



Tree Preservation Requirements

- Prior to tree clearing, tree protection fencing at least 1 metre in height will be erected along the outer edge of the tree retention areas (the edge of the 6 m buffer, around the retained Butternut Trees, the edge of the open space/tree retention areas/NEAs where there is not a buffer, the edges of the Goulbourn Forced Road Right of Way, and the edges of the turtle fencing corridors). The fencing location is shown as a red line on the plan. The outside edge of the buffer zone is defined as the edge of the critical root zone (CRZ) of the trees. The outside edge of the buffer zone is defined as the edge of the critical root zone (CRZ) of the trees that form the edge of the buffer zone where critical root zone is established as being 10 centimeters from the trunk of the tree for every centimeter of trunk diameter at breast height (DBH) or DBH x 10 cm. The following must be observed within the tree protection fencing and CRZ of the trees within the fencing:
 - Do not place any material or equipment within the CRZ of the tree;
 - Do not attach any signs, notices, or posters to any tree;
 - Do not raise or lower the existing grade within the CRZ without approval;
 - Tunnel or bore when digging within the CRZ of a tree;
 - Do not damage the root system, trunk, or branches of any tree;
 - Ensure that exhaust fumes from all equipment are not directed towards any tree's canopy.
- The boundaries of the NEA lands, open space blocks, Goulbourn Forced Road Right of Way, and turtle fencing corridors must be staked out (and flagged high) by a surveyor prior to the set up of tree protection fencing so that the tree fencing location can be confirmed. A site visit must be organized with the City's Planning Forester to check the staked lines.
- Prior to tree removal on the Site, a site visit with the City's Planning Forester will be facilitated to verify the tree protection fencing.
- Woodchips will be placed on the development side of the tree protection fencing when construction is due to begin.
- No in-stream works will occur within the watercourse between March 15th and June 30th. In water works is subject to the specific timing restrictions outlined for Blanding's Turtle. Contact the project SAR Biologist for further information prior to commencing any in water work.
- No blasting will occur on the Site until the Blasting Plan has been reviewed and approved by the City.
- There will be no activity within the 25 m radius around Butternut Trees until a permit has been issued by the Ontario Ministry of Natural Resources and Forestry.
- A certified arborist or forester will be contacted to make recommendations regarding tree retention within the 6 metre buffer zone. These tree retention recommendations shall be made in the context of the approved grading and servicing plan. The trees to be retained in the buffer zone will be clearly marked with flagging tape.
- Tree protection fencing at least 1 m in height will be erected at the critical root zone of the trees to be retained within the buffer zone and prior to any blasting on Site. The tree protection requirements outlined in #1 above will be applied to the retained trees within the buffer zone. When the other trees are removed within the buffer zone, careful logging techniques must be used around the retained trees so that all stems are felled away from the retained trees and no damage occurs to the trees or their critical root zones during any operations.
- Prior to removal of any trees within the buffer zone, a site visit with the City's Planning Forester will be facilitated to observe the tree retention plan and to verify the related tree protection measures, which will likely require more tree protection fencing to be erected along the edge of the NEA/Open Space/tree retention areas, prior to construction, to adequately protect those areas.
- Where blasting is required in areas adjacent to the tree protection zones and their respective buffer zones, consideration will be made to increase the width of the buffer zone to protect the tree protection zone. For blasting in areas adjacent to the tree protection zones and their buffers, the rock must be pre-sheared to create a crack between the trees' CRZ perimeter (as defined in #1 above) and the blasting work. The ground around the trees adjacent to the blast area must be moistened to increase soil adhesion and assist in retaining root-soil contacts during blasting.
- Blasting may be required within the 6 m buffer zone as part of final grading. If it is anticipated that any of the tree protection zones or any of the retained trees within the buffer may be affected by blasting on site or if blasting is required within the 6 m buffer zone, the City's Planning Forester will be contacted in advance of the blasting to discuss. If blasting is required within the 6 m buffer zone, the blasting mitigation measures outlined in #11 above will be implemented. In addition, under the direction of an arborist, seedlings that cannot be retained within tree protection zones because of blasting shall be transplanted to other areas on site in need of tree planting. The seedlings shall be transplanted in the early spring, before budding out.
- KNL will provide the City's Planning Forester with advance notice of three full working days for the required site visits.
- The trees along the existing Shirley's Brook will be protected at this time and these trees will be removed upon successful commissioning of the new Shirley's Brook watercourse.

Wildlife Mitigation Measures

- For the protection of breeding birds and other wildlife all woody vegetation removal (trees and shrubs) must be completed before April 15th or after August 15th. Trees with active nests or occupied cavities should be left overnight to allow wildlife to vacate them prior to cutting. A qualified wildlife biologist should be on call during cutting to respond to injured wildlife. A contingency plan should be prepared by a qualified wildlife biologist for the transportation, care, or euthanization of wildlife injured during cutting.
- Vegetation and tree removal must occur after work areas have been isolated by turtle exclusion fencing to ensure Blanding's Turtle are not impacted by the proposed clearing. Clearing close to known Blanding's Turtle habitat features must avoid the active season (April 15th to October 31st).
- Following installation of turtle exclusion fencing, the fencing and proposed tree clearing areas must be inspected by a qualified biologist prior to commencement of tree clearing. This must include a pre-clearing vegetation sweep to ensure no turtles are present within the turtle exclusion area. Turtle exclusion fencing should be installed during the overwintering season (October 31st to April 15th) to ensure turtles are not trapped within the isolated area.
- Construction stage monitoring for Blanding's Turtle, will consist of, at a minimum, weekly inspections by a qualified biologist during any site clearing, site preparation, fencing, construction of habitat enhancement features, new habitat features, or dewatering works.
- If at any time Blanding's Turtle or another species at risk are noted in the vicinity of tree clearing, this activity must be stopped immediately and the qualified biologist must be contacted to advise how to proceed.
- Blanding's Turtle and other wildlife must not be relocated by the contractor, unless there is an immediate and unavoidable danger to the animal's safety.
- Prior to completing the installation of construction fencing, the area of woody vegetation removal should be pre-stressed by traversing the site using noise (voice and/or a loud radio) to attempt to relocate wildlife to the central and west portions of the Urban Natural Areas. For Phase 7, pre-stressing and cutting should start in the north and move south towards the NEA (Kizell Cell). For Phase 8, pre-stressing and cutting should move from west to east, towards the Trillium Woods.
- The construction fencing around the Site should be no more than 1.5 meters in height and made of flexible material such as silt fencing or orange plastic fencing.
- Tree removal and other site disturbances for Phase 7 should begin in the north and move south towards the NEA and for Phase 8 should begin in the west and move east towards the Trillium Woods. Work should be phased, beginning at the far limits of the site, which are presently disturbed, and working through the site in the direction of the remaining Urban Natural Areas and green space connections.
- The Contractor must consult with the landowners biologist regarding any necessary mitigation for endangered or threatened species under the Endangered Species Act 2007 and the Species at Risk Act prior to cutting. Please contract the project SAR biologist for additional detail regarding the species at risk mitigation plan.



LEGEND:

- TREE RETENTION AREA - INCLUDES NEA AREAS, OPEN SPACE, TURTLE COMPENSATION AREAS, AND TREED CITY LAND
- MUNICIPAL PARK BLOCK
- 25.0m RADIUS BUFFER/INFLUENCE ZONE SURROUNDING BUTTERNUT TREES
- BUTTERNUT TREE TO BE REMOVED
- BUTTERNUT TREE HARMED/IMPACTED
- BUTTERNUT TREE NOT IMPACTED
- 6.0 M BUFFER ALONG REAR LOT LINES UNLESS OTHERWISE NOTED
- COMBINED TREE PRESERVATION FENCING (SNOW FENCE) AND TURTLE EXCLUSION FENCING (TOED IN SILT FENCING)
- TEMPORARY 6.0 M BUFFER ON BOTH SIDES OF SHIRLEY'S BROOK - HELD UNTIL COMPLETION OF REALIGNMENT

A	13/03/15	PRELIMINARY	A.M.
REV	DATE	ISSUE	APPROVAL

PROJECT TITLE
 UPDATED DETAILED ENVIRONMENTAL IMPACT STATEMENT (EIS): KANATA LAKES NORTH (KNL) DEVELOPMENT PHASE 7 & 8

DRAWING TITLE
 TREE PRESERVATION PLAN FOR KNL PHASE 7

DESIGNED BY A.M.	SCALE As Shown
DRAWN BY R.P.	DATE March 2015
PROJECT MANAGER A.N.	PROJECT NO.: OE-OT-015982

FIGURE No.: LC-2



- Tree Preservation Requirements**
- Prior to tree clearing, tree protection fencing at least 1 metre in height will be erected along the outer edge of the tree retention areas (the edge of the 6 m buffer, around the retained Butternut Trees, the edge of the open space/tree retention areas/NEAs where there is not a buffer, the edges of the Goulbourn Forced Road Right of Way, and the edges of the turtle fencing corridors). The fencing location is shown as a red line on the plan. The outside edge of the buffer zone is defined as the edge of the critical root zone (CRZ) of the trees that form the edge of the buffer zone where critical root zone is established as being 10 centimeters from the trunk of the tree for every centimeter of trunk diameter at breast height (DBH) or DBH x 10 cm. The following must be observed within the tree protection fencing and CRZ of the trees within the fencing:
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 - Ensure that exhaust fumes from all equipment are not directed towards any tree's canopy.
 - The boundaries of the NEA lands, open space blocks, Goulbourn Forced Road Right of Way, and turtle fencing corridors must be staked out (and flagged high) by a surveyor prior to the set up of tree protection fencing so that the tree fencing location can be confirmed. A site visit must be organized with the City's Planning Forester to check the staked lines.
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 - Woodchips will be placed on the development side of the tree protection fencing when construction is due to begin.
 - No in-stream works will occur within the watercourse between March 15th and June 30th. In water works is subject to the specific timing restrictions outlined for Blanding's Turtle. Contact the project SAR Biologist for further information prior to commencing any in water work.
 - No blasting will occur on the Site until the Blasting Plan has been reviewed and approved by the City.
 - There will be no activity within the 25 m radius around Butternut Trees until a permit has been issued by the Ontario Ministry of Natural Resources and Forestry.
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 - Prior to removal of any trees within the buffer zone and the following identification of the retained trees within the buffer zone, a site visit with the City's Planning Forester will be facilitated to observe the tree retention plan and to verify the related tree protection measures, which will likely require more tree protection fencing to be erected along the edge of the NEA/Open Space/tree retention areas, prior to construction, to adequately protect those areas.
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 - Blasting may be required within the 6 m buffer zone as part of final grading. If it is anticipated that any of the tree protection zones or any of the retained trees within the buffer may be affected by blasting on site or if blasting is required within the 6 m buffer zone, the City's Planning Forester will be contacted in advance of the blasting to discuss. If blasting is required within the 6 m buffer zone, the blasting mitigation measures outlined in #11 above will be implemented. In addition, under the direction of an arborist, seedlings that cannot be retained within tree protection zones because of blasting shall be transplanted to other areas on site in need of tree planting. The seedlings shall be transplanted in the early spring, before budding out.
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- LEGEND:**
- TREE RETENTION AREA - INCLUDES NEA AREAS, OPEN SPACE, TURTLE COMPENSATION AREAS, AND TREADED CITY LAND
 - SPRING 2015 TEMPORARY TREE RETENTION
 - MUNICIPAL PARK BLOCK
 - 25.0m RADIUS BUFFER/INFLUENCE ZONE SURROUNDING BUTTERNUT TREES
 - BUTTERNUT TREE TO BE REMOVED
 - BUTTERNUT TREE HARMED/IMPACTED
 - BUTTERNUT TREE NOT IMPACTED
 - COMBINED TREE PRESERVATION FENCING (SNOW FENCE) AND TURTLE EXCLUSION FENCING (TOED IN SILT FENCING)
 - APPROXIMATE LOCATION OF EQUIPMENT STAGING AND STORAGE AREA

A	30/03/15	PRELIMINARY	A.M.
REV	DATE	ISSUE	APPROVAL

PROJECT TITLE			
UPDATED DETAILED ENVIRONMENTAL IMPACT STATEMENT (EIS): KANATA LAKES NORTH (KNL) DEVELOPMENT PHASE 7 & 8			

DRAWING TITLE	
TREE PRESERVATION PLAN FOR KNL PHASE 7 - SPRING 2015 TREE CLEARING	

DESIGNED BY	A.M.	SCALE	As Shown
DRAWN BY	R.P.	DATE	March 2015
PROJECT MANAGER	A.N.	PROJECT NO.:	OE-OT-015982
FIGURE No.:	LC-4		

NOTE - Tree Preservation Fencing (Snow Fence) and Turtle Exclusion Fencing (Silt Fencing) arrangement as shown is temporary to accommodate spring tree removal. The fencing arrangement will be adjusted to match what is shown in LC-2 beginning in August 2015.