



Report to: General Committee

Date Report Authored: February 22, 2013

SUBJECT: Emerald Ash Borer Management Plan Update
PREPARED BY: Bob Walter, Manager Parks Operations
Jeff McMann, Supervisor, Forestry

RECOMMENDATION:

- 1) That the staff report entitled 'Emerald Ash Borer Management Plan Update' be received, and
- 2) That Operations staff implement an Emerald Ash Borer Management Plan that aligns with the recommendations outlined in the draft 'City of Markham Emerald Ash Borer Management Strategy', prepared by the Davey Resource Group, included in Attachment 'B' of report, and
- 3) That Operations staff continue to engage the services of Davey Resource Group to provide their expertise in the development of the City's tree species selection and wood lot data collection initiatives, and
- 4) That the Operations Department continue to celebrate and promote tree planting initiatives such as; National Tree Day, National Forest Week, Trees for Tomorrow, Trees for Life, Urban Tree Canopy Coalition, etc., and
- 5) That the Operations Department report back to Council on an annual basis to provide updates on the Emerald Ash Borer Management Plan, including annual budget considerations, and
- 6) That Staff be authorized and directed to do all things necessary to give effect to this resolution.

EXECUTIVE SUMMARY:

The City's Emerald Ash Borer Management Plan was presented to Markham General Committee of Council on November 19, 2012 (see Attachment 'A'). This comprehensive plan is the result of a number of critical best-practice steps required to ensure development of the most effective response possible to this invasive pest. These steps included:

- Proactive monitoring of emerald ash borer (EAB) progress in Ontario and an inventory of City ash tree locations before detection of EAB in Markham;
- Confirmation of EAB infestation in Markham by the Canadian Food Inspection Agency;
- Phase one of Markham's city street and park ash tree inventory, and health assessment program;
- Implementation of branch sampling and pilot ash tree treatment programs;
- A secondary health assessment of identified City ash trees to determine the rate of decline; and

- Best-practice education through independent research, and consultation with experts and other municipalities with several years of emerald ash borer management experience.

PURPOSE:

This report has been prepared to seek Council endorsement for the implementation of the Operations Departments Emerald Ash Borer Management Plan and Communications Strategy.

BACKGROUND:

Markham is currently facing a serious threat to a large portion of our public and private green infrastructure. The emerald ash borer (EAB) is an invasive and exotic pest which has infested ash trees throughout the City of Markham and the majority of southern Ontario municipalities as well as 18 of the northern U.S.A states, resulting in the demise of a large number of ash trees. It is estimated that the EAB will cost Canadians approximately \$2 billion and Americans between \$30 and \$40 billion.

The EAB was first discovered in the Windsor area in 2002 and by 2006 had infested as trees as far east as Oakville, Ontario. Acknowledging the threat of EAB to Markham, Operations staff completed a rough mapping of approximately 14,000 boulevard ash trees in 2009. In 2011, the Region of York and nine area municipalities formed a Joint Technical EAB Working Group to conduct surveys across the Region in order to determine the presence of the EAB in Markham and surrounding York Region municipalities.

The Canadian Food Inspection Agency (CFIA) confirmed the presence of EAB in 2011, and Markham's Forestry Division has been actively pursuing a solution to strategically manage this infestation. The first order of business was to complete a comprehensive inventory of all public ash trees on street boulevards and manicured areas within park land. This was completed in 2012, identifying 16,738 ash trees.

OPTIONS/ DISCUSSION:

Trees are key components of the urban environment and contribute greatly to the quality of life in Markham. They provide residents interaction with nature, relaxation, and recreation in ways that enhance a sense of community. In most communities, particularly in highly urbanized areas experiencing expansive growth such as the City of Markham, residents view trees as great assets.

Our Emerald Ash Borer Management Plan will not only direct work on public trees, but engage the City's Residents, Industries and Institutions, providing information on how best to address this infestation on private property.

