

**PERMIT UNDER clause 17(2)(c) of
THE ENDANGERED SPECIES ACT, 2007**

Permit Number: KV-C-003-16

Issued to: 773804 Ontario Inc. (the "Corporation"), 681 Kama Place, Ottawa, Ontario, K1J 8W2.

Location: Part of Lot 21, Concession 2 in the Geographic Township of Goulbourn, Ottawa, as shown in Appendix A (the "Site").

Term: This permit comes in to force on the date it is issued and expires January 31, 2031.

1. **Authority:** This permit is issued to the Corporation under clause 17(2) (c) of the Endangered Species Act, 2007 ("ESA").
2. **Application to Species:** This permit applies to Butternut (*Juglans cinerea*), a species listed as endangered on the Species at Risk in Ontario List.
3. **Authorization:** This permit authorizes the Corporation to engage in the activities specified herein that would otherwise be prohibited by section 9 and section 10 of the ESA in relation to Butternut (*Juglans cinerea*).
4. **Application of Authorization:** This permit authorizes the Corporation to;
 - (a) Kill six (6) Category 2 Butternut trees and two (2) Category 3 Butternut trees on the Site identified as "killed" under the status column in Appendix B;
 - (b) Harm four (4) Category 3 Butternut trees and three Category 2 Butternut trees on the Site identified as "harmed" under the status column in Appendix B; and
 - (c) Damage and destroy up to 1.9 ha of Butternut habitat on the Site as necessary for the construction of phase 2 of a residential subdivision on the Site.
5. **Conditions:** The activities authorized by this permit are subject to all the conditions specified herein.
6. **Definitions:** In the permit, the following words shall have the following meanings:

“Archive” is a protected and managed plantation of Butternut seed, seedlings or grafts intended to conserve genetic material from selected trees of particular species for the purposes of conservation, research or seed production.

“Archiving Activities” means seed collection, grafting or tree planting, tending, research, monitoring and reporting for the purpose of contributing to Butternut recovery actions identified in the Butternut Recovery Strategy.

“Butternut Health Assessor” has the same meaning as set out in subsection 23.7(1) of O. Reg. 242/08.

“Butternut Recovery Strategy” means the MNR document titled, “Butternut (*Juglans cinerea*) in Ontario: Ontario Recovery Strategy Series”, 2013.

“Butternut Scion” means a small portion of a Butternut tree containing buds removed from the Butternut without causing harm to the tree, that is used for grafting.

“Category 2 Butternut” and **“Category 3 Butternut”** means a Butternut assessed by a Butternut Health Assessor to be a category 2 tree or category 3 tree as applicable as described in subsection 23.7(2) of O. Reg. 242/08.

“Crown Class 2” a Butternut Tree for which two sides of its upper crown have access to sunlight as per the Butternut Health Assessor’s Field Guide, 2015 Edition.

“Crown Class 3” means a Butternut Tree that receives sunlight only from above as per the Butternut Health Assessor’s Field Guide, 2015 Edition.

“Crown Class 4” means a Butternut Tree for which the crown is fully shaded as per the Butternut Health Assessor’s Field Guide, 2015 Edition.

“Crown Release Program” means the program described in condition 9.11 for the purpose of providing partial crown release to retainable, butternut trees to enhance crown health and future seed production and overall tree vigour for 4 Category 2 and 3 butternut trees.

“Harmed Butternut” means the Butternut that may be harmed under this the authority of this permit, and that are identified in Appendix A as “Harmed Butternut”.

“MNR” means the Kemptville District Office of the Ontario Ministry of Natural Resources and Forestry.

“Ontario Forest Research Institute (OFRI)” means the Ministry of Natural Resources and Forestry’s main forest research and monitoring section; to better understand forests and their responses to human activities, ensuring that forest management policies, planning and practices have a strong scientific foundation.

“Outplanting” means lifting of Butternut seedlings that have been grafted or grown from seed in a controlled environment, such as a nursery, and transporting those seedlings to be planted at a location that is suitable to complete the Butternut’s life processes.

