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DUBUQUE LEISURE SERVICES DEPARTMENT
CONFLUENCE
MIDWEST ARBOR IMAGE

Urban Forest Evaluation 2011 - Dubuque, IA

URBAN FOREST EVALUATION 2011

DUBUQUE, IOWA

I. INTRODUCTION:

For the last 20 years, Dubuque has been a City with purpose, redefining its own future by outlining aggressive goals, policies and practices towards creating a more sustainable Dubuque all while undergoing a steady surge in growth. In order to realize this vision, the City is responding proactively. That has meant adopting new methods of best management practices for not only existing urban and residential infrastructure which must be maintained, but for future expansion zones. With the desire to plan sustainable infrastructure for the future, the City of Dubuque determined that a consultant should be hired to evaluate the urban forest. The goal was not only to assess the current condition of the urban forest, but to make critical recommendations with respect to best management practices and future initiatives. In response to these needs, the City hired Confluence along with its sub-consultant Midwest Arbor Image to undertake this evaluation and achieve this objective.

With a goal of developing and regulating sustainable practices in the urban forest, Dubuque staff reached out to find other communities that embraced this vision with the goal of attaining a healthy, well-balanced, urban forest that contributes to the economic, environmental and social vibrancy of the community. One example of a community that set the standard and became a successful model was the City of Sacramento, California. In 2000, the Sacramento Tree Foundation published the "State of the Trees Report" which established that Sacramento's urban forest was in decline. In their final report, they outlined the numerous ways in which the urban forest brought value to the community, emphasizing a 270% return on investment.[1] This value was the driving force that in 2005 launched the Sacramento Tree Foundation's strategic plan called the "Greenprint Initiative" whose goal was to double the region's tree canopy by the year 2025. The formerly adopted plan outlined goals for achievement in three major areas: management of public trees, policies and ordinances, and community partnerships. As a part of the overall initiative, plans were implemented in phases, emphasizing community partnerships, updating or creating tree ordinances and creating individualized urban forest master plans for each community.[1]

Confluence's charge was to evaluate the current status of Dubuque's urban forest, analyze causes for any decline, propose strategies to improve value and sustainability, and assist Dubuque in moving towards the example set by Sacramento's Greenprint Initiative.

Note: This report is intended for printing at 11x17 paper size.

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II. EXECUTIVE SUMMARY:

Nestled into the bluffs of the Mississippi River, Dubuque has long been a City surrounded by natural beauty. A large part of that scenic beauty is derived from trees as they annually contribute a vibrant and ever-changing elegance to the landscape. But trees have long been overlooked for other very significant contributions to human health and environmental quality.

Proper management and planning of trees in urban environments provides significant economic, social and environmental benefits. Some of the many advantages associated with a healthy urban forest are: increased energy conservation, improved air and water quality, reduced erosion and storm water runoff, enhanced neighborhood appearance, increased property values, reduced heat island affect and reduced street maintenance costs.

Until recently, limited research had been done to quantify these benefits, but mounting scientific evidence suggests the urban forest is a critical community asset with great return on its investment.

New research coupled with corresponding environmentally specific software geared to quantify the urban forest value has helped communities measure the benefits in their own environment. Midwestern cities such as Minneapolis, Milwaukee, Chicago and Detroit have all used similar software - the UFORE (Urban FORest Effects -now renamed I-Tree-Eco) model - to analyze the impacts of the urban forest on air pollution and energy use. Field data is collected and analyzed through the I-Tree-Eco software to provide useful data. It is research such as this that revealed some of the following urban forest economic benefits in these specific towns:

Portland, Oregon

- East side neighborhood street trees growing in front of or near a house added an average of $8,870 to its sale price.[3]
- A tree in front of a house increased the house's sale price by an average of $7,130, and neighborhood trees growing along public rights-of-way added an average of $12,828 to the combined value of all houses within 100 feet.[3]
- Citywide, street trees add $1.1 billion to Portland's property value, or $45 million a year. Annual maintenance costs of $4.6 million are a small fraction of the trees' value and are mostly borne by property owners.[3]

Modesto, California

- A 58% reduction in cost for asphalt street repaving over a 30-year period for canopy tree lined streets.[2]

Charlotte, North Carolina

- Over the years, Charlotte, NC, invested millions in its urban forest. Citizens are now receiving a substantial return on that investment - $3.25 for every $1 spent on tree care.[4]

New York City, New York

- In five boroughs of New York City, 600,000 street trees provide an annual benefit of $122 million – more than five times the cost of maintaining them.[3]

Sacramento, California

- Shade trees planted on the south and west sides of Sacramento houses reduced summertime electricity bills by an average of $25.16.[3]
- The successful planting of 5 million new trees in the Sacramento region called for by the Greenprint Initiative would:

  – Lower summer temperatures by an average of 3 degrees and energy use could be cut by 30% during summer months.[1]

  – Provide $7 billion in net benefits to the region.[1]

