

**COUNCIL ACTION FORM**

**SUBJECT: EMERALD ASH BORER RESPONSE PLAN AND  
URBAN FOREST DIVERSIFICATION & REFORESTATION PROGRAM**

**BACKGROUND:**

The Emerald Ash Borer (EAB) infestation that is moving across the country is now imminent in our community. These destructive insects were recently confirmed in Boone and Story City. Lessons learned in other parts of the country demonstrate that, without costly ongoing treatment, EAB will wipe out our population of ash trees within a decade.

This impending infestation is the second blight to befall Ames' urban forest in many of our citizens' memories. During the 1970's, the City's many American Elm trees were virtually wiped out by Dutch Elm disease. When that occurred, areas of the community that had previously been lined by stately Elm trees were severely impacted. That was followed by an extended period of replanting which continues to this day.

The challenge currently facing Ames is not only to respond to the impending loss of our 2,355 public ash trees (not to mention the thousands of privately owned ash trees). Given the likelihood of other blights and insect infestations in future decades, **it would vastly improve the long-term health of our urban forest if the City turns the EAB challenge into an opportunity to proactively diversify and reforest the City's inventory of publicly owned trees.**

As was discussed at a June 17, 2014 City Council workshop, City staff has completed an inventory of all trees in City rights-of-way, in maintained areas of the City's parks (including along paved trails), and at most City-owned facilities. That inventory is currently being used to develop an overall tree management plan for the City. With assistance from an IDNR grant, that overall tree management plan is nearing completion. That document will include goals and recommendations for the estimated 15,000 City owned trees.

Given the imminent threat of EAB, City staff has delayed bringing Council the City-wide tree management plan. **The most urgent priorities for the City are to adopt an EAB Response Plan, paired with a proactive program to reforest and diversify the City's tree inventory. With confirmed infestations so close to Ames, it is imperative that the City act quickly to institute a plan to deal with both the infestation challenge and the reforestation opportunity in a way that is safe, economically feasible, and sustainable.**

Staff believes it is important to clearly articulate the overall goal for this plan, due to the large impact it will have across the entire City. The following goal statement for the EAB

Response Plan and for an Urban Forest Diversification and Reforestation Program was developed for Council's consideration:

***To extend the environmental, social, and economic benefits of our ash trees, and to increase the diversity of the urban forest, while being fiscally responsible to our citizens.***

A key first step is for the City Council to discuss, understand, and either agree upon or modify this overall goal.

## EAB RESPONSE PLAN

The most urgent short-term priority is to deal with the impending EAB infestation. With the above goal in mind staff identified three areas where an overall EAB plan is needed to deal with the impending infestation.

1. City trees on public property
2. Private trees in utility easements
3. Private trees on private property

The comprehensive program to deal with all of these situations has not yet been developed. However, it is extremely important to begin dealing with the public trees as soon as possible, prior to the City's experiencing a full scale infestation. With this need to act quickly, **staff is asking City Council to approve a plan for dealing with City trees on public property at this time, and to provide general direction for dealing with private trees.** This two track approach would allow staff to immediately pursue implementation of the plan for City trees, and would provide staff direction to finalize a plan for private trees in utility easements and on private property.

### **Proposed Response Plan for City Trees on Public Property**

To best manage the impending infestation based on the above goal, it is recommended that a **phased treatment and removal process** be implemented for public trees in the City. This strategy would involve removing certain ash trees within the first five years based on public safety, tree defects, size, and benefit/costs. The remaining ash trees would be treated every three years.

The City would set a goal for removals every year to **assist in spreading out costs over a longer time period while also allowing for the City to extend the environmental, social, and economic benefits of our ash trees as stated in our goal.** Another reason for this approach is to allow staff to reevaluate the plan regularly to make sure the overall goal is being met. This strategy would include a **phased approach** on streets lined with ash to spread out the impact of removals. **The goal of the phased removal process would not be to save the ash trees that are still healthy at this time. Rather, it would be to meet the specified goal of extending their social and environmental benefits while beginning a diversified reforestation effort while being fiscally responsible.**

## **Public Outreach**

**A vital part of this plan will be extensive public outreach on the Council's approved plan and its impact on our citizens and businesses.** This objective of this outreach will be to build understanding of the City's long-term goal and how the phased actions will help accomplish it.

Staff will implement a variety of ways to reach property owners and citizens. This will include a multi-step integrated public awareness campaign that focuses on public education of both the problem and the opportunity, and that invites public input throughout the implementation phase. Tools will include attending neighborhood meetings, one-to-one discussions, civic outreach, posting trees, door hangers, email, websites, social media, etc.

