



**SUBJECT: 2018 Emerald Ash Borer Action Plan**

**TO: Committee of the Whole**

**FROM: Roads, Parks and Forestry Department**

Report Number: RPF-04-18

Wards Affected: all

File Numbers: 820-01

Date to Committee: February 26, 2018

Date to Council: March 19, 2018

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### **Recommendation:**

Receive and file Roads, Parks and Forestry department report RPF-04-18 providing the 2018 Emerald Ash Borer Action Plan.

### **Purpose:**

A Healthy and Greener City

- Healthy Lifestyles
  - Environmental and Energy Leadership
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### **Background and Discussion:**

In Canada, Emerald Ash Borer has continued to spread rapidly throughout Ontario and Quebec, killing infested trees. Concern continues throughout North America, as the insect has killed hundreds of millions of ash trees, currently spreading as far as Texas and Colorado.

City staff has actively managed EAB since 2009, including undertaking an extensive treatment program in an effort to retain trees as long as possible. Eventually, almost all ash trees die due to the insect damage. Treatments are often an effective way to prolong the lifespan of the trees for a short period of time, facilitating cost-effective, planned removals and extending the environmental benefits to the community. However, the ash trees generally succumb to the insect damage and removals are needed.

## **Strategy/process**

### **Tree Injections**

Burlington's 2017 EAB management program included City staff assessments of all ash trees greater than 50cm dbh to determine suitable candidates to be treated, considering good condition, structure, and location. 261 trees were injected in 2017, at a cost of \$58K (incl. HST). This shift is a dramatic change from the previous two year period (2015-2016) where 4,848 trees were treated at a cost of \$753,095.

These trees will be re-assessed again in the spring of 2018, to determine if the trees' condition continues to be viable enough to continue annual treatments. The program has also changed to increase treatment frequency to annual injections of TreeAzin, rather than bi-annual, in an effort to retain these larger trees which provide the most environmental benefits to our community.

### **Street and Park Tree Removals & Stumping**

Tree mortality increased dramatically in 2017, which is typical of EAB infestation 6-7 years post initial discovery, and noted as anticipated in Report RPM-02-17. Ash removals must continue over the next few years, with prioritization given to removals of trees which pose the highest risk to the public. Infested trees become brittle; limb or trunk failure could result in injury to people or damage to property.

In 2017, a combined effort by City staff and contracted crews removed 3,125 boulevard and park trees across the City. An additional 359 trees were removed from woodlands. In total 3,484 ash trees were removed due to EAB.

Stumping of trees in preparation for replanting progressed well in 2017, exceeding the target of 700 trees. 1,795 trees were stumped. The contractor challenges of the previous year have been resolved, facilitating excellent progress in preparation for 2018 planting season.

### **Replanting**

Ash trees removed will be replanted on a 1:1 ratio where suitable locations exist. Budget constraints require continued fiscal prudence, and scheduling of replanting over several years; not all trees can be replanted within a year following removal. Approximately 50 percent of street trees removed in 2017 will be replanted in 2018.

Replanting efforts in 2017 exceeded the target of 715 trees, with 732 trees being planted. City Forestry staff have continued to work closely with the contractor to improve survivability of young trees, with good results.

Forestry staff is diligent in efforts to diversity Burlington's urban forest and introduce new tree species or expand under-utilized species where appropriate. Nursery shortages of some species have been successfully mitigated.

### **Parks & Woodlot Management**

Removal of infested ash trees in city parks has been initiated, with 837 trees removed in 2017. Work was undertaken in several parks including the following: Hidden Valley, Paletta Lakefront, Kerns, Westbury, and Breckon.

Work will continue in 2018 in city parks, with hazardous tree removals along city trails, and manicured areas of parks.

Ash removals will also continue in woodland buffer areas immediately adjacent to private properties, to mitigate risk to people or property. 359 trees were removed in 2017. Logs and branches are left in place to decompose and return organic material and nutrients to the soil, thus promoting woodland regeneration. Additionally, some tree trunks will be left standing as wildlife trees to provide natural habitat and food sources for birds, mammals and other species in our woodlands. Occasionally staff receive complaints from residents that the cut wood in natural areas appears "messy". It is important to remember that these are natural areas that routinely experience dieback and subsequent regeneration of species as part of ecosystems which naturally adapt and change over time. Staff does not support the chipping or removal of wood from woodlands as fragile ecosystems of woodlands can be badly damage during unnecessary cutting, hauling and chipping operations. It is also important to note that Conservation Halton also supports leaving in place logs and branches, for the reasons identified above.

EAB removals in woodlands were not considered as part of the program framework presented to Council which received approval in 2015. Managing woodlands is a significant and necessary change of scope to the original EAB management program, and are not funded per the original EAB management plan. Staff is diligently optimizing budget resources to initiate priority ash removals in woodlands while keeping within budget parameters. The extent of future woodland ash removals is under assessment at this time, and restoration replanting in highest impacted areas will be determined subsequently. Restoration is critical not only for increasing canopy cover, but also to prevent invasive species from establishing and choking out the native trees which provide highest ecological benefits to our community. An EAB woodland strategy should be initiated in 2019, to plan a long term strategy for woodlands, as ash trees will

continue to establish, re-generate, and become infested. Long-term management will be needed to mitigate long-term risks created by this invasive insect.

### Private Trees

It is the responsibility of private property owners to manage trees on their own properties. Residents are encouraged to contact reputable tree care companies to discuss management options with a certified arborist, and take timely action to remove private trees which pose risks to people or property.