“Protective Fencing” means the fencing the Corporation is required to install in accordance with conditions 8.1(b) and 8.1(e).

“Qualified Professional” means a person with particular expertise who is trained, knowledgeable and capable in specific areas of seed collection, grafting or tree planting, tending, research, monitoring and reporting.

“Registered Professional Forester” means a person with experience using crop tree release and preferably familiar with the silvics/biology of butternut;

“Retained Butternut” means the Butternut that may not be killed under the authority of the permit, and that are identified in Appendix A as “Retained Butternut” and “Archivable Butternut”;

“Seed Zone” has the same meaning as set out in subsection 23.7(1) of O. Reg. 242/08;

“Works” means activities required for the construction of phase 2 of a residential subdivision on the Site.

7. Appendices: The following appendices form part of this permit:

- Appendix A: Map of the Site with location of Butternut trees and habitat to be impacted.
- Appendix B: Tables listing all Butternut trees assessed on the Site as Category 2 or 3.

8. Avoidance and Mitigation Measures

8.1. Protection of Remaining Butternut. In order to minimize the negative effects to the Retained Butternut and the Harmed Butternut trees, the Corporation shall undertake standard tree protection measures prior to Site development including:

- a) Taking reasonable steps to avoid direct damage from machinery and other development activities to the Remaining Butternut trees by maintaining a 25 metre buffer from the bole of each such tree;
- b) Erecting a fence around the bole of the Harmed Butternut;
- c) Performing all construction activities occurring within 25 m of any Harmed Butternut by hand or with small machinery;
- d) Minimizing indirect damage to the Harmed Butternut by cleanly cutting roots and mulching exposed roots to prevent further damage; and
- e) Mitigate soil erosion during construction phase by minimizing vegetation removal, re-vegetating disturbed areas and installing silt fencing around the construction perimeter.

8.2. Mitigation Effectiveness Monitoring. The Corporation shall undertake the following monitoring measures to ensure the effectiveness of the mitigation measures in condition 8.1:

- a) Protective Fencing and work areas shall be inspected by a Qualified Professional prior to commencement of any Works to ensure the mitigation measures are in place;
- b) During vegetation clearing and topsoil stripping, monitoring and correction of the Protective Fencing shall occur weekly to ensure protection measures for Retained Butternuts are properly installed and effective;
- c) Prior to the start of any Works, all Protective Fencing shall be inspected and adjusted or repaired as necessary to maintain tree protection for the length of the entire construction; and
- d) A Butternut Health Assessment shall be completed on all the Retained Butternut on the Site following the initial harm to the Retained Butternut to determine overall Butternut health. The timing of this assessment shall be concurrent with the Butternut Health Assessment conducted under condition 9.12. a) iv.

9. Overall Benefit

9.1. Butternut Seedling Planting. The Corporation shall plant 22 Butternut seedlings in accordance with the following:

- a) **Location:** The Corporation shall plant the Butternut seedlings in an area that meets the following criteria (the "Overall Benefit Area") as determined by a Qualified Professional:
 - i. the area shall be a minimum of 1.9 ha and shall be of sufficient size to accommodate Butternut plantings and companion plantings at the required spacing specified in condition 9.1 c) vii.
 - ii. the area must be covered in soil that is greater than one metre deep, moist but well-drained and have a fine to medium texture with a recognizable organic layer and with a pH ranging from 6.8 to 7.2; and
 - iii. the area must provide full sunlight conditions to the Butternut seedlings.

- b) **Companion Trees:** For each Butternut seedling planted by the Corporation under this condition, the Corporation shall, in the Overall Benefit Area, plant one companion tree seedling native to Tree Seed Zone 35 or 36 for the purpose of emulating natural Butternut habitat conditions and avoiding a monoculture of species.

