

January 22, 2014

DEVELOPMENT & INFRASTRUCTURE SERVICES REPORT – PWS 2014-08

TO: Committee of the Whole
SUBJECT: Emerald Ash Borer Long Term Management Plan - Update
ORIGIN: Director of Public Works Services

RECOMMENDATION

THAT Development & Infrastructure Services Report – PWS 2014-08, dated January 22, 2014 regarding the Emerald Ash Borer Long Term Management Plan Update is received and the following recommendations be adopted:

- 1. THAT the staff continue to proceed with the proposed recommendations in the Town of Newmarket Emerald Ash Borer Long Term Management Plan.**
- 2. AND THAT staff report back to Council in the fall of 2014 with an annual update on the Emerald Ash Borer Long Term Management Plan.**
- 3. AND THAT annual EAB reports are provided to NEAC for comment.**

PURPOSE

The purpose of this report is to provide an update on the Emerald Ash Borer (EAB) management and long term strategy to address the impacts of Emerald Ash Borer.

BACKGROUND

Emerald Ash Borer is a highly detrimental pest that is present and active in Newmarket.

The Emerald Ash Borer (*Agrilus plannipennis*) is a wood boring beetle native to Asia, that kills all Ash (*Fraxinus sp.*) trees. In 2002 the beetle was identified in Ontario (City of Windsor), and in 2008 was discovered in York Region (City of Vaughan). Since first being identified in 2002, the Emerald Ash Borer (EAB) has killed hundreds of thousands of trees throughout Ontario. The Emerald Ash Borer has now been found in Newmarket and all municipalities within York Region.

Eradication of Emerald Ash Borer is not possible, and the approach by the Canadian Food Inspection Agency (CFIA) is to slow the spread of the pest. Two of the key strategies for slowing the spread are quarantine zones in infested areas and public education. York Region is part of a significant quarantine zone that extends from Durham Region to Essex County.

It is estimated that the Town has approximately 24,000 street trees. Approximately 2,600 of these trees are Ash (11%) and this does not account for trees currently located in parks, facilities, along trails and in woodlots. These numbers will be confirmed and added once a detailed tree inventory study is complete in the spring of 2014.

It is estimated that Ash tree mortality over the next 8-10 years will see a steady increase and a peak from 2016 through to 2019. Approximately 300 trees are expected to die over the next 2-3 years and 1800-2000 between 2016 and 2019 if no action was taken. These estimates are based on current time trends that are occurring in other municipalities that have experienced EAB infestations to date.

The Town continues to work in collaboration with the Region and surrounding municipalities. York Region has formed an Emerald Ash Borer Technical Working Group, which is comprised of staff from the Region, local municipalities, conservations authorities, and the Provincial and Federal Governments. Town staff form part of this group. The Region has prepared an Emerald Ash Borer Management Plan to guide the Region's collective response to managing the impact of this significant forest pest.

The Town of Newmarket has developed and implemented an Emerald Ash Borer Long Term Management Plan that will provide direction for managing EAB over the next 5-10 years. The long term plan has also helped provide direction for addressing the significant long term financial implications and the overall impact on the urban forestry canopy. This strategy was approved by Council in October of 2012, as outlined in report PWS 2012-73.

ACTION TO DATE

Emerald Ash Borer is now causing death in Newmarket's trees, however; Newmarket has protected 278 significant Ash trees to date.

In March of 2012, report PWS 2012-14 was adopted by council. A short term strategy was adopted and direction was given to develop a long term strategy for EAB. Positive identification of the borer was found in traps throughout the Town (4 locations).

The Town had implemented the following components of the short term strategy:

1. Confirmed the Ash tree 'windshield' inventory count of street trees.
2. Monitored, tracked and detected EAB within Newmarket, in conjunction with the Region of York.
3. Injected 3000cm (DBH) of primarily larger Ash trees (68 Trees) with TreeAzin®.
4. Further developed communication with the public through enhancements such as the Town's website and Customer Service.

In October of 2012, report PWS 2012-73 was adopted by Council approving an Emerald Ash Borer Long Term Management Plan and allocating \$113,500 to fund injections, monitoring, removals, replanting and the first phase of a detailed tree inventory study.