  – Save $50 million in energy costs.[1]

  – Save $25 million in air pollution cleanup.[1]

  – Save $17.5 million in stormwater management.[1]

  – Increase home sale prices by 1%, property values by 10% and retail prices by 11% for shaded neighborhoods and business districts.[1]

While our report only takes a snapshot of current conditions and does not use the I-Tree model or similar software, it does provide a very good overview evaluation of Dubuque's urban forest through the review of current policies and practices, review of the current urban forest condition obtained through drive-by tree surveys of randomly sampled plots, and analysis of data to reveal any evidence of and cause for decline. Only public trees are included for this evaluation; however, this will serve as a starting point for assessing the current conditions of the urban forest and its management. After analysis of the data and observations, we were able to draw conclusions which provide the foundation for our critical recommendations.

EXISTING CONDITIONS:

The Dubuque urban forest faces many challenging issues. The data reveals that a majority of Dubuque's urban forest is in fair or better condition; however, observations identified several issues that, if left unaddressed, will lead to a sustained decline in the urban forest. The following issues create the greatest threat to Dubuque's urban forest:

Lack of Species Diversity

Two species, Maple and Ash, account for over 70% of the total population of street trees. This threatens the loss of an entire genus to disease or pests; the impending approach of the Emerald Ash borer is particularly threatening for the Ash population. A major threat such as this could leave a very sudden and large void in the street tree population. Not unique to Dubuque, this is a common threat being addressed by many communities.

Narrow Tree Lawns

Dubuque has an overabundance of tree lawns which are too narrow to support healthy trees as they mature. Tree lawns are located in the right-of-way generally between the walk and the back of curb or roadway. From our current data samples, 38% of the tree lawns were 4 feet wide, 35% were less than 4 feet wide and 27% more than 4 feet wide. This indicates that at least 73% of the tree lawns are currently too narrow to provide space for a healthy canopy tree for the duration of its life. As trees mature and outgrow this area, issues arise that compromise the health and structural integrity of the tree as well as the integrity of the surrounding infrastructure, such as

the walks and roadways. This is a very serious problem in Dubuque because, not only does the urban forest suffer, but additional City resources are required to maintain trees and infrastructure when trees are improperly planted in areas that cannot sustain them over their life span. This problem is clearly present in the older sections of town. After reviewing the randomly sampled sectors of the City, it was determined that the acuteness of the problem in older sections of town was not adequately represented by the sampling. This needs to be taken into account when addressing the problem.

Street Tree Population Decline

Because communication of data is not always transferred from department to department, it is difficult to determine the actual number of trees being planted and removed annually from Dubuque's public property. While it cannot be verified, it appears that the number of tree removals is larger than the number of trees being planted annually.

Lack of a Stand-Alone Tree Policy

With numerous challenges facing the urban forest, Dubuque lacks the proper tools and policies to adequately address all of the issues. While many useful policies are imbedded in the City's code, a comprehensive stand-alone tree policy does not exist.

Lack of a Comprehensive Tree Management Plan

Dubuque's forestry division currently operates in a reactive mode and lacks a comprehensive tree management plan to provide guidelines and direction for future management of the urban forest.

These five items need to be addressed in a more aggressive manner or Dubuque's urban forest will certainly face steady decline, decreasing the economic, environmental and social benefit to the community.

CRITICAL RECOMMENDATION SUMMARY:

In light of this new information that helps us realize the heightened value of the urban forest, we must challenge our traditional way of thinking. In the past, trees have primarily been viewed as a landscaping element to soften the hardscape or as an expendable environmental resource. What we now know is that the urban forest is a measurable economic asset that should be viewed just like any other infrastructure – an enormous environmental benefit that contributes to Dubuque's sustainability efforts and an asset worthy of being planned, managed and promoted.

After researching and reviewing the current conditions, we are confident in making the following recommendations:

Develop a Comprehensive Tree Management Plan

- Refine the goals outlined in this report for the future of Dubuque's urban forest.
- Provide a comprehensive tree planting plan which separately addresses the unique variety of conditions of Dubuque's urban forest, establishes priorities and recommends phasing.
- Establish a basis of measurement and methods for monitoring progress.
- Periodically provide quantitative estimates of the benefits of the program.
- Identify potential resources and funding required to implement the plan.
- Develop a plan for implementing future initiatives.

  – Launching a public education outreach program which explains the benefits of investing in the urban forest and encourages public participation in such an endeavor.

  – Acquiring new funding sources and partnering with non-profit organizations.

  – Partnering with universities, research institutes and other organizations that recognize the value of the urban forest.

  – Recognizing efforts and accomplishments of individuals, organizations and businesses that support and enhance Dubuque's urban forest.

  – Establishing a carbon offset program and monetarily supporting local sustainability efforts that would increase the awareness of our impact upon the environment.

- Recommend a plan for implementation oversight.
- Provide for periodic review of the comprehensive tree management plan.