In addition, staff will initiate educational efforts for the owners of private ash trees. This will include how to identify ash trees, private removal and treatment options, and suggestions on how to hire reputable tree contractors.

## **Removals**

Removals of public trees would involve **prioritizing trees for removal based on several factors.** The first priority would be any hazardous ash trees. The second priority would be any ash trees that are not considered good candidates for treatment. Based on our inventory, these trees were identified as any ash tree showing a "defect." These defects could be the poor condition of the tree, or external factors including sidewalk damage and power line presence. Since these trees would be most subject to infestation or are not candidates for treatment, they would need to be removed within three to five years for public safety. Based on the defect information collected with the initial tree survey, staff was able to estimate the number of ash trees to remove in this category.

Under this second priority, staff is recommending removal of all smaller ash trees that are at a 6-inch Diameter at Breast Height (DBH) measurement or less. This is due to the higher life cycle cost for treating these smaller trees in relation to the limited canopy benefits compared to larger trees.

The proposed 20-year plan recommends removing all defect trees in 5 years and all trees 6-inch DBH and less trees in 4 years. Removal of the small trees will be staggered to avoid removing all of the trees at one time on streets that are predominantly lined with ash. Over the longer term, the plan assumes that all trees 18-inch DBH and less can be removed by City staff, and that private contractors will be needed to remove all trees larger than 18-inch DBH.

To accomplish this phased removal plan, it is recommended that City Council modify Chapter 27 of the City Code to allow for pre-emptive removals of public trees that have been identified for removal to handle infestations and diseases that could cause trees to

become hazardous to the public. This modification would remove the current public posting and appeal provisions for trees that are being removed as part of a tree management plan. However, the posting and appealing provisions would remain for healthy trees not identified as part of a management plan.

**Treatment**

The proposed Response Plan includes chemical treatment of many mature ash trees to extend their lives until an orderly replacement can occur. **For treatment, staff is recommending that only trunk injection be allowed for public trees.** This is due to the stormwater and groundwater benefits of injection versus soil drenching options. Treatment is not being proposed for trees 6-inch and less, since trunk injection is more difficult for those trees and other treatment options would not meet the stormwater benefits of trunk injection.

The proposed plan assumes that treatment will be carried out by contracted forces. Contracts for treatment would need to be overseen by a licensed arborist. Such a contract could also give the City an option of bidding it in a way that could allow private property owners to take advantage of the City’s negotiated treatment prices. Council can consider that approach at a later date, however, since it could also be a detriment to local businesses that might not be the selected bidder.

The City has the services of the Urban Forester through the IDNR pilot project. He has offered his services to examine the City’s ash trees’ condition. That project will begin soon. At a later date City staff could also become trained to perform treatment for the trees. If done within the existing staff capacity, it is anticipated that costs could be 50% lower than shown for contracted prices. That approach, however, would need to be balanced with the larger, concurrent need to utilize staff to remove trees. The recommendation at this time is to contract for treatment.

**URBAN FOREST DIVERSIFICATION & REFORESTATION PROGRAM**

Although EAB will have a major detrimental impact on our community over the next several years, this challenge also presents Ames with an unexpected yet important opportunity to bring much greater diversity to the public trees in our urban forest.

Our current public tree inventory reveals the following distribution of tree species:

Maple	3,790	26%
Ash	2,355	16%
Oak	1,563	11%
Apple	972	7%
Other species	5,920	40%

As this table demonstrates, our current tree inventory is heavily populated with maple and ash trees. It is important to plant a diverse mix of species in the urban forest to maintain canopy health, since most insects and diseases target a specific genus (ash)

or species (green ash) of trees. Current diversity recommendations advise that one genus (i.e. maple, oak) make up no more than 20% of the urban forest, and that a single species (i.e. silver maple, sugar maple, white oak, bur oak) not make up more than 10% of the total urban forest.

**For this reason, staff is recommending that the City Council initiate a parallel, new initiative to replace all removed public ash trees with a much greater diversity of species that does not include maples.**

**Reforestation**

This new initiative would include a **twenty year program to replant trees on a one-to-one basis for all ash trees removed under the EAB Response Plan.** Replanting will allow the City to replace lost canopy and to increase the diversity of our urban forest as stated in the initial goal above. Staff will work with the Urban Forester to identify suitable species for replanting. These species will be planted at a size of 1-1/2 inch, which is optimal for establishment and survival of new trees.

As part of the removals and replanting, tree stumps will be ground away, and both contractors and City staff will make sure that the areas are restored to a safe condition and that suitable turf is reestablished. Since most tree removals will occur during the winter, there will be a time gap between removals and the replanting of new trees. Public outreach will be critical to help residents understand that replacement trees of other species will be planted the following year.

**TWENTY YEAR PLAN**

The following tables show the twenty year EAB removal plan and its estimated impacts. Table 1 shows the removal of 2355 trees in both the right-of-way and in City parks and facilities over the next 20 years. Year 1 is the City's current, 2014/15 fiscal year.

Table 1

Year	Removals		Treatment	
	Right-of-Way	Parks & Facilities	Right-of-Way	Parks & Facilities
1	226	20	795	480
2	226	20	0	0
3	226	20	0	0
4	220	21	792	480
5	102	4	0	0
6	55	36	0	0
7	52	32	685	410
8	52	32	0	0
9	52	32	0	0
10	52	32	529	314
11	52	32	0	0
12	52	32	0	0
13	52	32	373	218

Year	Removals		Treatment	
	Right-of-Way	Parks & Facilities	Right-of-Way	Parks & Facilities
14	52	32	0	0
15	52	32	0	0
16	52	32	217	122
17	51	31	0	0
18	51	30	0	0
19	51	30	0	0
20	64	31	0	0
Totals	1792	563		

Table 2 includes the reforestation effort, and shows the estimated cost impact for both City forces and contracted services.

Table 2

Year	Estimated City Labor Cost For Removals	Estimated Contract Labor				Total Contract
		Removals	Treatment	Stump Grinding	Replanting	
1	\$31,800	\$102,000	\$125,000	\$4,600	\$0	\$231,600
2	\$32,700	\$105,100	\$0	\$4,800	\$126,700	\$236,600
3	\$33,700	\$108,100	\$0	\$4,900	\$65,200	\$178,200
4	\$34,500	\$99,200	\$135,400	\$5,000	\$65,700	\$305,300
5	\$14,500	\$91,300	\$0	\$2,600	\$29,700	\$123,600
<b>FORMAL REEVALUATION OF MANAGEMENT PLAN</b>						
6	\$17,500	\$57,400	\$0	\$3,000	\$26,200	\$86,600
7	\$17,900	\$38,200	\$124,800	\$3,100	\$24,800	\$190,900
8	\$18,400	\$39,200	\$0	\$3,200	\$25,400	\$67,800
9	\$18,800	\$40,200	\$0	\$3,200	\$26,000	\$69,400
10	\$19,300	\$41,100	\$103,100	\$3,300	\$26,700	\$174,200
11	\$19,700	\$42,100	\$0	\$3,400	\$27,300	\$72,800
12	\$20,200	\$43,100	\$0	\$3,500	\$27,900	\$74,500
13	\$20,700	\$44,100	\$77,100	\$3,600	\$28,600	\$153,400
14	\$21,100	\$45,000	\$0	\$3,600	\$29,200	\$77,800
15	\$21,600	\$46,000	\$0	\$3,700	\$29,800	\$79,500
16	\$22,000	\$47,000	\$46,700	\$3,800	\$30,500	\$128,000
17	\$22,500	\$42,300	\$0	\$3,900	\$30,300	\$76,500
18	\$22,900	\$40,300	\$0	\$3,900	\$30,600	\$74,800
19	\$23,400	\$41,100	\$0	\$4,000	\$31,200	\$76,300
20	\$26,400	\$59,700	\$0	\$4,600	\$37,300	\$101,600
<b>Total Costs</b>	<b>\$459,600</b>	<b>\$1,172,500</b>	<b>\$612,100</b>	<b>\$75,700</b>	<b>\$719,100</b>	<b>\$2,579,400</b>

## Cost Assumptions

The following assumptions were used to arrive at these estimated costs:

- Removal costs were estimated by the DBH size range of the trees.
- An inflation factor of 3% per year was added to the final costs.
- All rights-of-way, parks, and facility trees are treated equally.
- All numbers are based on the inventory done in the summer of 2012 with additional park areas inventoried in 2014.
- Forested areas are not included. It is assumed those trees will not be removed or treated unless they are deemed to be hazardous to the public. Please note there are a number of non-paved trails through forested areas (e.g., Munn Woods, Brookside Audubon Trail, East River Valley, etc.) that will require trees to be removed for the safety of residents.
- Contracts will include stump grinding for all trees removed by City forces. This cost is reflected in Table 2.