The Town has implemented the following components of the long term strategy:

1. 278 significant Ash trees have been identified and treated with TreeAzin®
2. Removal and replacement of 12 Ash trees that have died due to EAB. (estimated to increase to 75 in 2014)
3. Development of a program for "Application to Inject TreeAzin® Into Town Owned Trees" which allows private owners to protect Town owned trees (ex. boulevard trees) that are not covered under the Town's injection program.
4. Ongoing communication strategies with the public.
5. Tender and award of a detailed tree inventory study that will see completion in the spring of 2014.
6. Defined a primary staff contact for handling all EAB related customer service requests, Injection programs, detailed tree inventory study, contract management for removals, stumping and re-planting, financial tracking of costs and collaboration with the Region's EAB Technical Working Group, related government authorities and surrounding municipalities.

ANALYSIS and PROPOSALS

Emerald Ash Borer will continue to have an ever increasing impact on the Town's urban canopy, which will kill an estimated 75-100 more trees in 2014. The balanced approach to management is still recommended at this time.

EAB has just started to impact Newmarket's urban forestry canopy. As EAB continues to spread, Newmarket staff has been working closely with municipalities to better understand successes and failures of managing it. Many of the approaches continue to be refined and each year new research provides more information to allow better management techniques. The Town has agreed to a balanced approach which protects the most significant and healthy Ash trees within the Town and also removes and replaces trees that have succumbed to EAB. This balanced approach continues to provide a large degree of flexibility as the Town begins to deal with EAB.

The Town will be implementing the following components of the long term strategy for 2014:

1. Continued protection and injection of 278 significant Ash trees with TreeAzin® and the next phase of selecting approximately 200 more trees, as per criteria outlined in the long term strategy.
2. Estimated removal and replacement of approximately 75-100 trees (\$30,000) in 2014.
3. Detailed communication strategy to homeowners that specifically have a Town owned Ash tree within their boulevard, informing them of injections or notifying

- them of the opportunity to inject it, if the Ash tree is not part of the Town's injection program.
4. Ongoing communication strategies with the public which include web site updates, education of front line customer service staff and printed material.
 5. Completion of the detailed tree inventory study (to be completed in June of 2014) and a thorough review of the information. Staff will begin to assess the general canopy condition and begin to formulate an overall management strategy for our urban forest.
 6. Continued support of a primary staff contact for handling all EAB related customer service requests, injection programs, detailed tree inventory study, contract management for removals, stumping and re-planting, financial tracking of costs, monitoring and collaboration with the Region's EAB Technical Working Group, NEAC, LEAF, related government authorities and surrounding municipalities.

New Developments and Research

There is ongoing development and research regarding managing EAB. There were two primary developments in 2013, however; both are still being researched.

In June of 2013, the Canadian Food Inspection Agency has approved the release of two small parasitic wasps from China for research. These wasps essentially eat the Emerald Ash Borer, which currently has no natural enemies. Some research out of Michigan and US Forestry Services suggest that these have the ability to play a critical role in suppressing (not eliminating) the Emerald Ash Borer. This research will be monitored closely as it continues as there is some promise that this may help suppress and control EAB.

A second change in research suggests there is current testing being done by the Canadian Food and Inspection Agency (CFIA) and the manufacturers of TreeAzin® to see if injections can be stretched from the required every two year injection, to every three years. Staff will continue to monitor and follow this development.

Impacts from Ice Storm and Cold Temperatures

The Town was impacted by a significant ice storm in December of 2013. The Town fared well through this storm, which can be partially attributed to proactive block pruning that has taken place in recent years. Overall there was some significant damage to individual trees and some losses. With Ash trees being a structurally weaker species they are prone to ice damage, which include some that were currently being treated for EAB. The detailed tree inventory will now be able to assess that damage to allow staff to analyze the impact of the storm on EAB, which is anticipated to be minor. Any trees that were being treated for EAB and have significant damage, will be reviewed on an individual bases to ensure they are still suitable candidates for continued treatment.

Recent cold temperatures are also being monitored for their impact on EAB. It is being suggested that the significantly consistent cold temperatures may have the ability to

reduce existing populations. There have been conflicting reports of this, however; this is something that is being monitored and will not be known until the spring emergence of EAB. Staff will follow this closely. If populations reduce as a result of the abnormally cold temperatures, there may be temporary delay in the progress and spread of EAB.