Creating this tree management plan would consolidate the City's vision into one comprehensive plan that could be implemented in phases and serve as a guide for the future.

Develop a Stand-Alone Tree Ordinance

- Delineate new tree planting and maintenance policies.
- Provide thorough guidelines for managing and maintaining Dubuque's urban forest and includes a number of policies currently missing or underdeveloped in the current Code. It should include specific guidelines for handling issues such as the tree species diversity, lawn planting width (also to be addressed in the development code) and policies for handling pest and disease control among others.

Consolidating this information into one document with clear and relevant policies is necessary to make Dubuque's efforts more effective and efficient.

Commit to the Following Goals for Dubuque's Urban Forest

- A species diversity policy with protocol that no more than 10% of any one species is planted.
- Revise the development policy to expand the minimum tree lawn width to 8' feet wide in all new developments.
- Develop tree species planting lists for replacement of trees in existing narrow tree lawns that are 5' to 8' in width.
- Plan for some of the existing narrow tree lawns less than 5' wide to be reconstructed by removing some parking spaces to accommodate intermittent new tree plantings.
- Implement a planting program by 2012 that replaces trees at 110% the rate of removal.
- Closely monitor park trees for the management of diseases, such as Oak Wilt, to limit its spread.

III. REVIEW OF DUBUQUE'S PARK AND STREET TREE EXISTING CONDITIONS:

The current urban forest was analyzed by gathering data from sample right-of -way plots across the City and from various urban parks. A comprehensive explanation along with detailed species, size, and condition charts, plot maps and corresponding data, is found in the Appendix.

SPECIES DIVERSITY:

The City of Dubuque has an extremely unbalanced population of street trees relying mostly on two genera – Maple and Ash *(Figure 1)*. These two genera make up over 70% of the total street tree population in Dubuque. Lack of species diversity leaves the City vulnerable to the threat of disease and pests such as Emerald Ash Borer, which can affect an entire species leaving a large void in the street tree population. Out of a total of 31 different identified street tree species, 51% of them are maples and 21% percent are Ash. Because some species are well adapted to urban conditions and frequently planted, lack of species diversity is a common problem. It is however, one that needs to be taken very seriously.

Dubuque's park trees are slightly more diverse. This information is based on inventory data from Bunker Hill Golf Course, Flora Park, Washington Park, and Allison-Henderson Park *(Figure 2)*. The sample survey identified 55 species in the four parks inventoried with 4 genera dominating: Maple, Ash, Oak and Honey Locust. Like the street trees, Maple (21%) and Ash (18%) are still the most prevalent.

See the Critical Recommendations section of the report (Page 8) for suggestions on species diversity and the Appendix (Page 95) for underutilized species lists for both street and park trees.

TREE CONDITION:

Condition indicates the current state of a tree's health, structural soundness, shape and growth rate, and are defined as follows:

Good – Trees that are in good health, good shape and have no or very minor structural problems, no significant mechanical damage, may have only minor aesthetic, insect, or disease problems.

Fair – Trees that may exhibit minor structural problems and/ or mechanical damage, significant damage from non-fatal or disfiguring diseases, thin crown or stunted growth, but show reasonable vitality and show no obvious signs of decay.

Poor – Trees that appear unhealthy and may have major structural defects, severe mechanical damage, crown dieback, poor vigor threatening its ability to thrive and insect or disease problems that are fatal if not corrected.