### 2018-2024 EAB Management Plan

Staff will continue to provide an annual report to Council regarding progress of the EAB management plan. Additionally, the City Forestry website is updated periodically to provide updates to the community, and relevant information. “Burlington Talks Trees” booths set up at major festivals and events have proved valuable in connecting City arborists with residents to communicate information and answer questions. There appears to be very strong support and appreciation from residents for City’s actions in managing the EAB crisis.

### EAB Program Summary – Street and Park Trees

# Trees	Up To 2016	2017 Actuals	2018 Estimated	2019 Estimated	2020-2024 Estimated	Total Estimated	
Injections		261	235	210	779		
Removals	2,080	3,125	3,207	1,946	87	10,445	
Stumping	1,713	1,795	787	1,336	2,019	7,650	
Replanting	859	732	1,286	1,286	5,071	9,234	

Monitoring and reassessing the condition of Burlington’s trees will continue to be an ongoing process to determine candidates for treatment or prioritization of removals. Injections of TreeAzin will continue annually; future estimates include a 10% mortality factor per year.

Removals in 2018 will focus on planned removals of trees in the 30-39 dbh category, as well as ash trees along roads north of Dundas Street. Trees north of Dundas Street have not been inventoried and were not included in the original tree estimates

presented to Council when EAB plans were developed in 2015. Tree removal numbers will continue to change as the program progresses. Additional areas of northeast Burlington were also not included in the original numbers, resulting in more work to be undertaken than originally considered. Woodland removals will continue in 2018; estimates of tree numbers are also unknown as woodlands have not been inventoried. Both in-house staff and contracted services will be utilized to deliver removals needed in 2018.

Stumping will continue in 2018 from trees removed in 2017.

2018 will see a strong increase in replanting, with 1,286 trees to be planted. The strong replanting efforts will continue over the next few years, to replace lost trees with a more diversified tree population and add new species introductions that are adaptable to our changing climate.

A report will be provided to Council IQ 2019 to provide progress to date on the EAB program, and the 2019 EAB action plan.

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### **Financial Matters:**

Total expenditures to date for the EAB Management Strategy is \$5.154M, including \$900K spent in 2017. City staff continue to exercise fiscal prudence in managing program costs to the \$9.45M goal of the 10 year forecasted budget amount approved by Council March 23, 2015 per report RPM-02-15. However, scope of work has increased significantly. The annual budget is \$850,000 for the EAB Management Strategy.

The EAB Program strategy changes implemented in 2017 have delivered the key results while effectively managing costs. Redefining injection criteria resulted in annual program savings of over \$300K from the previous year. The spring assessment of trees by inhouse City arborists rather than contractors also decreased the number of trees treated, yielding savings of \$100K compared to the estimate presented to Council Feb 27, 2017, per report RPM-02-17.

Favourable pricing was also obtained by changing methodology of procurement of contracted removals, from hourly rates to multi-year per tree tenders prepared for City-wide tree removals. City Forestry staff also undertook significant work inhouse, in efforts to assess & remove trees.

These factors resulted in 2017 program cost savings and established program cost efficiencies going forward. No contingency costs have been added to 2018, however 15% is added to later years. Total program costs including contingency is \$11.0M.

### Total Financial Impact

	Costs to Date (\$M)	2018 Costs Estimated (\$M)	2019 Costs Estimated (\$M)	2020 Costs Estimated (\$M)	2021-2024 Costs Estimated (\$M)	Total Program Costs (\$M)
Injections		<b>0.06</b>	<b>0.06</b>	<b>0.05</b>	<b>0.15</b>	
Removals/Stumping		<b>0.77</b>	<b>0.88</b>	<b>0.36</b>	<b>0.05</b>	
Replanting		<b>0.45</b>	<b>0.45</b>	<b>0.45</b>	<b>1.28</b>	
Woodlands		<b>0.10</b>	<b>0.10</b>	<b>0.10</b>	<b>0.00</b>	
<b>Total</b>	<b>5.15</b>	<b>1.39</b>	<b>1.48</b>	<b>0.96</b>	<b>1.48</b>	<b>10.46*</b>

**\*Including contingency, total program costs are \$11.0M**

### Source of Funding

The 2018 EAB program is estimated to cost \$1.39 million and will be funded from the existing base budget of \$850,000 and previously committed funding in the Forestry Reserve Fund.

### Other Resource Impacts

Not applicable

### Connections:

Burlington’s urban forest contributes over \$3.5M annually of benefits to the community, as reported by the 2010 urban Forest Management Plan. These benefits include stormwater management, carbon uptake, air quality improvements, and a reduction in building energy use.

Ash trees comprise approximately 13% of Burlington’s street and park tree population; as the second most common tree species, after maple (25%).

### Public Engagement Matters:

Communication will continue through “Burlington Talks Trees” sessions at major festivals and events, where residents can dialogue with City arborists. Door hangars have been developed to inform residents of work undertaken to boulevard trees in front of their homes, and provide staff contacts should more information be requested.

Additionally, regular updates will continue to be provided on the Forestry website, and Frequently Asked Questions with answers have been posted.

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## **Conclusion:**

The EAB management strategy will continue a three-pronged approach:

- focus on public safety through tree removals
- preserving the health of existing ash trees which provide the most ecological benefits to our community
- replanting to rebuild the urban tree canopy and diversity the tree population to help mitigate future potential threats by invasive pests and diseases

Continuation of the current EAB management strategy is recommended to achieve the desired results of mitigating public risks, and rebuilding Burlington's impacted forest with a forward-thinking lens of public well-being, environmental & ecological health, and climate-change mitigation.

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Respectfully submitted,

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## **Report Approval:**

All reports are reviewed and/or approved by Department Director, Director of Finance and Director of Legal. Final approval is by the City Manager.