- c) **Planting Method:** The Corporation shall carry out planting of Butternut and companion trees as follows:
 - i. Seedlings shall be planted in suitable locations within the Overall Benefit Area, as approved by a Qualified Professional.
 - ii. Butternut seedlings for planting shall be obtained from a stock source from Tree Seed Zones 35 or 36.
 - iii. All areas where the Butternut and companion tree seedlings will be planted shall be prepared by removal of excessive competing vegetation. All seedlings shall be planted in open areas where they will have full sunlight conditions.
 - iv. Subject to condition 9.1. c) v., planting shall occur between April 1, 2017 and May 15, 2017;
 - v. If an adequate number of Butternut seedlings are not available from the seed zones referred to in condition 9(c) ii to allow planting during the periods specified in condition 9(c) iv, or if additional time is needed for site preparation, the planting shall occur during any of the following periods:
 - a. between September 20, 2017 and October 30, 2017;
 - b. between April 1, 2018 and May 15, 2018;
 - c. between September 20, 2018 and October 30, 2018; or
 - d. between April 1, 2019 and May 15, 2019.
 - vi. All plantings shall be completed by no later than May 15, 2019.
 - vii. The minimum spacing for planting of the Butternut seedlings shall be at least:
 - a. 4 metres between each planted Butternut and companion tree seedling;
 - b. 3 metres between each planted Butternut and existing smaller trees of another species;
 - c. 5 metres from the canopy line of existing larger trees; and
 - d. 50 m from any disturbance or development that would impact the Butternut or its habitat. .

- 9.2. Tending:** The Corporation shall tend all Butternut and companion tree seedlings planted under condition 9.1 as follows:
- a) Tending shall take place for a period of 5 years after the date the seedling is planted.
 - b) Vegetation shall be controlled in an area of 60 centimetres around each planted tree by using a combination of the following methods depending on site conditions as determined by the Qualified Professional: manual pulling, mechanical, chemical or alternatives such as mulch.

- c) Appropriate fencing shall be constructed to mark and protect the Butternut planting areas.
- d) The trees shall be protected from animals; if animals begin to harm the trees, tree guards shall be installed for the first three growing seasons, then if necessary replaced by wire mesh.
- e) The planted trees shall be watered during periods of drought, i.e. a 30-day period during May to September with less than 25 millimetres of precipitation.

9.3. Monitoring: The Corporation shall retain a Qualified Professional to monitor and report on the growing progress of the Butternut required to be tended under condition 9.2 for five (5) years after the Butternut was planted as follows:

- a) In the first and second years after a Butternut are planted, it shall be monitored and corrected (e.g., straightened) as needed each month from the middle of May until the middle of September.
- b) In its third, fourth and fifth growing years, each planted Butternut shall be monitored and corrected as needed at least three times a year between the middle of May and the middle of September.
- c) The Corporation shall provide MNRFB with detailed monitoring reports with respect to the planted Butternut annually by December 31 of each year starting in the year the first Butternut is planted under this permit, and ending five (5) years after the planting of the last Butternut planted in accordance with condition 9.1 (the "Monitoring Period"). The following information shall be included in each monitoring report for each Butternut monitored under this condition:
 - i. Date of planting;
 - ii. Date and type of tending;
 - iii. Health status: good, poor, or dead;
 - iv. Number of stems and main stem height;
 - v. Diameter of live trees at root collar and at breast height (1.37 metres);
 - vi. Evidence of Butternut canker (amount of open cankers and sooty patches);
 - vii. Damage by wildlife, people or events;
 - viii. Universal Transverse Mercator (UTM) location of each tree with map
 - ix. Fencing; and
 - x. Other comments and recommendations that may be pertinent towards achieving the intended benefit to the species.
- d) In addition, the following information shall also be provided in the monitoring reports required under condition 9.3. c):
 - i. An assessment of the regeneration (natural and artificial) by other tree species either enhancing the vegetation community or competing with the Butternut; and
 - ii. Photographic records of each area in which Butternut is planted, and any trees that have been damaged or are showing signs of canker.

- 9.4. Replacement Planting:** If any monitoring required by condition 9.3. c) shows that a Butternut planted under condition 9.1 has died, the Corporation shall:
- a) plant an additional Butternut seedling ("Replacement Butternut") by the end of the following calendar year to replace it, subject to the availability of seedlings from Tree Seed Zones 35 or 36;
 - b) if seedlings from those seed zones are unavailable in the following calendar year, Butternut seedlings shall be planted between April 1 and May 15, or between September 20 and October 30, as soon as possible after seedlings become available; and
 - c) tend and monitor the Replacement Butternut in accordance with conditions 9.2 and 9.3 until the end of the Monitoring Period.
- 9.5. Additional Planting:** At the end of the Monitoring Period:
- a) There must be a minimum of 11 Butternut planted under this permit growing to the satisfaction of a Qualified Professional as of the end of the Monitoring Period; and
 - b) Despite (a), if there are fewer than the required minimum number of Butternut trees growing to the satisfaction of a Qualified Professional at the end of the Monitoring Period, the Corporation shall plant additional Butternut in the spring of the following year as necessary to reach the required number of 11 live trees growing to the satisfaction of the Qualified Professional, subject to the availability of seedlings from tree seed zones 35 or 36.
 - c) If seedlings from those seed zones are unavailable in the following year, Butternut seedlings shall be planted in the appropriate time period as soon as possible after seedlings become available.
- 9.6. Butternut Seed Collection:** The following conditions shall all be carried out by a Qualified Professional:
- a) The Corporation shall, collect or acquire 904 pure Butternut seeds from one or more Category 2 or 3 Butternut within Seed Zone 35 or 36 prior to September 30th, 2019.
 - b) Seeds shall be sown in a nursery setting in the fall of the year they are collected, by no later than October 30;
 - c) All seeds shall be tended in the nursery for a minimum of one full growing season (May to September) or until Out-planting;
 - d) At the end of one full growing season, a minimum of 452 sown seeds must be alive and viable.
 - e) In the event condition d) is not satisfied, the Corporation shall collect and sow additional seeds from one or more Category 2 or 3 Butternut within Seed Zone 35 or 36 and follow conditions 9.6 (b) through (d).
 - f) All surviving seedlings shall be lifted the following spring to be donated and Outplanted at locations established for stewardship purposes towards the recovery of Butternut;

- g) Outplanting may occur during any of the following periods:**

 - i. Between April 1 and May 15 of the second year after sowing, or**
 - ii. Between September 20 and October 30 of the second year after sowing,**
 - iii. Between April 1 and May 15 of the third year after sowing, or**
 - iv. Between September 20 and October 30 of the third year after sowing;**
 - h) There may be more than one final planting location, provided each location is approved by a Qualified Professional;**
 - i) Butternut seedlings planted under condition (f) shall be tended for one year following planting in accordance with the methods set out in condition 9.1.**
- 9.7. The Corporation shall tend all Butternut tree seeds and seedlings planted under condition 9.6 in the year they are planted. Tending of the seedlings shall take place as follows:**
- a) Vegetation that is competing for light, moisture and space with the Butternut seedlings shall be controlled in an area of 60 centimetres around each tree by using a combination of manual pulling, mechanical, chemical, or alternatives such as mulch; depending on site conditions as determined by the Qualified Professional;**
 - b) The Butternut shall be protected. If wildlife begin to harm the trees, tree guards shall be installed on them; and**
 - c) The planted Butternut shall be watered during periods of drought, i.e. a 30-day period during May to September with less than 25 millimetres of precipitation.**
- 9.8. By December 31 of the year all Outplantings under condition 9.6 are completed, a report shall be submitted to MNRF that includes the following information for each Butternut Outplanted under this condition:**
- i. Date of planting;**
 - ii. Date and type of tending;**
 - iii. Health status: good, poor, or dead;**
 - iv. Main stem height;**
 - v. Number of stems;**
 - vi. Diameter of live trees at root collar and at breast height (1.37 metres);**
 - vii. Evidence of Butternut canker (amount of open cankers and sooty patches);**
 - viii. Damage by wildlife, people or events;**
 - ix. Universal Transverse Mercator (UTM) location of each tree:**
 - x. Map;**
 - xi. Fencing; and**

- xii. Other comments and recommendations that may be pertinent towards achieving the intended benefit to the species.