Council may choose to consider whether all public trees should be treated the same for this plan. Park trees are included in this plan, even though individual park trees may not have the same social or visual impact as right-of-way trees due to their location in existing large green spaces.

It is also important to note that the costs above do not consider any cost impacts of wood waste. Options still to be explored include mulching, firewood, taking larger trees to sawmills and using planks for picnic tables and other projects, and the auction of larger logs.

The substantial tree replanting numbers shown above do not assume any private assistance. However, City staff has been approached by a local civic organization to consider a partnership which would institute a tree diversity program that would build off of the positive response to the Ames 150 Legacy Tree Planting.

As stated above, this plan assumes the continued, proactive removal of ash trees after year five. This means that treatment would gradually be phased out and trees would be removed even if they appear healthy. As noted in Table 2, however, the plan will receive a thorough reevaluation following Year 5 prior to continuing with the removal plan.

Some communities have instituted adopt-a-tree programs to allow homeowners to pay for the treatment of public trees adjacent to their properties. **Council direction is sought on whether this element should be included in this plan.** If City Council would like to add this component, staff would recommend that the trees be treated by the City and that property owners pay for the City's contracted cost of treatment, along with an administrative fee for the tracking of that particular tree.

### **Budget Impacts**

As shown in Table 2 above, the largest impact to the City's budget will be in the first 5 years, since all trees not suitable for treatment are removed and replaced during that time. With the addition of treatment of healthy trees and replanting, the budget currently adopted is not nearly adequate to cover these new costs.

Currently, funding for Public Works tree management comes from Road Use Tax funds. Parks and Recreation tree management is funded through the General Fund. For the proposed plan, it is recommended that the added costs for the first 5 years be funded through a combination of Road Use Tax, General, and/or Local Option Sales Tax funds. Since Road Use Tax can only be used for right-of-way trees, it will be important to track all work done.

To meet the removal plan over the next 5 years, a team of employees from across the City organization will work together to complete the required removals. Implementation of this Plan will involve a redistribution of staff time, so that future program budgets might reflect increases (if personnel are switched to a program) or decreases (if personnel are reassigned from a program) in expenditure levels.

In addition to contracts for tree removals, there will also be a need for temporary employees and new and/or upgraded equipment. An urban forestry intern is proposed to assist in public outreach in tandem with our existing neighborhood intern, working with private owners on options for their trees and assisting in tracking progress on the plan. There may also be a need for more temporary employees for the tree removals anticipated by this plan. There is also a need to upgrade the current chipper and to purchase an additional chipper at a total anticipated cost of \$60,000. Staff will need to reevaluate these needs as the plan is implemented.

### **Current Budget Year (2014/15) Impacts**

To begin the work on the plan in the current fiscal year as recommended, it is necessary to immediately identify \$60,000 in funding for the chippers. It is recommended that this funding come equally from the General Fund and Road Use Tax Fund balances, since the chippers are shared between Public Works and Parks and Recreation. Another \$232,000 will also be needed in this fiscal year for removals, treatment, and stump grinding. It is hoped that these needed funds will be identified during the Council's budget approval process in February.

### **ALTERNATIVES:**

- 1) Approve the following steps to respond to the impending emerald ash borer infestation and to diversify and reforest the City's urban forest:
  - a) Approve the Emerald Ash Borer Response Plan and the Urban Forest Diversification & Reforestation Program outlined above for the treatment, phased removal and replacement of **public ash trees** over a 20 year period.



- b) Direct staff to draft an amendment to Chapter 27 of City Code to allow for the pre-emptive removals of trees identified for removal to handle infestations and diseases causing public trees to become hazardous to the public, with those trees being exempt from the public notice posting requirements.
  - c) Direct staff to increase the educational outreach on EAB and its impact to citizens. This would include how to identify ash trees and symptoms of EAB, removal and treatment options, and suggestions for how to hire a reputable contractor.
  - d) Authorize \$30,000 in funding from the Road Use Tax Fund and \$30,000 from the General Fund available balances for the chipper upgrade and purchase of an additional chipper.
- 2) Direct staff to modify the above plan or to develop a different response plan for the Emerald Ash Borer infestation.
  - 3) Defer establishment of an EAB response plan, do not treat public trees at this time, and wait to remove public trees until they become diseased and/or dangerous.