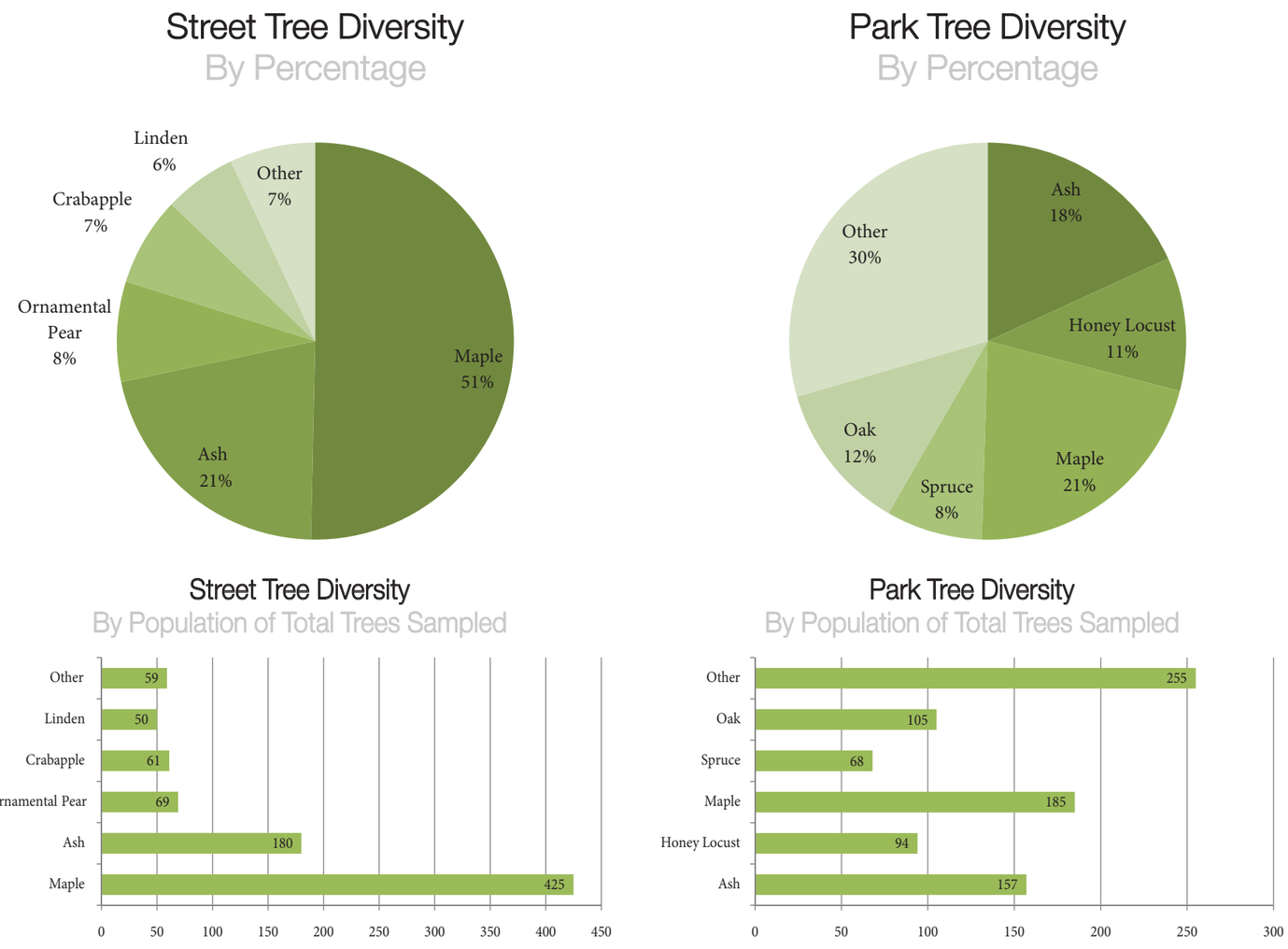


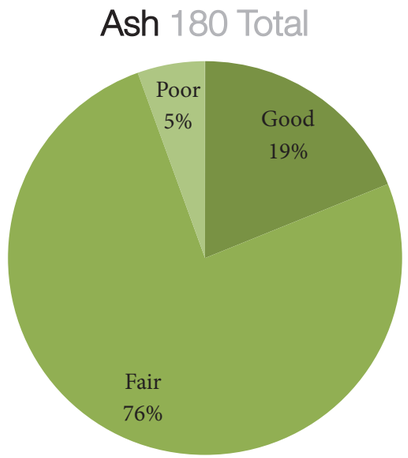
Figure 1: Pie Chart And Graph

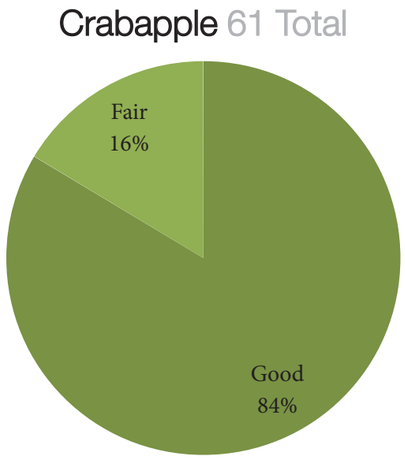
Figure 2: Pie Chart And Graph

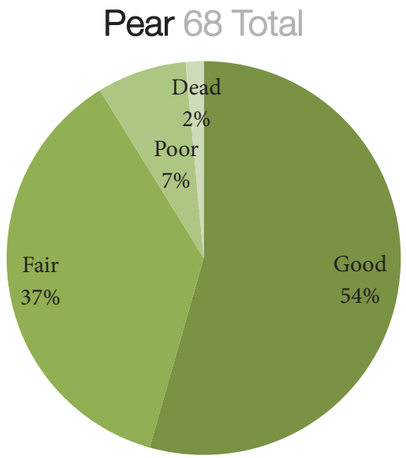
1. Street Tree Conditions

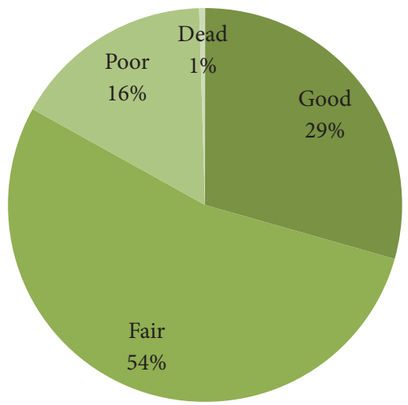
Most Dubuque street trees are in good or fair condition *(Figure 3)*. Of the top five most common street tree species, the healthiest was Crabapple with 84% in good condition, and the unhealthiest was Ash with only 19% of the species in good condition. Dubuque's healthiest overstory street tree species is the Linden with 48% of the population in good condition. Understory trees which are the smaller growing varieties such as Crabapple (reaching no more than 30' tall), have successfully been used to replace overstory trees (large trees which grow taller than 30'). The understory trees often

