

**Emerald Ash Borer Management Plan**  
City of Maplewood, Minnesota  
Approved by City Council April 23, 2018

**I. Purpose**

The purpose of this management plan is to address and plan for the spread of Emerald Ash Borer (EAB) in Maplewood's urban forest. It is anticipated that all ash trees that are not treated will die. The goal of this plan is to manage the emerald ash borer invasion through education, inspection, and strategic management. By defining and beginning management now we hope to lessen disruption to our urban forest, stretch the management costs associated with EAB over a longer period of time, and create an atmosphere of EAB awareness and readiness.

**II. Applicability**

This plan is applicable to all public land in Maplewood and all private properties where EAB may negatively impact public areas or generally threaten the overall health of Maplewood's urban forest.

**III. Administration**

Maplewood's Parks and Recreation and Public Works Departments are responsible for implementing this program. The City Forester and the Natural Resources Coordinator provide direction and coordination.

**IV. EAB Background**

Emerald Ash Borer (EAB) is a non-native beetle that causes widespread decline and death of ash trees. The larval stage of EAB feeds on the tissue between the bark and the sapwood, disrupting the transport of nutrients and water in the trees. If infestation is high enough in an individual tree, the damage will be severe enough to kill the tree. EAB has destroyed millions of ash trees in other states.

**V. EAB Status in Minnesota**

In 2009, EAB was found in southern Minnesota and in St. Paul. Since then it has spread throughout the Twin Cities. The population is slow to build in the first few years but after year seven or eight it dramatically increases. This scenario seems to be playing out in St. Paul. In May 2017, Maplewood's first case of emerald ash borer was identified at Carver Elementary School.

**VI. EAB Management Strategies**

When EAB was first found in Minnesota, state agencies advocated an approach that focuses on slowing ash tree mortality -- SLAM (Slow Ash Mortality). It involved a combination of monitoring for EAB, preemptive removal of ash trees, insecticide treatment, and biological control. These strategies are still used, but due to the wide-spread nature of the infestation, removal of ash trees before they are infested is now done mostly to spread out costs of removal, not to slow the spread.

**VII. Tree Inventory**

Maplewood completed a City tree inventory in 2011. This included boulevard trees and trees in manicured areas of City parks. The inventory is a snapshot in time and the data has not been updated. In 2017, the City transferred the inventory to its Cartegraph asset management software. This will enable the City to better track tree trimming, removals, and planting.

Of the 9261 city trees in the 2011 inventory, 2037 or 21% are ash. It is difficult to estimate the number of ash in our natural areas or on private land. Each tree in the inventory received a condition code. This can be helpful in determining which ash to remove.

## VI – 2 EAB Management: Inspection, Detection, and Monitoring

The goal of detection is to find infestations as early as possible. Once an infestation center is found, we need to determine outer boundaries of the infestation. The following people may be involved in detection.

1. **City Forester.** Maplewood contracts a part-time forester to inspect properties for oak wilt. The forester's contract should be expanded to include EAB detection and inspection. In addition, the City Forester should be the person responsible for delineating the infestation boundaries.
2. **City Staff.** City staff need to be key players in detecting EAB. It is recommended that Maplewood Nature Center staff and Parks and Public Works crew members undergo EAB training so they can help monitor the ash trees in the areas where they work. In addition, it is recommended that EAB training be provided for all employees interested in learning about the insect and its threat.
3. **Residents.** Residents will often be first to detect EAB on private lands. If they have a tree with suspected EAB, they are encouraged to review EAB information online and report it to the Public Works Department. The City responds to all calls and will do a site check if the tree sounds like it has EAB signs or symptoms.
4. **Arrest-The-Pest-Hotline.** The state maintains an Arrest-the-pest-hotline. Citizens can call the hotline to report a suspected incidence of EAB.
5. **Minnesota Forest Pest First Detector Network.** The first detector network is the state's early warning system for invasive tree pests. First detectors can help verify the presence of EAB.
6. **Minnesota Tree Care Advisors.** The tree care advisor program is a network of trained, community-based volunteers who promote urban and community forestry to all residents of Minnesota. This program is run by the University of Minnesota's Department of Forestry.
7. **Citizen-monitoring program.** Some Maplewood residents have expressed interest in learning more about Emerald Ash Borer and its potential impact on the City and the landscapes around their homes. The City should encourage interested residents to participate in the Forest Pest First Detector program or the Minnesota Tree Care Advisor program so they can help the City watch for EAB. The City should consider paying the tuition for residents in these programs if they commit to volunteering hours for inspecting sites in the City for EAB.

## VI – 3 EAB Management: Tree Removal

When ash trees die or decline they become hazards near boulevards, buildings, and play areas. Most dead trees and hazard trees will need to be removed. Strategic removal of trees before they die, whether they are infested or not, should also be a part of the City's EAB management strategy. Strategic removal helps spread out removal and replanting costs and may help slow the spread of EAB. The City should use four removal strategies:

1. **Remove trees that die.** Some trees may not be detected early in the infestation process so they will be removed when they die. On boulevards and in landscaped area of parks, all dead ash trees should be removed. In natural areas, it will not be feasible to remove all dead ash trees and deadfall should be addressed on a site-by-site basis. On private sites, owners should remove dead trees that are hazardous to people or structures.
2. **Remove trees that are infested.** A good detection program must be in place to use this removal strategy. Typically infestation centers are not detected for 3-5 years after insects arrive due to subtleties of initial signs in the tree. When an infested tree is identified, surrounding trees will

need to be surveyed to determine the extent of infestation and the number of trees that will need to be removed.

3. **Remove trees preemptively based on health or poor location.** Selective removal of public ash trees based on health condition should be a part of the City's EAB strategy. The City began removals in December 2017 based on trees that were listed in poor condition in the 2011 survey. In addition, ash trees interfering with utilities or that are poorly located should be considered a priority for removal.

If several trees will be removed preemptively from a park or a neighborhood, the full site impacts should be considered prior to removal.

4. **Remove trees preemptively in an area.** Preemptive removal by neighborhood may be necessary to spread out removal costs. Priorities would be areas:
  - a. Near an existing infestation.
  - b. In conjunction with a public works project if the health of ash trees on a street would be negatively impacted by the project and make them more susceptible to EAB.
  - c. In conjunction with adjacent cities or regional strategies to manage EAB.

#### **VI – 4 EAB Management: Pesticide Treatment**

Insecticides are available for managing EAB. When timed appropriately, these treatments can create a toxic environment for the Emerald Ash Borer, killing dispersing adults as well as eggs and larvae. High-value ash trees can be protected from EAB with consistent treatments over time. There are two primary methods of pesticide application for EAB: soil drenching and trunk injection. In soil drenching, the insecticide is applied to the soil under the tree canopy and the tree roots take it in. In trunk injection, a hole is drilled into the tree trunk and the chemical is injected into the tissues under the bark. With either method, the chemical is dispersed throughout the tree. Emerald ash borers (and other insects) feeding on the tree ingest the chemical and are killed.

The City has determined that it will not permit the use of pesticides to control Emerald Ash Borer on City land, including the right-of-way, due to negative environmental and health impacts. Appendix A contains a 2011 memo and documentation from Maplewood's Environmental and Natural Resources Commission regarding the impacts of EAB insecticides.

The City shall encourage property owners to carefully evaluate environmental impacts before using pesticides to treat EAB on private property. Owners that decide to use EAB pesticides are urged to use trunk injection rather than soil drenching, which will help reduce pesticide drift and reduce impacts to groundwater and surface water.

#### **VI-5 EAB Management: Biological Control**

The Minnesota Department of Agriculture (MDA) considers biological control the best option for cost-effective, management of EAB on the forest landscape level. Beginning in 2010, the MDA released wasps that kill EAB eggs or larvae into selected forested sites with EAB. These releases are being monitored to determine their efficacy. If biological control for EAB proves effective, the City should coordinate with the MDA for the release of these biocontrol agents in Maplewood forests.

#### **VI – 6 EAB Management: Wood Disposal and Utilization**

EAB can spread through transportation of ash wood—in logs, tree waste, chips or firewood. Restricting the movement of ash wood can help slow the spread of EAB. The Twin Cities area is under a quarantine which prohibits movement of ash trees and firewood from deciduous trees out of the metro. Businesses that need to move the restricted items across the quarantine lines may apply for a Compliance Agreement from the state that indicates how they will treat the regulated articles to mitigate the spread of EAB.

If large numbers of ash die, it is essential to look for ways to dispose of or utilize ash wood. Information continues to be published on potential markets for urban wood utilization. Possible uses for ash wood include fuel (biomass energy chips), mulch, pulpwood, and sawlogs. The City should identify local options for disposal and wood utilization. In addition, the City should seek partnerships with nearby cities for disposal and utilization.

#### **VI – 7 EAB Management: Replanting**

The loss of ash in our urban forest will have a visual and ecological impact. It is recommended that at least one tree be planted for every tree removed or lost to EAB. Increased diversity should be a key element in our replanting program. There are different models for boulevard tree diversity. For example, Dave Hanson from the University of Minnesota promotes the 10-20-30 rule: plant no more than 10% of any species, 20% of any genus, and 30% of any family. Prior to moving forward with replanting, the City should develop a Tree Master Plan that sets goals for our urban forest, ensures diversity of tree species within neighborhoods, identifies appropriate tree species, and addresses planting and care guidelines.

Maplewood’s Tree Rebate program provides a cost-share match for residents to plant trees on private land. It is recommended that the City continue funding this program and, if needed, adjust the program so it supports residents in replanting after ash removal.

#### **VII Education and Outreach**

Education and outreach are essential components of the EAB Management Plan. The City shall provide an EAB education and outreach program that:

1. Educates residents so they understand the threats of EAB, know what to look for, know what to do when they find EAB or a declining ash tree, understand replanting and care of trees, and can make informed decisions for ash trees on their property.
2. Educates parks and public works staff so they can recognize signs and symptoms of EAB infestation.
3. Uses diverse forums for education including: public programs, website, articles in City publications, handouts, public service announcements, etc.
4. Provides advance notification to a neighborhood or homeowner of ash tree management that will occur in their area.
5. Provides educational and other support to residents that wish to form neighborhood groups to detect and manage EAB in their neighborhood.
6. Develops a partnership with groups such as Tree Care Advisors.

#### **VIII Ordinance and Policy**

The City ordinance regarding trees was updated in 2016. It does not single out EAB, but it provides for the City to condemn trees with any epidemic shade tree pests, which includes EAB.

**IX Licensing/permitting**

As part of EAB management, the City should review requirements for tree contractors licensed in the City and determine whether revisions are necessary.

**X Funding**

Funding will be needed to implement the EAB management plan. Estimates for tree removal and replanting vary greatly from \$500/tree to \$900/tree. For the 2037 ash trees in the inventory, this would require \$1,018,500 – \$1,833,300. Primary costs include increased hours for detection, inspection, outreach, and funds for removal, stump grinding and replanting. Potential funding sources include:

1. **Grants.** Currently, there is no grant funding dedicated to assisting communities in Minnesota to manage EAB.
2. **General levy or CIP.** The City will need to allocate general operating funds and/or Capital Improvement Project funds for EAB management.
3. **City's tree fund.** The City's tree fund could be used to update the tree inventory and for some tree planting. But this funding will not go far, and its purpose is not to control tree disease and pests.
4. **Tree donations.** The funding package should also consider a tree donation program. Currently, Friends of the Parks and Trails (St. Paul and Ramsey County) has tree donation and Tribute Tree programs that serve cities in Ramsey County, including Maplewood. Publicizing these programs, or creating our own donation program, will help provide plant material and funds for planting trees at parks.

**XI Summary of Actions Needed**

1. Develop details for removal and replanting each year.
2. Develop strategies for disposal or utilization of ash.
3. Provide education and outreach for residents each year.
4. Educate staff in parks and public works to recognize EAB.
5. Implement a program for volunteers to help detect EAB in Maplewood.
6. Develop a Tree Master Plan that includes goals for street and park trees, guidelines for species diversity, lists of appropriate species, guidelines for planting and care.
7. Secure funding for EAB management.