



Corporate Report

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DATE: June 10, 2012

TO: Chair and Members of General Committee
Meeting Date: June 27, 2012

FROM: Paul Mitcham, P. Eng., MBA
Commissioner of Community Services

SUBJECT: **Emerald Ash Borer Management Plan**

RECOMMENDATION:

1. That staff be authorized to use funding in the amount of \$100,000 from the 2012 Forestry operating budget to implement a treatment program to protect selected ash trees from the Emerald Ash Borer (EAB), as outlined in the Corporate Report dated June 10, 2012 from the Commissioner of Community Services.
2. That the Active Management Plan for the control of Emerald Ash Borer be endorsed in principle, subject to long term budget funding.

**REPORT
HIGHLIGHTS:**

- Emerald Ash Borer (EAB) is present within the City of Mississauga and poses a serious threat to all Ash trees.
- The chemical treatment TreeAzin is now available to be utilized as a tool to assist in EAB management.
- A percentage of City owned Ash trees could be preserved by implementing a treatment program utilizing TreeAzin.
- Untreated City Ash trees will require removal and replacement.
- Treatment of 600 trees utilizing existing Forestry operating budget in 2012 will assist in managing EAB populations.
- Funding of \$51 million over 10 years will be requested in the 2013-2016 Business Plan and Budget.

BACKGROUND:

In December 2011 a petition was received by Council containing 662 signatures requesting that “*the necessary steps be taken to save Ash trees from the Emerald Ash Borer*. At the December 14th, 2011 meeting of Council staff provided an overview of EAB within Mississauga and further that that they would report back to Council in the spring of 2012, providing options for the mitigation of EAB.

Staff retained the services of an entomology expert and EAB consultant to develop a Strategic EAB Management Plan. The completed plan contains information pertaining to the biology of EAB, the impacts on Ash tree populations within Mississauga and Ontario, benchmarking data with various municipalities and potential management options.

COMMENTS:

EAB is a highly destructive pest that has the capacity to infest and kill all North American species of Ash (*Fraxinus spp.*) trees. It is estimated that approximately 70 million Ash trees in the US and Canada have been infested or killed to date with another 10 billion Ash trees at risk. This invasive insect is native to eastern Asia, and was introduced to North America via imported wood packaging material. The pest was discovered in Windsor, Ontario in 2002, and is now well established in Southwest Ontario. EAB infestations have been confirmed by The Canadian Food Inspection Agency (CFIA), within the Cities of Mississauga, Toronto, Brampton and the Town of Oakville.

Mississauga is currently within a regulated (quarantine) area defined by a Federal Ministerial Order (Appendix 1). The intent of the regulated area is to reduce the spread of EAB by controlling the movement of Ash products. Human activities including the movement of infested firewood have allowed EAB to spread rapidly. Since the discovery of EAB within Canada, staff have worked closely with the CFIA, Canadian Forest Services (CFS), other municipal Forestry staff and professional forestry organizations regarding EAB detection and potential control options.

Ash Tree population

The City’s Urban Forest is comprised of approximately 2.1 million trees located on both public and private lands, with over half of the trees located on private land. Ash species represent a significant component (10 %+) of the tree canopy on both public and private land.

The following represent numbers of City owned Ash trees.

- Street Trees: 23,311
- Parks and Cemeteries: Approximately 23,000
- Woodlands: Approximately 70,000

Due to its small size (approx.10mm), detection of EAB has been extremely challenging. Trees have been found to be infected for several years prior to the appearance of external symptoms such as leaf discoloration, thinning canopy, epicormic shoots and tree mortality. Ash trees quickly rot after death, requiring prompt removal to eliminate any liability or safety concerns. Since confirmation of EAB within Mississauga, staff have implemented delineation programs, including visual inspections, branch sampling and the use of EAB prism traps. The results show that EAB is located throughout the City with a very low percentage of City Ash trees infested at this time.

The CFIA concludes that EAB may have been present within the Greater Toronto Area for approximately eight years. If there is no human intervention such as tree removal or chemical treatment it is estimated that the majority of Ash trees within Mississauga will be infested within five years (2017) with close to 100% mortality within ten years (2022).

OPTIONS:

TreeAzin

Federal and Provincial agencies have continued to develop science based strategies allowing for the detection and management of EAB. In 2002, control of EAB comprised of the removal of primarily infested Ash trees, along with the proactive removal of uninfested trees in a bid to slow the spread of the insect.

More recently a chemical treatment; *TreeAzin* has been developed to assist in EAB management. *TreeAzin* has recently received full registration, from the Health Canada - Pest Management Regulatory Agency. Positive efficacy results support the manufacturers claim that one application (injection) of the product affords the tree an acceptable level of protection from EAB for a two year period. Trees will require treatment every two years over a minimum ten year timeframe or until delineation surveys determine that EAB populations have diminished. Current costs are approximately \$160 per application per tree based on the calliper of the tree.

EAB Management

Staff retained an EAB consultant and entomology expert to develop a Strategic EAB Management Plan. The completed plan contains information pertaining to the biology of EAB, impacts on Ash tree populations within Mississauga and Ontario, benchmarking data and management options. Municipalities adjacent to Mississauga have implemented the following programs.