9.9. Butternut Archiving:

- a) Subject to (b) below, the Corporation shall collect a minimum of 50 Butternut Scions from Category 3 Butternut tree #10 from the Site (the location of which is indicated in Appendix A). The Butternut Scions shall be collected during late February or March, and no later than March 31, 2018 by a Qualified Professional.
- b) If Butternut Scions cannot be collected from Butternut #10 in accordance with (a) above, or if a Qualified Professional does not consider this tree to be a priority for gene conservation efforts, a different Category 2 or Category 3 tree shall be selected from the same seed zone as Butternut #10, and archived by a Qualified Professional, in accordance with conditions 9.9 (a) to 9.9 (c).
- c) At least 30 of the Butternut Scions collected under condition 9.9. a) or b) shall be grafted by a Qualified Professional to become part of a Butternut archiving program. This will include
 - i. grafting the collected Butternut Scions,
 - ii. tending the grafts for the first two years in a protected greenhouse and cold storage areas; and
 - iii. planting the grafts in a protected Archive that may be accessed by a Qualified Professional for a minimum of 15 years or as determined by a Qualified Professional to carry out Archiving Activities and
 - iv. tending the grafts for 3 years following planting until they are well-established.
- d) The Corporation shall donate the remaining Butternut Scions collected under condition 9.9. a) that were not grafted and planted under conditions 9.9. b) or c) to the OFRI.

9.10. Archive Report: The Corporation shall provide a final report to the MNRF on or before December 31st 2023. The report shall include the results of the Butternut archiving completed under condition 9.9 including:

- a) Information on the number of Butternut Scions provided for Archiving;
- b) The number of surviving grafts;
- c) The number and location of grafted Butternut seedlings Outplanted; and
- d) Information on the number of Butternut Scions that were donated to OFRI.

9.11. Butternut Crown Release.

- a) The Corporation shall carry out a program on a minimum of four (4) pure and naturally occurring Butternut trees that involves strategically removing vegetation competing for sunlight with the Butternut and releasing the Butternut from competition (the Crown Release Program).
- b) The requirements of the Crown Release Program include:
 - i. Each Butternut tree selected for release shall be a Category 2 tree.

- ii. Each Butternut tree selected must be of Crown Class 2, 3, or 4 as per the Butternut Health Assessor's Field Guide 2015 Edition.
 - iii. Each Butternut tree selected shall be within Seed Zone 35 or 36.
 - iv. Retained Butternut may be selected for the Crown Release Program only if all the criteria in b) i-iii above are met.
 - v. A Registered Professional Forester shall carry out the crown release activities according to the Crown Release Plan described in 9.11 c).
 - vi. Initial and ongoing Butternut health assessments and habitat quality assessments for the length of the Program.
- c) The Crown Release Program shall take place in accordance with a plan ("Crown Release Plan") developed by a Registered Professional Forester. The Crown Release Plan shall include the following:
- i. The Butternut trees selected for the Crown Release Program shall be approved as suitable for the Program by a Registered Professional Forester prior to starting implementation of the Program.
 - ii. The existing habitat surrounding each Butternut tree to receive crown release treatment; including criteria such as soil condition, surrounding and competing vegetation, sunlight availability, ground cover, number of existing butternut seedlings present and potential for future seed germination and survival.
 - iii. The condition of each butternut tree that is part of the Crown Release Program based on a current and MNRF-accepted Butternut Health Assessment.
 - iv. The set of criteria to determine how the program will measure and report on the enhancement of crown health and future seed production and overall tree vigour for the 4 Category 2 and 3 butternut trees chosen.
 - v. A prescription developed for each Butternut tree that will include strategic removal of competition for sunlight using three-sided crown opening.
 - vi. Effectiveness monitoring and follow-up health assessments for each tree which will include how the program has achieved the purpose of providing partial crown release to retainable, seed producing butternut trees to enhance crown health and future seed production and overall tree vigour for 4 Category 2 and 3 butternut trees
 - vii. Potential contingency measures that may be taken should effectiveness monitoring show that the health of any of the Butternut trees is declining.
- d) All activities described in a prescription referred to in condition c) iv immediately above shall be complete by no later than October 30, 2019.
- e) The Corporation agrees to permit access to the Butternut trees in the Crown Release Program by a Qualified Professional for the life of the permit.

9.12. Crown Release Monitoring and Reporting.

- a) A total of four (4) annual reports for each Butternut tree in the Crown Release Program shall be submitted to MNRF for each of the following years:
 - i. The year of first treatment (year 1);
 - ii. The year following first treatment (year 2);
 - iii. The fourth year following first treatment (year 3); and
 - iv. The sixth year following first treatment (year 4).
- b) Annual reports shall be submitted to MNRF by December 31st of each monitoring year, and include the following:
 - i. The Universal Transverse Mercator (UTM) location of each Butternut tree that is part of the program;
 - ii. Full Butternut Health Assessment for each tree;
 - iii. Date and type of any prescriptive activities or maintenance performed
 - iv. Photographic record;
 - v. How the program has achieved the purpose of providing partial crown release to retainable, seed producing butternut trees to enhance crown health and future seed production and overall tree vigour for 4 Category 2 and 3 butternut trees based on the criteria developed; and
 - vi. Other comments and recommendation that may be pertinent towards achieving overall benefit to the Species.
- b) A final monitoring report shall be submitted to MNRF by December 31, 2024 that summarizes the data and results collected over the course of the Program and recommendations for future crown release programs

10. Observation. On reasonable notice, the Corporation shall undertake reasonable steps to obtain permission for MNRF staff and others accompanying them for the purposes of observing Butternut trees planted under this permit.

Pursuant to the authority of clause 17(2)(c) of the Endangered Species Act, 2007, I hereby issue this permit authorizing the activities described above, subject to the conditions set out herein.