**MANAGER’S RECOMMENDED ACTION:**

**The impending emerald ash borer infestation will have devastating consequences for the urban canopy in the City of Ames, eliminating approximately 16% percent of our existing urban forest. This will have major financial impacts on both City government and on the citizens of our community. However, by instituting a proactive plan for public trees immediately, the financial and environmental costs of this infestation can be better managed over time. Equally important, the proposed reforestation and diversification program will allow the City to mitigate the impacts of future infestations affecting other tree species by making sure our urban forest is more diverse.**

**With emerald ash borer confirmed in neighboring communities, the City should implement a plan to begin immediate action. By starting a phased removal plan of City owned trees on public property now, the City can monitor both the costs and the impacts of the program, and can adjust to changing conditions over the coming years.**

**It is important to acknowledge that many varied approaches to EAB are being recommended by various experts. Likewise, other communities are taking a variety of approaches to this challenge. Those approaches range from immediately removing all ash trees, to making a commitment to permanently treat and retain all ash trees, to ignoring the problem entirely until the infestation becomes severe. The plan and program outlined above represents staff’s best effort to balance the three elements contained in the goal at the top of this report,**

***which is “To extend the environmental, social and economic benefits of our ash trees, and to increase the diversity of the urban forest, while being fiscally responsible to our citizens.”***

**Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 as described above.**

## **NEXT STEPS**

As was noted above, the recommended actions are only a beginning to this response and program. Additional steps and recommendations will be brought to the City Council over the coming months. While many of these areas need further development by staff, **Council direction is requested now regarding the five issues listed below.**

### **Implementation**

Staff has already begun to develop an implementation plan based on the criteria above. This will identify the removals of all defect trees and trees under 6-inch DBH by year for the next five years. This information will be used to strengthen the City’s public outreach efforts and to allow the public to view this information. The implementation will also require staff to clarify how wood waste will be managed and to begin working with the Urban Forester to plan for replanting of diverse species, beginning in 2015. These efforts will not require delaying the plan from starting this fall, and will be incorporated into the official plan documentation when finalized.

### **Private Trees**

As was stated above, in the development of the plan staff identified that private trees need to be included as part of an overall EAB management plan. The two areas identified were private trees in utility easements and private trees on private property.

For private ash trees located within utility easements that are near or under electric lines, Electric Services will begin topping these trees to make sure they do not die and fall onto power lines. Unfortunately, once topped, those trees are unlikely to be candidates for treatment, meaning that they will ultimately become infested and die. Since those trees are still the responsibility of the property owner, they will be responsible for removing those trees. Electric Services is contemplating a separate inventory of ash trees in easements under high voltage lines.

Private trees are the responsibility of the property owner. Property owners will need to consider whether they want to treat ash trees or how they will handle them. Staff will work through public education to make sure our residents have information to make an informed decision. However, it is likely that private ash trees will die due to EAB, and this presents several problems. The first is that, due to access, size, and location of private ash trees, property owners may see higher costs for removal than the City anticipates along its roadways and within its parks.

The City currently provides no assistance to private property owners for the maintenance of private trees. As was discussed in this report, there may be possibilities to pass on savings from a City-bid treatment program to private owners. City staff will also investigate what potential non-profit assistance could be available to residents.

As the infestation progresses, it is likely that private trees will begin to become hazardous to the public and to neighboring properties. To deal with concerns of hazardous trees, it may be prudent to consider adding language to the Municipal Code stating that trees that are hazardous to the public must be corrected by the property owner, or else the City will remove the hazard and charge the property owner. This could also include language for an appeal process that would require the homeowner to receive an evaluation from a licensed arborist.

Another issue affecting private trees (and with public trees) was raised with a Council referral on the licensing of tree surgeons within the City. Currently the Municipal Code requires that a tree surgeon license be secured only for when working in or over the right-of-way. To receive a license, the company must provide an insurance certificate verifying that they meet the criteria listed in the Code. This license is not required for work on private property. The City's web site does list companies that have received their tree surgeon license, and staff has added additional information indicating if the licensees have an arborist on staff.

**To move forward on other elements of the EAB Response Plan and of the Urban Forest Diversification & Reforestation Program, staff would appreciate any City Council direction on the following items that will then be brought back to Council for approval. If needed, additional information can be developed by staff before Council direction is given.**

1. Code change for correction or removal of privately owned hazardous trees
2. Possible "adopt a tree" program for trees (public trees or private trees in utility easements)
3. Assistance to needy citizens for removal, treatment, and/or replacement of private trees
4. Potential licensing of tree surgeons for work on both public and private trees
5. Should park trees in non-forested areas be treated the same as street trees in this plan?