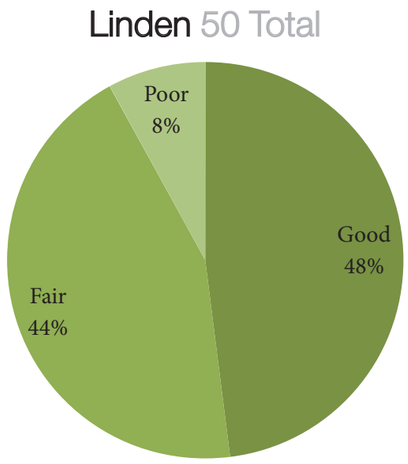
STREET TREE CONDITIONS - FIVE MOST COMMON SPECIES











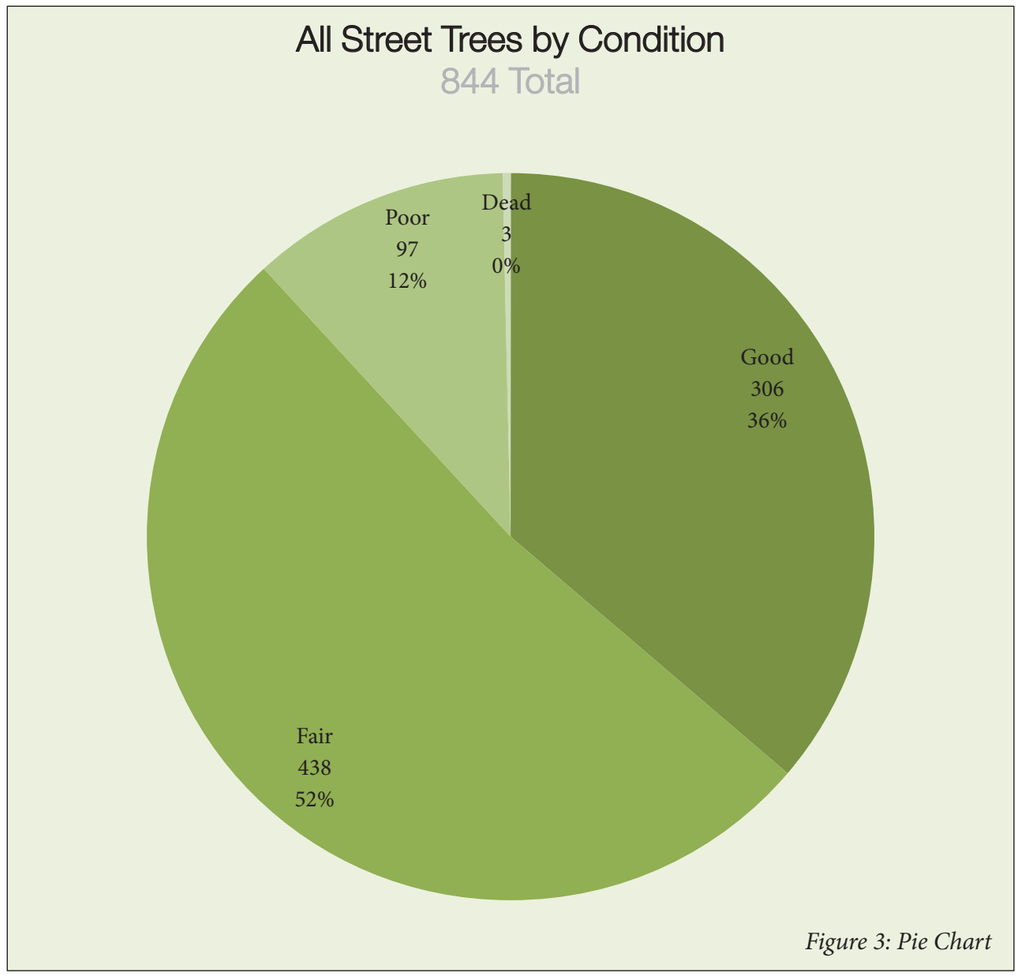


Figure 3: Pie Chart

replace overstory trees in narrow tree lawns because they require less space. However, these understory species also have smaller leaf canopy and thus have much less value to the urban forest.