FINANCIAL IMPACT

Emerald Ash Borer is estimated to have a financial impact of \$125,000 for 2014 and over \$2 million for the next eight to ten years.

Emerald Ash Borer is a financial challenge that is expected to have an impact over the next eight to ten years. The cost implications deal with a number of elements including the creation of a tree inventory, the removal and replacement of trees, injections and communication costs. The long term strategy recommends a balanced approach to dealing with EAB and anticipates an overall 10 year financial cost of \$2,043,000.00.

New research and developing strategies from other municipalities have indicated that a balanced approach is the most appropriate recommended direction for dealing with EAB in Newmarket. The balanced approach uses a combination of injections and removal strategies together in moderation. The investment into protecting trees will achieve two primary goals: 1) preservation of critical trees 2) reducing peaks/spikes in budget costs, thus making it easier for the municipality to manage financially. The proactive approach to injection minimizes the budget impact specifically during the period of greatest impact (years 2016-2019). At the same time, the cost of injection is not inexpensive; therefore concentration on critical trees is achieved while allowing removals/replacements to occur in that are not as vitally important. The net result is an anticipated savings when compared to a straight removal and replacement strategy. The long term management plan was approved in report PWS 2012-73. This plan outlined the approach and the criteria for which trees were selected for injection.

The long term strategy also recommends that existing forestry services should NOT be affected by the presence of EAB. All resources required to address EAB (ex. removals, plantings, stumping) are recommended to be contracted out and separated from current internal field resources. The contracting out of arboricultural services for EAB will allow the municipality flexibility to adjust if the approach to EAB were to change. Furthermore, it is anticipated that EAB is a temporary issue (7-10 years) and in 10 years will eventually naturally balance in the ecosystem, thus being manageable with current resources.

Currently the staff resource in place to manage and supervise EAB is being funded out of the Parks and Property Services operating budget. This will continue to be monitored as EAB progresses as we believe the staff impact to manage EAB will also increase. It is expected that during the peak years (2015-2018), supervision of EAB related work will approximately double the existing work load for the Supervisor of Forestry and Horticulture. Furthermore, data from the detailed tree inventory will outline the current condition of our canopy and help define a service level for forestry moving forward.

The proposed budget costs for the year of 2014 are as follows:

Tree Inventory	\$26,500.00
Public Education	\$5,000.00
TreeAzin® injections	\$50,000.00
Tree Removals	\$27,500.00
Stump Grinding	\$3,500.00
Replacement Plantings	\$12,500.00
2014 Total:	\$125,000.00

Summary costs from 2013-2017:

2013 (Actuals)	\$92,100.00
2014 (Projected)	\$125,000.00
2015 (Projected)	\$203,000.00
2016 (Projected)	\$385,000.00
2017 (Projected)	\$478,000.00

The budget only considers street trees on public lands. It is anticipated that there will be pressure and/or numerous requests from private property owners to protect street trees on their abutting boulevard. Adjacent street trees fronting a property are often perceived as important to the private property. Staff have developed a program that allows private homeowners the ability to fund the injection of trees on the Town boulevard, that may not be captured within the Town's EAB injection program. Such a program may see property owners purchasing such services through the Town and Town's contractors administering the service at the tendered cost. This in turn will reduce the financial impact to the Town and reduce the impact of EAB as this program achieves a full cost recovery.

BUSINESS PLAN AND STRATEGIC PLAN LINKAGES

Living Well: Deliver efficient, effective and environmentally sound maintenance services to an appropriate level that achieves Council and/or Provincially mandated services levels, which meet public health and safety requirements and enhances quality of life while ensuring that system capital assets retain their value and are managed and funded according to sustainable, lifecycle based principles and practices.

BUDGET IMPACT

The Town of Newmarket Emerald Ash Borer Long Term Strategy and the 2014 budget have provided \$125,000 for continued management of EAB.

The funding requirements for future years will continue to be updated through the budget process and in annual updates of the Emerald Ash Borer Long Term Management Plan.

CONTACT


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