EAB MANAGEMENT PLAN:

Markham's EAB Management Strategy (see Attachment 'B') is designed to protect the environmental, social and economic benefits of our urban forest through the management of the Emerald Ash Borer infestation.

Markham is committed to an EAB Management Plan that focuses on our tree canopy and recognizes the value of our trees in an environmentally and fiscally responsible manner. Markham's plan was built on the best practices of other municipalities and we engaged the Davey Resource Group, who are experts in this field, allowing the City to make informed and appropriate decisions in addressing the consequences of the infestation.

Management Plan Objectives:

- Address all City-owned Ash trees on boulevards and manicured park areas
- Preserve the City's tree canopy by maintaining and preserving healthy trees, either by cultural practises or injection treatments
- Immediately address any hazards and/or safety issues due to EAB
- Manage the removal of dead, hazardous and significantly declined trees only - no clear cutting of entire streets
- Replace trees on a one-to-one basis
- Replanting program is using Davey Resource Group to assist with species selection
- Expand our Ash tree inventory to include valley lands and woodlots
- Provide residents with information to educate and increase awareness of the importance of private trees to the urban canopy
- Provide residents with the opportunity to increase the calliper of the tree being replaced adjacent to their homes on the City's boulevards as a result of EAB.
- Further provide residents with the opportunity to treat the public tree adjacent to their property, at their expense, even though the City's assessment of the tree's health has not identified it as a favourable candidate for injection.
- Increase awareness of EAB for ash trees located on private properties.

Elements of the EAB Management Plan:

The Davey Resource Group was retained by the Operations Department to assist in preparing a comprehensive EAB Management plan which includes the following elements:

- 1) Monitoring Program – Inventory and Annual Health Assessment
- 2) Treatment Program
- 3) Removal and Replanting Program
- 4) Maintenance and Care Program
- 5) Disposal Program

1) Inventory and Annual Health Assessment:

In 2012, two ash tree health assessments were completed that have provided the basis for our overall Management Plan. Annual Health Assessment program of the Ash trees will commence once the leaves have emerged and developed. First assessment should occur

in May and June of each year, with for second health assessment conducted in September of each year. The annual health assessment will provide an opportunity for staff to identify which trees may be candidates to be added to our injection program and which have deteriorated to the point that removal is required.

The Pilot program undertaken on ash trees in Ashton Meadows Park will be assessed on an ongoing basis to measure the effectiveness of the TreeAzin injection last summer. The results will be related through our next update to Council update in the fall of 2013. In 2013, Operations staff will extend our ash tree inventory and condition assessment program to our woodlots and valley lands through the use of a consultant, Davey Resource Group, whom have significant experience in modeling inventories in these areas.

2) Treatment – All Healthy Trees Treated

The City's treatment program addresses an annual injection of all newly identified healthy trees that meet the following criteria:

- Tree Health – trees with greater than 75% foliage considered to be in 'Good Health'
- Tree Size – trees must be greater than 20 cm diameter at breast height (DBH)

Ash trees showing less than 75% foliage are considered to be in decline and therefore poor candidates for preservation through a treatment program. In addition, the minimum industry standard for treatment of ash trees has been established at 20 cm DBH. Attempting injection treatment of trees that are less than 20 cm DBH would cause irreparable damage to the tree.

Should individual residents wish to treat a City tree that the City has assessed to be in poor health and not an ideal candidate for treatment, the homeowner seek permission to treat the tree, at their expense, through the Agreement as outlined in Attachment 'C'.

The CFIA has approved the use of three products for EAB control in Canada; TreeAzin, Confidor 200 SL and ACECAP 97. The Operations Department has selected TreeAzin as the current product of choice for treatment based on the product performance reported by Ontario municipalities that have utilized TreeAzin in their treatment programs since 2008.

The TreeAzin injection program requires a continuous bi-annual treatment of previously treated stock in order to optimize the potential to save the trees. We are currently tendering the injection program to all authorized companies that provide this service in preparation for the June to August treatment window.

3) Removal and Replanting:

Operations are currently removing trees identified through our 2012 tree assessment program as dead, damaged or showing significant decline. Staff will not be clear cutting any boulevard areas on specific streets within the City. Following stump removal operations, replacement trees will be planted during our spring and fall tree planting

programs. All residents will be notified of scheduled tree removals through use of door hangers and other measures.

The Operations replacement tree planting program is designed to provide one new tree for every boulevard or park tree removed. The current City standard for new tree planting is 60 mm diameter at breast height stock. In order to develop replanting plans aligned with species recommendations, Operations staff will be conducting soil tests on many of the areas and streets to be re-planted. Soil analysis will allow staff to match the appropriate tree species to soil condition, promoting healthy growth and maximize the tree's canopy cover.

Should individual residents wish to alter the size of the replacement tree to be planted on the boulevard adjacent to their property, they may seek permission to increase the size of the tree, at their expense, through the Agreement as outlined in Attachment 'D'.

4) *Maintenance and Care:*

Ongoing maintenance of newly planted trees is very important for the survival of the trees, and we will address this on two fronts. Operations staff will educate home owners on how they can nurture new trees to ensure their survival by encouraging them to water these trees on a regular basis. In addition, staff will monitor health of newly planted trees and ensure those not fronting onto private residences are watered and fertilized on a regular basis.

5) *Disposal:*

Operations staff are currently working with three recycling firms to develop an optimal eco-friendly strategy to use the wood produced through the removal process. Currently the potential vendors are developing programs to create high grade mulches, compost, and/or bio-fuel usage.

As the success of this program is dependent upon the City providing a temporary storage site, Operations staff recommends that a portion of the City owned lands, located on the east side of Warden Avenue north of Elgin Mills Road, be utilized to facilitate storage requirements. Provision of this site will allow for the development of the programs, and potentially generate the potential for a cost recovery system.

Contracted Services:

Operations have the following tenders and quotations in development to support the EAB Management Plan.

- TreeAzin Treatment
- Tree Removal
- Tree Supply and Delivery
- Tree Planting
- Consultant Services:
 - Communications, Education and Community Engagement
 - Planting Plans/Species Selection
 - Woodlot & Valley Land Ash Tree Inventory

COMMUNICATION PLAN:

The Communications Plan provided in Attachment 'E' of this report will make available a number of resources for the public to assist in addressing questions they may have regarding EAB on public lands and private property.

Operations have engaged the services of CG Group Communications to assist with communications to meet our residents' expectations. In addition, Operations has engaged Mr. Mark Cullen to assist with our communication and education program. Mr. Cullen has agreed to act as the City's spokesperson to help engage the public in understanding the importance of our tree canopy and encourage residents to work within their community and to celebrate and participate in various tree planting initiatives such as; National Tree Day, National Forest Week, Trees for Tomorrow, Trees for Life, etc.

Communications Plan Objectives:**Provide residents with educational materials and resources that explain:**

- What EAB is & how to identify it
- How to identify an ash tree
- City's due diligence in managing EAB and developing Markham's EAB Management Plan
- How to hire a qualified, reputable arborist
- When and how Markham is preserving City ash trees based on best practice and manufacturer recommendations
- When and how the City is removing and replacing City trees adjacent to their homes and in their parks that are in significant health decline

Advise residents of what Markham is currently doing

- Staff working on implementation of the programs within Markham's Emerald Ash Borer Management Plan
- Key aspects of Markham's EAB Management Plan presented to General Committee 19 November 2012
- Next steps

Engage residents as 'partners'

- Encourage advocacy groups
 - Community tree planting projects
 - Local Enhancement and Appreciation of Forests (LEAF)
 - Backyard planting, resources
 - Markham Trees for Tomorrow
 - Friends of The Rouge Watershed
 - 10,000 trees for the Rouge project (Sunday April 28 2013)
 - Partnership with Evergreen
- How to get involved in their community
 - Talk to your neighbours about EAB
 - Celebrate trees: National Tree Day, National Forest Week

- Help care for local trees
- Organize bulk treatments or removals
- Community inventory – NeighbourWoods©
- Community greening grants

Public Information Meetings

Public information meetings in the various Wards in an effort to engage residents in assisting with the City's EAB Management Plan.