For street trees, the conditions noted in the field data were due to a variety of causes. Most recorded comments involved root issues. Improper planting depth is prevalent throughout Dubuque and contributed to numerous tree health problems. In many cases trees had several issues such as girdling roots, sparse crown or dieback. In these cases the girdling roots were the cause of the other problems. The top five issues in order of frequency were:

- Root issues – 107
- Utility trimming for wires – 62
- Dieback – 4 7
- Trunk scars – 43
- Minor deadwood – 35

Other issues noted in order of frequency were: leaning, decay hollowing, structural defects, sparse crown, storm damage mower damage, guy wires & stakes, chlorotic leaves, vehicle damage, anthracnose, cable braces, conks and extensive deadwood.

See the Glossary (Pages 96-97) for descriptions of tree conditions and photos.

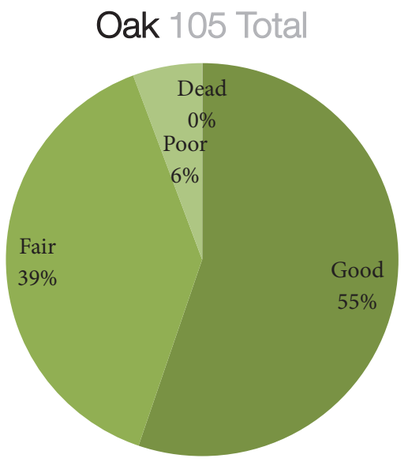
2. Park Tree Conditions

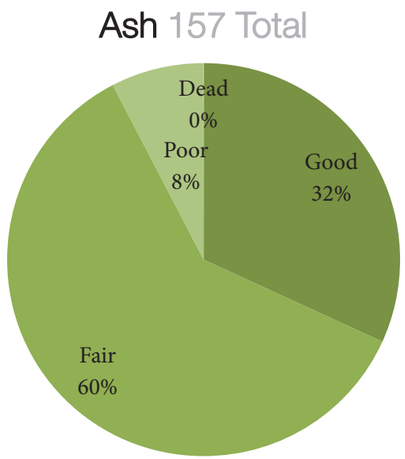
The health of the park trees can generally be categorized as good or fair with a mix of both young and old trees *(Figure 4)*. As trees grow larger they are subjected to more environmental stresses and without adequate maintenance and care, their condition decreases. Lack of a regular 7-year pruning cycle is one factor that has contributed to a steady decline of Dubuque's Park trees. In addition, maintenance crews appear to focus their efforts on providing safe travel lanes along the streets leaving less time to maintain the parks.

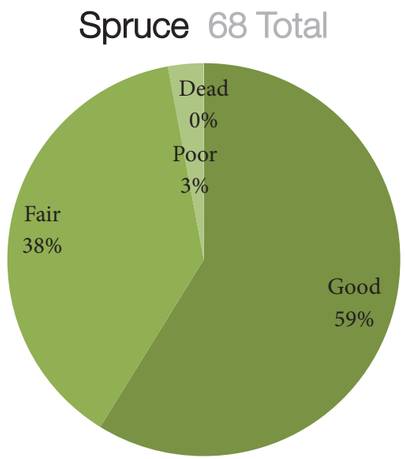
Most Dubuque park trees are in good or fair condition. Of the top five park tree species, the healthiest was Honeylocust, and the unhealthiest was Ash with only 32% of the species in good condition.

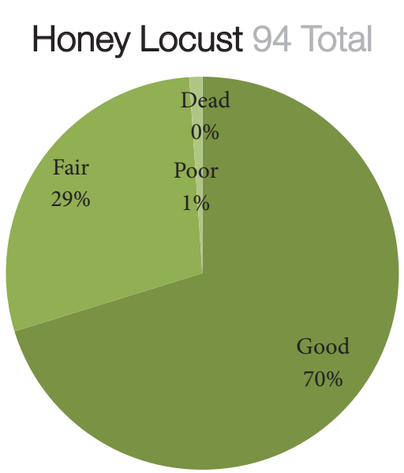
For the park trees, undesirable conditions from the field data varied in nature, but one issue more prevalent in the parks was mower damage. This problem was more prevalent in past years but more

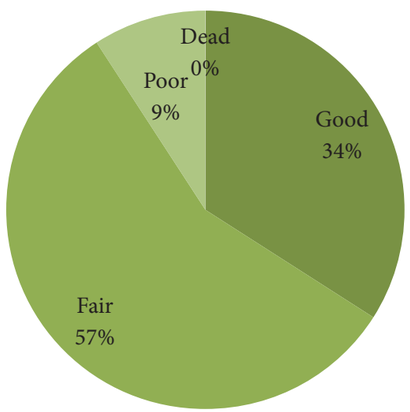
PARK TREE CONDITION - FIVE MOST COMMON SPECIES