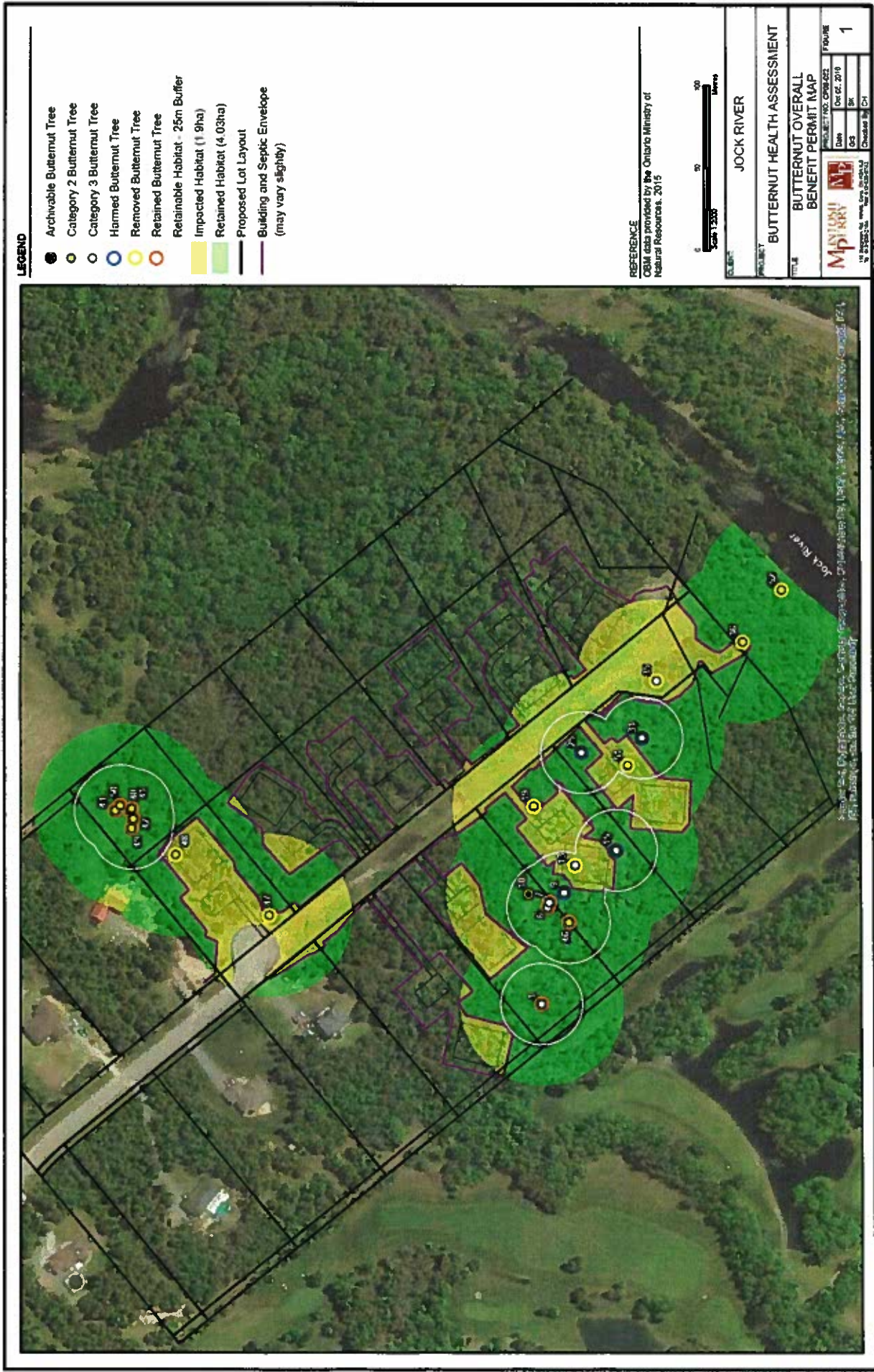


Kathryn McGarry
Minister of Natural Resources and Forestry

Dec 19 / 2016

Date of Issuance:

Appendix A: Map of the Site with location of Butternut trees and habitat to be impacted



Appendix B: Tables listing all Butternut trees assessed on the Site as Category 2 or 3.

Table 1: Butternut trees proposed to be killed, harmed, or taken

Tree #	UTM coordinates		Category	dbh (cm)	Proposed to be: (killed, harmed or taken)	Compensation in seedlings:	Archives	
	Zone	Eastings						Northing
9	18T	434124	5002183	3	34	Harmed	N/A	0.5
13	18T	434141	5002176	3	38	Killed	N/A	1
15	18T	434150	5002151	3	25	Harmed	N/A	0.5
19	18T	434177	5002201	2	23	Killed	20	N/A
25	18T	434210	5002172	3	36	Harmed	N/A	0.5
31	18T	434219	5002135	3	22	Harmed	N/A	0.5
35	18T	434254	5002126	3	42	Killed	N/A	1
36	18T	434278	5002073	2	34	Killed	20	N/A
47	18T	434110	5002363	2	0	Killed	2	N/A
48	18T	434147	5002420	2	0	Killed	2	N/A
51	18T	434202	5002144	2	0	Killed	2	N/A
52	18T	434310	5002049	2	3	Killed	2	N/A

Table 2: Butternut trees that are not proposed to be killed, harmed or taken

Tree #	UTM coordinates			Category	dbh (cm)	Proposed to be: (killed, harmed or taken)
	Zone	Easting	Northing			
1	18T	434056	5002197	3	52	Retained
6	18T	434115	5002193	3	30	Retained
7	18T	434118	5002192	3	28	Retained
10	18T	434123	5002205	3	30	Retained
40	18T	434174	5002448	2	13	Retained
41	18T	434175	5002447	2	7	Retained
42	18T	434169	5002446	2	17	Retained
43	18T	434174	5002457	2	4	Retained
46	18T	434106	5002180	2	22	Retained
49	18T	434163	5002447	2	0	Retained
50	18T	434177	5002454	2	0	Retained