- February 4 – Unionville Ratepayers Association – Varley Art Gallery
- February 21 – Wards 3 & 4 – Centennial Community Centre
- February 27 – Wards 1 & 2 – Thornhill Community Centre
- February 28 – Wards 7 & 8 – Armadale Community Centre
- March 21 – Wards 4 & 5 – Cornell Community Centre
- March 28 – Wards 3 & 6 – Angus Glen Community Centre

The Communications Plan will provide the Mayor, Council and Residents with regular updates on where we are in the program.

Interactive Mapping on Portal

Operations, in partnership with Development Services Geographic Information Systems staff developed an interactive mapping system on the City's Portal that allows residents to identify whether or not they have an Ash tree on their boulevard. The Portal information includes status of each boulevard or park tree and outlines the condition of the trees (i.e. ongoing monitoring/health assessment, candidate for treatment, or scheduled for removal and replacement).

FINANCIAL CONSIDERATIONS

In 2012, Operations Staff identified a 5 year program with an estimated total funding requirement of \$13.1M to address the environmental threat posed by the EAB infestation and protect homeowner's values. Of the total funding requirement, \$2.0M has been included in the 2013 Capital Budget. As well, a tax rate increase of 0.5% for infrastructure has been included in the approved 2013 Capital Budget to address the EAB infestation.

The cost of implementation of the 2013 portion of the Emerald Ash Borer Management Plan, including the Communication, Public Education and Consulting Services components, will be funded from the Operations Department capital budget project #13438 (Emerald Ash Borer Program). On-going costs for the continuation of the EAB Management Plan will be considered in annual Capital and Operating budget submissions.

Summary of 2013 EAB Budget

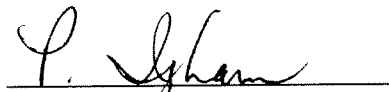
Treatment Program	\$120,000
Removal to Replacement:	
Estimated removals for the 2013 season (2520 trees)	
Based on estimated \$700/unit	\$1,764,000
Maintenance Program – in house for 2013	N/A
Monitoring and Inventory Program	\$122,000
Communication, Public Education, Consulting Services	<u>\$60,300</u>
2013 estimated total projected cost:	2,066,300

ALIGNMENT WITH STRATEGIC PRIORITIES:

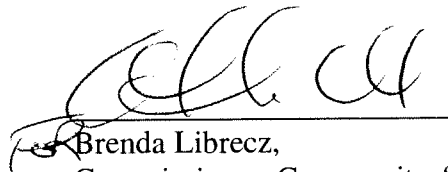
This Emerald Ash Borer Management Plan aligns with the goals and objectives of the Municipal Services, Green Print as well as the Parks, Recreation, Culture and Library Master Plan components of Markham's strategic priorities.

BUSINESS UNITS CONSULTED AND AFFECTED:

Corporate Communications and Information Technology Teams continue to assist with developing updates and engaging the public.

RECOMMENDED BY:


Paul Ingham,
Director, Operations



Brenda Librecz,
Commissioner, Community & Fire Services

ATTACHMENTS:

Attachment 'A' – November 19, 2012 Emerald Ash Borer Presentation to General Committee

Attachment 'B' – City of Markham 'Emerald Ash Borer Management Strategy' prepared by Davey Resource Group

Attachment 'C' – Resident Application Form – TreeAzin Treatment for Boulevard Trees

Attachment 'D' – Resident Application Form – Boulevard Tree Planting Enhancement

Attachment 'E' – Emerald Ash Borer Communication Strategy