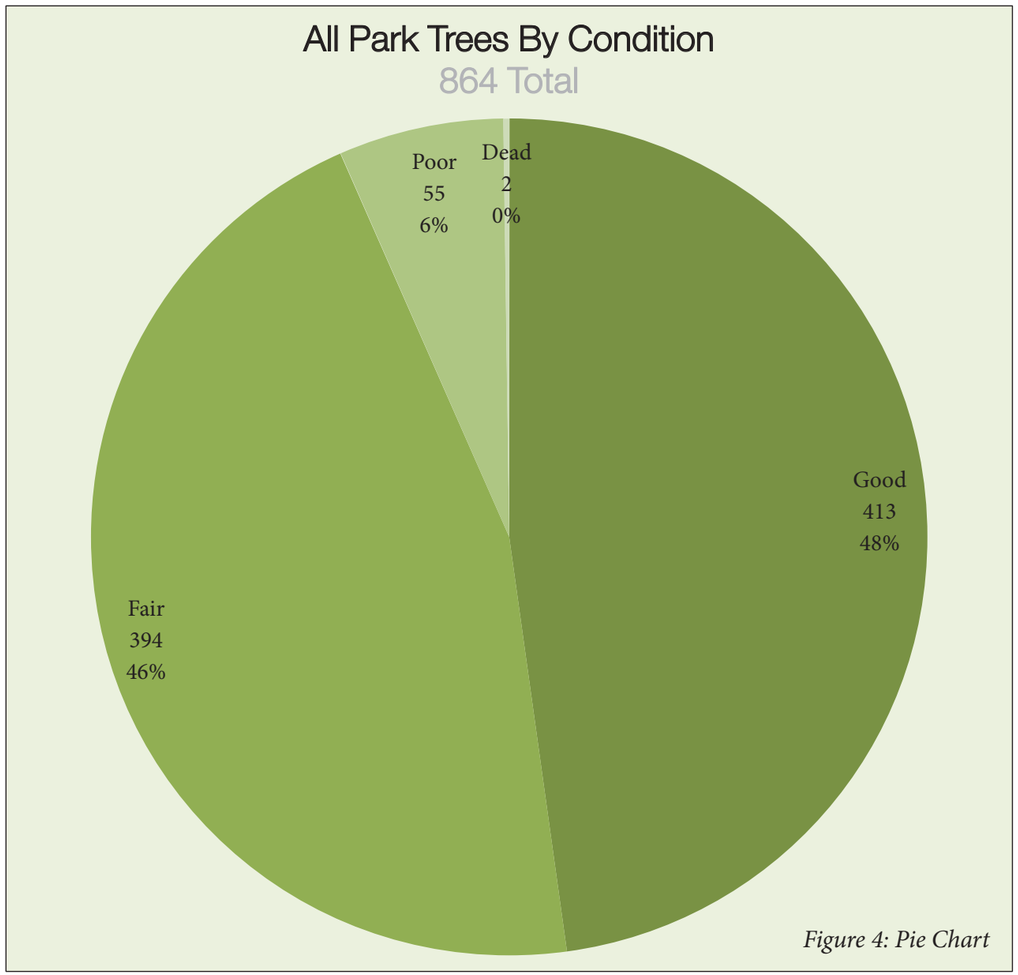


Figure 4: Pie Chart

recent mowers used by the Parks Department have a different design lessening the chance for accidental scarring. The top five issues in order of frequency were:

- Root issues – 97
- Deadwood – 62
- Mower Scars – 53
- Dieback - 29
- Decay – 27

Other issues noted in order of frequency were anthracnose, trunk scars, storm damage, competing for sunlight, structural defects, memorial tags (wire too tight), deer damage, thorns, borers, sparse crowns, guy wires, decay hollowing, chlorosis, compaction, trunk seams, cable braces, and lighting strikes.

See Glossary (Pages 96-98) for descriptions of tree conditions and photos.

Many of the undesirable tree conditions for both park and street trees are preventable. Others may be mitigated by treatment, proper maintenance procedures or revised policies. A significant number of trees displayed the following correctable issues:

- Utility trimming
- Root problems
- Girdling roots
- Improper planting depth/care
- Deadwood
- Structural defects
- Sparse crowns
- Dieback
- Storm damage
- Chlorosis and anthracnose
- Compaction
- Over tightened memorial tags
- Leaning
- Vehicle Damage
- Mower damage

See the Glossary (Pages 96-98) for a more detailed description and Critical Recommendations (Page 8) for suggested revisions in policy and procedure to help prevent these problems.

Other significant conditions cannot be easily corrected primarily because they are not often caused by human error or poor design:

- Trunk Wounds
- Decay, Trunk Scars, Conks, and Hollowness
- Lighting Strikes and Trunk Seams
- Deer Damage
- Thorns

See the Glossary (Pages 96-98) for a more detailed description.

SIZE CLASS:

According to sample data 64% of the street trees in Dubuque are 15" caliper or smaller. This indicates that the street trees are relatively young and many replacement trees are of smaller varieties. Younger and smaller trees create a reduction in the urban forest canopy. The overabundance of young small trees appears to be the result of planting in narrow tree lawns. Narrow tree lawns cannot support large trees, thus when the trees grow much larger than 15 inches in diameter they become unhealthy requiring removal.

TREE LAWNS:

Dubuque has many narrow tree lawns. Tree lawns are located in rights-of-way between the sidewalk and the back of curb or roadway. Seventy three (73%) of the tree lawns sampled were 4 feet wide or less. There are a number of issues that result from narrow tree lawns.

Root problems are the primary challenge when planting in narrow tree lawns and are a predominant issue related to declining tree condition. Root problems were also the most common tree condition noted in the observations from the tree survey. Trees growing in narrow tree lawns have restricted root growth and the tree's health is negatively impacted. Root issues were observed primarily where the tree lawns were 4 feet wide or less. Buttress roots conflict with the nearby curbs and walks causing structural damage to the adjacent sidewalk or curb. When the walks and curbs are repaired or replaced, roots are severed subjecting the trees to many other problems. Pests find the open wounds as an invitation to invade and loss of anchoring roots can cause the tree to develop a lean creating structural instability and public safety concerns. Dubuque is currently replacing street-side walks damaged by roots with walks that are redirected around the tree. The new walk construction still damages the tree root system and is only a temporary solution. In a relatively short period of time, the buttress roots can damage the new walk.

Vehicle related damage is another result of narrow tree lawns. The close proximity to the traffic lanes subject the trees to trunk and low branch damage from errant drivers.

STREET TREE POPULATION:

Foresty Department records for the last two years indicate that street tree planting in Dubuque is not keeping pace with removals:

Fiscal Year 2008-2009
219 trees removed
87 trees planted
net loss of 130 trees
= 40% planting rate

Fiscal Year 2009-2010
316 trees removed
28 trees planted
net loss of 288 trees
= 9% planting rate

In newer subdivisions – where there are wider tree lawns, trees are not often planted. If continued, this trend will certainly expedite the decline of Dubuque's urban forest.

IV. REVIEW OF CURRENT FORESTRY PROGRAMMING:

The current Forestry Department has a great depth of experience. The City Forester speaks on a variety of topics to regional groups such the Midwest Chapter of Arboriculture as well as Master Gardener programs throughout the tri-state area. He has 25 years of experience as Dubuque's City Forester and continues to stay current in the field by annually attending Iowa State University's Shade Tree Short Course as well as many other conferences. He was among the first to become a certified Arborist in the State of Iowa when certification became available and his two staff members have over 30 years experience combined.

The staff is well trained and began the practice of using a crane for large tree removal even before it became a common industry standard.

FORESTY PROGRAM REVIEW:

Stand-Alone Tree Ordinance - An evaluation of Dubuque's current urban forestry program revealed that the City lacks a single stand-alone tree ordinance that encompasses the many issues with trees, however, most tree issues are addressed within other existing ordinances.

See the Appendix for Dubuque's current tree-related policies and ordinances as well as an example ordinance from Davenport, Iowa.

Work Functions - Annual listings of the Forestry staff's work functions the following trends in the years between 2000 and 2008:

Increased	Fluctuated	Remained Steady
Citizen Request for Service	Trees Removed	Trees Trimmed
Emergency Tree Calls	Park Trees Planted	
	Street Trees Planted	

Work Flow - Forestry report records show a steady backlog of work with an approximately 3 month backlog at any given time. With a backlog of work, staff effort is currently placed with high priority needs such as hazardous tree removal, with minimal time available for proactive measures to improve urban forest health or corrective procedures such as removing girdling roots or correcting improper planting depth.

Non-Tree Related Duties – The forestry department currently assists in snow removal and is responsible for 4 parking ramps during the winter season. They also use their equipment such as the aerial lift truck and log loader to assist in moving picnic tables and other large items. In addition, they assist with the installation of holiday decorations, changing light bulbs and assisting electricians with repair in park street and yard fixtures, removing dangerous ice buildup on buildings and structures, potting flowers as well as many other miscellaneous park maintenance jobs.

Tree Crew Equipment – The equipment and tools available to the Forestry staff are adequate for the size of the department and in good condition.

Tree Crew Training and Safety – The Forestry staff has a good collection of training and safety videos available for use by the department. They also document all training that occurs through special sessions, webinar events or videos.

Pest Management Program and Records – Dubuque does not have a proactive pest control program and no policy on how to manage the threat of the Emerald Ash Borer. The department's limited practices with pesticide applications are being well recorded and kept on file.

Construction Projects – Construction projects have funds for tree removal, but do not fund replacement of trees removed. Many City departments are involved in the review of construction and subdivision projects. Occasionally, during the project revision process, some of the Forestry Department's recommendations have gotten lost, resulting in future maintenance costs for the Department.

Tree Inspections – There are no periodic tree inspections currently done by the Forestry Department. