

The Village of Lincolnshire Emerald Ash Borer Management Plan



January 2011

INTRODUCTION

Emerald Ash Borer is an exotic beetle which was believed to have been brought to the United States via shipping crates. It was first discovered in southeastern Michigan near Detroit in 2002. Since that time it has quickly spread across the border into Canada and through fifteen states. Spread is exponential, making a significant impact in a relatively short period of time. In the spring of 2010, the beetle was found on the southwestern limits of the Village of Lincolnshire in a corporate campus.



In response to the EAB discovery, the Village of Lincolnshire has established a plan of action relative to the impacts of the Emerald Ash Borer. It is anticipated that the insect will quickly make its way through the corporate campuses and into the residential properties of the Village. Within five years, the Village is expected to be fully impacted by the insect and at the height of infestation.

Forest cover in the Village, for purposes of this program, has been divided as follows:

1. Commercial/industrial right-of-way and campus plantings
2. Residential right-of-way
3. Residential private property - formal plantings
4. Residential private property - naturalized plantings
5. Public property - parks and paths
6. Public property - Village Hall, Public Works Facility
7. Public property - naturalized areas and nature preserves

The Village has an inventory of street and park trees. With the exception of Nature Preserves, no other inventories have been taken. There is no tree data available for the commercial/industrial area of the Village nor of the forest cover on private property. For that reason, it is difficult to get an accurate handle of the impact that the Emerald Ash Borer will have to the Village. It is estimated that approximately 30% of the Village forest tree cover (public and private property) is white, green or blue ash which are classified as Appendix A species in the Village Code. The vast majority of ash are located in the naturalized areas, however, ash was a popular street tree for many years and is hardy to streetway planting conditions. As a result, the commercial/industrial campuses have a substantial number of ash. At first glance it would be assumed that the Village rights-of-way would have substantial numbers of ash but that is not the case. There are approximately 3,490 right-of-way trees, approximately 470 of which are ash. The vast majority of residential ash are on private property - most of which are in the naturalized areas. Village Foresters have been cognizant of the problems with substantial stands of monocultures and, over the years, a wider variety of trees have been planted in the rights-of-way to avoid total loss of tree canopy along Village streets and parks due to infestations.

The residential right-of-way trees are more diverse and the impact to the rights-of-way will not be as dramatic as in the commercial/industrial areas. The monetary impact of the beetle will be substantial on these residents. For instance, the single corporate infestation found in the spring required removal of 65 declining ash trees from one parking lot. Removals at such a rate are expensive. When coupled with replacements it is cost prohibitive for most landowners to resolve the issue within one season.

It is critical that management of the EAB infestation include outreach and assistance to residents - not just management of EAB infestations on public lands.

The U.S. Department of Agriculture has issued a quarantine on areas where EAB is found. The Illinois Department of Agriculture requires an Emerald Ash Borer Compliance Agreement which enforces this quarantine through the restricted movement of wood products and education and registration of tree professionals. The Village of Lincolnshire works only with companies who are registered and in compliance with the IDOA.

MANAGEMENT PLAN

The purpose of management plan is to outline action that will take place in preparation for the infestation and during the infestation for both public and private landowners. The Village does not recommend the immediate removal of ash trees from the Village forest. Instead it is recommended that replacement trees be planted as soon as possible so they have as many years of growth as possible prior to the loss of the ash trees. In addition, some specific ash trees may be identified for treatment. (Treatment options are identified below.) Treatment may or may not be effective. The Village and its residents should not rely on this method to forestall the loss of trees.

Public Lands

There are approximately 470 right-of-way ash trees and approximately 100 park ash trees.

1. Trees infested with the Emerald Ash Borer provide a resource for infestation which supports the spread of the beetle. As a result, ash trees which are infested or declining should be removed as soon as possible to help slow the spread of the disease.
2. Village staff shall identify specific healthy ash trees, located on public lands, which warrant protection. Trees will be selected based on their size, function in the landscape and/or canopy dominance. These selected trees shall be treated with the best available pesticides or inoculation procedures to limit their exposure or demise. Previous to 2010, products approved for use in controlling EAB have had limited results. Within the past year, a new product, Treeage, has been approved for use in Illinois which has a higher success rate than previous products. Research is ongoing on this product and its long-term control for EAB. Current forestry practices recommend inoculation every two years as

opposed to the more traditional annual inoculation. This pesticide is a ‘restricted use pesticide’ available only to licensed professionals. Untreated ash trees would not be removed until signs of infestation are observed.

Right-of-way trees - Staff estimates that approximately 75 right-of-way trees will be selected for treatment. The estimated cost per treatment, utilizing Treeage, per tree is \$7.00 per diameter inch. Treatments would be required every two years. A budget for treatments would be recommended at \$11,000.

Park trees - Staff estimates that approximately 30 to 40 specific ash trees will be identified for special treatment. The estimated cost per treatment, utilizing Treeage, per tree is \$7.00 per diameter inch. Treatments would be required every two years. A budget for treatments would be recommended at \$6,000 every two years.

No treatments will be provided to other publicly owned trees in natural areas, pathways or other open space. In addition, the Village Hall and Public Works Facility do not have any significant ash trees located on their properties.

3. Replacement trees shall be planted as soon as possible. Wherever possible, trees should be planted in anticipation of attrition. These trees will have an opportunity to grow and gain size prior to the demise of the ash. The immediate implementation of this process will help to offset the disappearance of the Village forest and to reduce the impacts of the loss of tree canopy. Prioritized areas for proactive planting include:
 - a. Village Hall and Public Works Facility
 - b. right-of-way
 - c. parks
 - d. natural areas
 - e. pathways
 - f. and other open spaces owned by the Village

As mentioned earlier, the Village has been actively planting a wide diversity of trees along rights-of-way and in the parks. With the infestation, this planting process will have to be stepped up. Right-of way planting has typically been left to the approval of the resident. Recent right-of-way plantings have averaged about 30 trees per year. With the attrition of the ash, it is expected that more residents will express interest in participating in the planting program.

Village Hall and Public Works Facility - no significant ash trees are located on either of these properties. Since the ash trees at these facilities are not prominent features of the formal landscaping, removals will be conducted as part of the annual tree removal program. No replacements for ash on these two properties is anticipated.

Right of Way -After specific ash are selected for treatment there will be approximately 400 right-of-way trees remaining. Estimated cost of removal and replacement for each of these trees will be \$700- \$800 each or a total of \$320,000.

The Village, over a five year period, will set aside \$28,000 for removals and \$30,000 for tree planting annually on public right-of-way property - in preparation for and after infestation is observed.

Parks - After specific ash are selected for treatment there will be approximately 50 park trees remaining. Estimated cost of removal and replacement for each of these trees will be \$700 - \$800 each or a total of \$36,000.

Natural areas and other open spaces owned by the Village - Infested ash trees in these areas will be allowed to progress to death. In areas where they could be a hazard to park users (a hazard tree is defined as having the potential to cause harm to a target - human or property) or where they may impact other trees. These trees will be cut down and left in place. It is understood that this will further the infestation to other areas but the costs to cut and remove these trees from these areas is prohibitive. Seven years ago, in anticipation of EAB, staff planted a variety of small trees in the North Park natural area with funds forfeited by the developer due to site damage. The most significantly impacted natural area will be Rivershire Park. Management of this area has ceased due to budget limitations. As the ash decline buckthorn will move in and consume the openings.

Pathways - No inventory was conducted on pathway trees. Ash in these locations will be removed and replaced based on their hazard potential. \$400,000 will be spent over the next three years as part of the Illinois Transportation Enhancement Project and Village Corridor Enhancement Program. (\$320,000 Federal Funds, \$80,000 Tree Bank Funds) These funds will pay for the removal and replacement of buckthorn and dead or declining trees along Riverwoods Road. All ash, within fifteen feet of the bike path will be removed in rights-of-way in areas where residents will grant easements to allow the work to be done. Additionally, in 2015, as part of the ITEP grant, ash will be removed from the north path along Route 22 east of Riverwoods. (\$48,700 Federal Funds, \$31,000 Tree Bank Funds - note that this grant is an 80:20 split but the federal funds at this final stage of the project will be exhausted resulting in a 61:39 split.)

It should be noted that the above projects are based on a spread of the infestation over a five year period. If the spread occurs faster, the Village may be required to remove the trees at faster rate. This may require that the project time line be extended to accommodate replacements in subsequent years.

Private Lands

Trees infested with the Emerald Ash Borer provide a resource for infestation which further

exacerbates the spread of the beetle. As a result, ash trees which are infested or declining **should** be removed as soon as possible to help reduce the spread of the disease. As with public lands, the Village will not require removal of ash in areas where there is no target. However, it is strongly recommended.

1. **Industrial/Commercial Properties** - No private property has been inventoried for ash or other species. However, it is assumed there are high concentrations of ash trees throughout parking lots and campuses because ash has been a popular species for these applications in previous years. As an example, and as mentioned earlier, the corporate campus where EAB was found earlier this year had a majority of its landscaping in ash and is now working to remove and replace those trees. This same scenario will be repeated by most of the property owners over the next few years as additional campuses are impacted by the spread of EAB.

Because commercial/industrial properties are more prone to targets, the Village shall require that all infested ash trees, located on private property which could impact structures, people or other targets, be removed as soon as infestation is observed.

NOTE: An ordinance regarding Emerald Ash Borer was approved in 2008, however, this ordinance was not transferred to the Village Code. This issue will be resolved. The Code enables the Village to require removals on private property. If the Village requires a removal and the work is not completed, the Village has the authority to do the removals and require payment from the resident. (Copy of Ordinance attached.)

As part of the tree removal permit process, the Village shall work individually with property owners to set up a replacement schedule for the trees removed due to EAB. A replacement plan shall be developed at the time infestation is first observed and shall not extend beyond five years. This plan shall consist of the following:

- a. A copy of any approved landscaping plan shall be provided identifying all trees that are infested.
- b. A revised landscape plan, listing all replacement species and quantities shall be provided. A wide diversity of species shall be encouraged to avoid a repeat occurrence due to a different infestation or disease. Because ash are a deciduous tree, deciduous trees shall be required for replacement. Trees shall not be less than 2.5" in diameter. Trees which are hardy to our temperate zone and street conditions, including salt, shall be encouraged. The Right-of-Way Tree Planting list shall be the recommended species list – with restriction that the replacements be deciduous. All replacement trees shall be planted within five years. As identified in the Village Code, ash are an Appendix A species. When a tree dies, there is no requirement for replacement on residential property. However, because approved landscape plans are typical for commercial/industrial property,

replacements shall be made. For parking lots, an inch for inch replacement shall not be required instead a tree for tree replacement shall be required with a minimum diameter of 2.5". For areas other than parking, trees of similar size to the remaining existing trees shall be planted.

NOTE: This is a recommendation that would expedite the replacement process which would not require Village Board or ARB approval for a change to the approved landscape plan. Implementation of this recommendation will require several code changes.

- c. A time line for replacement shall be provided listing the location, species, number, size and date of planting for each tree. The time line shall not extend beyond five years from the date of removals.

The Village shall provide an informational guide to industrial/commercial property owners including:

- a. how to identify EAB, life cycle of insect, symptoms observed, etc.,
- b. methods of treatment,
- c. Village requirements for removals and replacements - including permit requirements,
- d. resources and contacts for IDOA registered EAB professionals.

Informational materials shall be provided annually and shall be posted to the Village website for access throughout the year. The first informational mailing shall take place in February 2011.

2. **Residential** - The tree inventory for the Village extends to only the right-of- way trees and those trees on public lands. As a result, it is difficult to quantify the full impact of the loss of the ash trees throughout the residential areas.

There are typically two types of landscaping in residential areas. First, there are formal areas which are mowed lawn with a variety of ornamental, evergreen and shade trees. Second, there are more 'naturalized' areas which typically consist of shade trees and infestations of buckthorn.

- a. Formal areas tend to be planted with a wider diversity of trees. This is a condition that should be encouraged to limit future impacts for other monocultures. Ash which are present in these formal areas tend to more significant in size for the overall scheme of the landscaping. However, in recent years they have not been as

commonly planted. A resident may wish to provide protection to specific ash trees in the formal landscape. A resident should contact a certified EAB specialist for assistance.

NOTE: For these trees, the Village would recommend treatments, to prevent or stall the demise of the trees. (Due to the nature of the product Treeage, some companies will not use this product on residential properties. It is a new product to the market and the Village shall not recommend a specific product for use on private property. If the Village Board is interested in assisting residents in the prevented loss of ash, the Village may wish to contract for residential inoculation and provide it to the resident at no charge or at a reduced rate. These fees are not shown in the attached budget.)

NOTE: Residential residents do not have an approved landscape plan and therefore are not required to replace trees that die or decline. The Village may wish to institute a replacement policy for EAB trees as deforestation will be clearly observable due to this infestation. A similar program could be outlined as the program for commercial or industrial property owners.

Residents often ask if they can get 'credit' for planting trees on their property in anticipation of removals for renovations, natural attrition, etc. Staff would recommend that a program be initiated where a property owner may get credit for planting Appendix A trees. The resident would complete a tree planting credit form, identifying the species, date planted, location, and size (minimum planting size for credit would be 2.5"). This information could be placed in a property log in their forestry property file. (Adopted trees and right-of-way trees would not be credited.) This would be helpful to residents who are planning for additions or other changes to their properties allowing them a reduction in the fee for removals and replacements. For instance, a resident plants five 3" oak trees on their property in 2010 and they record the planting on their 'forestry credit' in their property file. In 2015, they wish to install a patio that will require the removal of a 20" Appendix A Tree. Staff visits the site and determines that the five 3" oaks they planted in 2010 are now 4" oaks and they have a 20" credit in their forestry property file. They would not owe any funds to the Village for the removal of the 20" oak. Obviously, if the tree(s) die, or are not recorded on the forestry property log there would be no credit when a removal is requested.

The Village recommends strategic preemptive planting of other tree species in these areas to replace these ash should they die. Again, a wide variety of species should be used. The Tree Adoption Program is currently in place to facilitate strategic planting and could also be utilized for replacement plantings. However, once EAB is at its height, funding may not be available through the tree bank for replacement plantings. Consideration may be given to providing funding through the General Fund. Residents are encouraged to participate in this program, while it exists. Information on this program is posted on the Village website in February of each year and printed in the Village Newsletter in

December.

NOTE: In an effort to assist residents and to replace the lost tree canopy, the Village Board may wish to plan in upcoming years, when the tree bank is exhausted, to fund replacement trees for EAB from the General Fund.

- b. In ‘naturalized’ areas, many residents rely on buckthorn to provide a screen from their neighbors or other outside impacts. The unrestricted growth of the buckthorn has limited the regeneration of native shade trees and impacted their growth. Trees growing in these areas are taller than the buckthorn with no replacements coming up through the buckthorn. Most of these taller trees are ash and elm. Elm trees have been declining due to Dutch Elm Disease. As these elms continue to decline, ash trees will become the dominant species in these locations leaving few or no deciduous trees in these natural areas once EAB becomes established. When trees die in ‘naturalized’ areas, residents often opt to leave the trees in place – regardless of whether they fall or remain erect. This creates an unappealing appearance to other property owners and passer’s by. Additionally, residents are unwilling to remove buckthorn to provide adequate sun for replacement trees.

NOTE: The Village may wish to consider allowing property owners additional Adopted Trees when they clear buckthorn and provide light. Traditionally, only one tree per household has been planted through the Adoption Program per year. For instance, if residents removed buckthorn to provide light to canopy trees (especially in areas where ash and elm have died) they would qualify to plant additional trees through the Adoption Program.

Informational materials shall be provided annually and shall be posted to the Village website for access throughout the year. Included in this information is a map outlining where EAB has been found in the Village. The first informational mailing shall take place in February 2011.

The Village shall provide an informational guide to residential property owners including:

1. how to identify EAB, life cycle of insect, symptoms observed, etc.,
2. information on how to notify the Village upon observation of the insect or signs of the insect.
3. methods of treatment,
4. Village requirements for removals and replacements - including permit requirements,
5. resources and contacts for IDOA registered EAB professionals.

Finally, resident notification, upon observation of EAB will be critical in determining locations of action for the Management Plan.

SUMMARY

1. An educational brochure shall be mailed to landowners within the Village detailing EAB (how to identify infestation, the insect, tree damage, potential targets, resources, etc.). Included in this brochure will be information on the Village Tree Adoption Program and the Right of Way Tree Planting Program, the Appendix A Tree List, the Right of Way Tree Planting List and the tree removal permit requirements. (No fees are charged for the removal of a dead or declining tree.)
2. The Village website, Environmental Services Division, shall include:
 - a copy of the educational brochure
 - information on significance of species diversity
 - information on a variety of tree problems including insect identification, life cycle and observable signs, i.e. Gypsy Moth, Dutch Elm Disease, etc.
 - contacts and resources for tree problems, IDOA registered EAB contractors per Illinois Department of Agriculture list.
3. Infested trees shall be classified into three categories.
 - a. Immediate Hazard - these trees shall removed as soon as possible but not more than ten days of notification by the Village. These trees would be clearly dead with loose bark, fungi or other signs indicating the fragility of the tree and its inability to support itself. These trees have the potential to cause harm to people or property targets.
 - b. Potential Hazard - these trees shall be removed within thirty days of notification by the Village. These trees would be dead but not showing signs of fragility. They have the potential to cause harm to people or property targets in the near future.
 - c. Non Hazardous - these trees will not be required to be removed as their decline does not threaten people or property targets.
4. A replacement schedule shall be provided by the commercial/industrial landowner when multiple trees are to be removed. This schedule shall be limited to five years. (*Residential?*)
5. If the EAB plan is adopted by the Board the following actions will be required:

- a. adoption of an ordinance that requires the removal of hazard trees and the criteria to enforce those removals.
- b. adoption of a streamline review of tree replacements based on EAB impacts for commercial/industrial property owners that would eliminate the need for Village Board or ARB approval.
- c. adoption of an allowance to replace a tree for a tree - regardless of the current diameter when removals are around parking lots. However, a minimum diameter of 2.5" would be required. Tree replacements in the formal landscaping areas around the buildings would require a caliper inch per caliper inch replacement. (Currently, the code would require that a landscape plan be replanted as approved and that comparable sizes be used to match existing trees. For a property owner who has to remove 60 to 70 trees, in his parking lot, this would be cost prohibitive.)
- d. an allowance to diverge from the original landscape plan to utilize a wider variety of species from the Right of Way Tree Planting List. This will reduce impacts from future infestations of other species while utilizing trees that have shown to be tolerant of road conditions.
- e. an allowance or credit for residents wishing to plan ahead for potential tree losses. This would require residents recording tree planting on their property with the Village and this information would be verified by the Village and placed in their property file for future reference.

The EAB Management Plan shall be updated annually with a summary of activities that have taken place the previous year, including removals on public property, permit data for private removals, budget expenditures, planting reports (EAB replacement, Adoption and Right of Way planting programs).

FIVE YEAR BUDGET

Tree Bank Funds are listed in dark green.
General Funds are listed in dark blue.

Expenses	2011	2012	2013	2014	2015	Totals
Corridor Enhancement (\$200,000)	\$40,000	\$40,000**	0	0	\$27,384 \$3,616	\$111,000
Right of Way and Tree Adoption	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$300,000
Gypsy Moth (Increases due to expanded area to be treated)	0	\$75,000	0	\$80,000	0	\$155,000
Emergency Tree Removals	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000
Hazard Tree Removals	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$100,000
Tree Pruning (from 4 to 6 year cycle)	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
EAB Treatments	\$11,000	\$6,000	\$11,000	\$6,000	\$11,000	\$45,000
EAB Removals	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$160,000
EAB Plantings	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$160,000
Subtotal	\$210,000	\$280,000	\$170,000	\$245,000	\$201,000	\$1,106,000
Income to Tree Bank	0	\$116,000	\$10,000*	\$10,000*	\$10,000*	\$437,384
Total From Tree Bank	\$143,000	\$207,000	\$60,000	0	\$27,384	\$437,384
Balance Remaining in Tree Bank	\$148,384	\$57,384	\$7,384	\$17,384	0	
Total from General Fund	\$67,000	\$73,000	\$110,000	\$245,000	\$173,616	\$668,616

*Estimated income

Grand Total: \$1,106,000

Starting balance for the Tree Bank Fund 1/1/2011 - \$291,384.

TEN YEAR BUDGET

Tree Bank Funds are listed in dark green.

General Funds are listed in dark blue.

Expenses	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Totals
Corridor Enhancement	\$40,000	\$40,000	0	0	\$26,384 \$4,616	0	0	0	0	0	\$111,000
Right of Way and Tree Adoption	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$50,000 \$10,000	\$50,000 \$10,000	\$50,000 \$10,000	\$50,000 \$10,000	\$50,000 \$10,000	\$600,000
Gypsy Moth (Increases based on expanded area to be treated)	0	\$75,000	0	\$80,000	0	\$85,000	0	\$90,000	0	\$95,000	\$425,000
Emergency Tree Removals	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$50,000
Hazard Tree Removals	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$200,000
Tree Pruning (from 4 to 6 year cycle)	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
EAB Treatments	\$11,000	\$6,000	\$11,000	\$6,000	\$11,000	\$6,000	\$11,000	\$6,000	\$11,000	\$6,000	\$85,000
EAB Removals	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000	\$160,000
EAB Plantings	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000	\$160,000
Subtotal	\$178,000	\$248,000	\$138,000	\$213,000	\$169,000	\$218,000	\$138,000	\$223,000	\$138,000	\$228,000	\$1,891,000
Income to Tree Bank	0	\$116,000	\$10,000*	\$10,000*	\$10,000*	\$10,000*	\$10,000*	\$10,000*	\$10,000*	\$10,000*	\$487,384
Expense from Tree Bank	\$127,000	\$197,000	\$87,000	0	\$26,384	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	
Balance Remaining in Tree Bank	\$164,384	\$83,384	\$6,384	\$16,384	0	0	0	0	0	0	0
Total From General Fund	\$51,000	\$51,000	\$51,000	213,000	\$142,616	\$208,000	\$128,000	\$213,000	\$128,000	\$218,000	\$1,403,616

*Estimated Income

Starting balance for the Tree Bank Fund 1/1/2011 - \$291,384

Grand Total: \$1,891,000