branch corridor width is not anticipated to provide significant value in terms of preserving Blanding's Turtle habitat functionality.</p>
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<p>Blanding's Turtle - Alternative #3 – Avoid impacting/removing areas of Blanding's Turtle habitat.</p> <p>Alternative #3 examines the feasibility of avoiding all impacts to Blanding's Turtles and their habitat. Alternative #3 would require all areas of Blanding's Turtle habitat to be retained.</p>	<p>Alternative #3 would avoid all adverse effects to the species by retaining all areas of Blanding's Turtle habitat. Retaining all habitat areas would provide a minimum 250 m wide buffer surrounding all watercourse features (the limit of Category 3 Blanding's Turtle habitat). Buffers of this size would likely be sufficient to avoid any significant impacts to individuals of the species. Any residual risks could likely be addressed through standard construction stage mitigation measures.</p>	<p>Alternative #3 would avoid any impacts to Blanding's Turtle habitat by retaining all habitat features.</p>	<p>Avoiding all impacts to Blanding's Turtle habitat would not support the main purpose of the activity. As shown in Appendix A, the entirety of the Site falls within the definition of Category 2 or Category 3 Blanding's Turtle habitat, with the exception of approximately 1.0 hectares in the southwest corner of the Site. The Site is approximately 19.98 ha in size. Avoiding all areas of Blanding's Turtle habitat would only allow the proponent to develop approximately 1.0 hectares of the Site. However, the approximately 1.0 hectares of the Site that is not Category 2 or Category 3 Blanding's Turtle habitat does not have road access, and therefore the 1.0 hectares could not be developed without extending a road through the Category 2 and/or Category 3 habitat within the Site. Therefore, retaining all Blanding's Turtle habitat features would render the Site completely undevelopable.</p>	<p>As described in the previous column, retaining all areas of Blanding's Turtle habitat would render the Site undevelopable. The financial impact of this scenario on the proponent would be severe, given the high cost of the land and the significant investment in the project to date. There would also be a detrimental economic impact to the local community, given the loss of construction and maintenance jobs. The Site is designated for urban growth through a City of Ottawa Official Plan amendment and an approved Community Design Plan. Retention of the Site in an undeveloped state would impact the City of Ottawa growth plans and density targets. For the reasons outlined in Column #4 and Column #5, Alternative #3 is not a viable alternative.</p>
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3. Expression of Interest to Apply for a Permit

Does the proponent elect to proceed with the avoidance alternative(s) that MNR has determined to be sufficient to avoid contravention of subsection 9(1) or 10(1) of the ESA?

- Yes.** The proponent wishes to apply the _____ alternative(s) as identified by MNR to avoid contravention of the ESA and will NOT be proceeding with a 17(2)(c) overall benefit permit application at this time.
- No.** The proponent wishes to proceed with the application for an overall benefit permit under clause 17(2)(c) of the ESA.

4. Submission Information

Date this form was submitted to the local MNR office (yyyy-mm-dd)*

2020-12-14

Please note: the email function will not work if you do not have your automatic email settings established. In these cases, please save a copy of your form, access your email account and attach a copy of the form for email submission to your local MNR. The list of MNR office email addresses is below for your reference.

Email Client Option *

- Default Email Application (e.g., MS Outlook)
- Internet Email (e.g., Yahoo or Hotmail. Save the form and send it manually to the MNR office by using internet email service.)

Local MNR office this form is being submitted to*

[Kemptville](#)

MNR Email Address for reference

sar.kemptville@ontario.ca

Proposal title (same as title used in the Information Gathering Form (IGF))*

[Brigil Kanata North Development - Endangered Species Act Submission](#)

Authorization*

- I, [Jean-Luc Rivard, Director - Land Development, on behalf of Brigil Homes](#), (insert "proponent" name) confirm that the information provided in this form is accurate and complete to the best of my knowledge. I grant permission for a summary of my proposed activity to be posted on the Ministry of Natural Resources Species at Risk website and the Environmental Registry for the purpose of administering the *Endangered Species Act, 2007* and its Regulations and in accordance with the *Freedom of Information and Protection of Privacy Act, 1990*.
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