- **City of Toronto**
Inventory of 82,400 street and park Ash trees with the intent to treat 8000 trees with TreeAzin.
- **City of Brampton**
Currently not implemented any treatment programs.
- **Town of Oakville**
Program in place to treat 5,700 of their 14,100 street and park Ash trees with TreeAzin.
- **City of Burlington**
Program in place to treat 5,200 of their 8,600 street and park Ash trees with TreeAzin.

The following consultant options provide strategies to mitigate the impact of EAB on City of Mississauga owned Ash trees.

i) **Minimal Management/No Management.**

All City Ash trees would be treated the same as any other tree genus with no special consideration pertaining to their conservation or protection. Trees would be removed as they become infested and die, with street and park trees being replaced as per existing 1:1 practices. No surveys or treatment programs would be implemented.

There is a high probability of 100% mortality of City owned Ash trees impacting the overall biodiversity of the Urban Forest canopy, and impacting the aesthetic beauty and environmental benefits of the City's green assets. This option is estimated to cost \$58 million over a 10 year period (Appendix 2).

ii) **Active Management.**

A treatment program utilizing *TreeAzin* would be implemented in 2013 to treat approximately 15,000 street and 5000 park

trees. The total number of trees to be treated will be determined by evaluating each Ash tree against a condition matrix. The matrix will consider factors that impact each tree such as existing health condition, structural composition, location and the ability of the tree to continue as a sustainable City asset. Infested street and park trees would be removed and replaced as per existing 1:1 practices. Survey and delineation programs would continue throughout the City.

The Active Management option allows for the preservation of a percentage of Ash trees on streets and in parks, but not within woodlands. This option is estimated to cost \$51 million over a 10 year period (Appendix 2).

iii) **Aggressive Management.**

All viable Ash trees would be treated in conjunction with the removal of all infested and non viable Ash trees on both public and private property.

This option is not recommended. It was provided to show the scope of work if EAB was to be eradicated and is not appropriate for municipalities that have EAB infestations, or where their adjoining municipalities have infestations. This option would be best suited for a municipality with a small percentage of Ash trees. Currently municipalities do not have the legislative authority to enforce compliance with this type of program on private property.

Woodlands and natural areas

There are no strategies currently being utilized by any municipality in regards to preserving and protecting Ash trees within woodlands and natural areas. Declining and dead Ash trees that are adjacent to pathways, homes and roadways would be removed to eliminate liability or safety concerns. Dependant on Ash tree populations and public safety concerns there may be a requirement to fence individual woodlots or green belts, to prohibit public access.

2012 Treatment program

Recent survey programs have identified several locations with infested City trees, which have been or will be removed. To address the spread of EAB adjacent to these sites, staff are proposing to commence a

treatment program in 2012 where City Ash trees within a half kilometre of the infested locations would be treated with *TreeAzin*. If the program is undertaken, the trees would require treatment every two years over a minimum ten year period. Funding is available within the 2012 Forestry operation budget for year one of treatment.

STRATEGIC PLAN: The Green Pillar for Change within the Strategic Plan identifies the need to conserve, enhance and connect natural environments in the City of Mississauga.

FINANCIAL IMPACT: Staff recommend that the consultants option Active Management be implemented, beginning in 2013. Funding of \$51 million over 10 years as indicated in option 2, will be requested through the 2013 -2016 Business Plan and Budget. Financial options are outlined below.

- **Active Management**

Associated costs for this option over a ten year timeframe are estimated at \$51 million (Appendix 2).

Implementation of a City wide treatment program allowing for the retention of a percentage of City owned Ash trees, in conjunction with the removal of infested trees and trees not suitable for treatment. Street and park trees would be replaced as per existing 1:1 practices.

- **2012 Treatment program**

Utilize existing funding of \$100,000 within the existing Forestry operating budget to treat 600 trees at selected sites within one kilometre of known infestations. Trees will require to be treated every two years over a ten year period. Existing service levels associated with this funding (street tree rejuvenation works) would be reduced within 2012, with a return to existing service levels in 2013.

Private property costs

No budget implications as private property landowners and residents would be responsible for all costs associated with the treatment or removal of Ash trees located on their property.

CONCLUSION: EAB is present within the City of Mississauga and poses a serious threat to all Ash trees.

Over a very short timeframe EAB populations have increased dramatically, with all Ash trees within Mississauga now at risk of being infested. The EAB infestation within Mississauga will impact multiple City service areas including; Forestry, Parks, Transportation and Works, By-law and Communications. As Ash trees die and become structurally unsafe prompt removal is required.

TreeAzin has shown to be a cost effective alternative to removing and replacing trees, allowing for the preservation of a percentage of Ash trees within a community.

Utilizing \$100,000 of existing funds to implement a treatment program to treat 600 trees in 2012 will assist in managing a growing EAB population.

The implementation of a City wide active management program in 2013 will allow for the preservation of a percentage of City owned Ash trees. Required funding for active management of \$51 million over 10 years will be requested through the 2013 -2016 Business Plan and Budget.

As scientific research continues it is anticipated that additional chemical treatments will be registered for the treatment of EAB within Canada. These products along with future biological controls may provide alternatives to the limited options that are currently available to address this environmental disaster.

ATTACHMENTS: Appendix 1: Emerald Ash Borer Regulated Areas of Canada
Appendix 2: Costing Charts

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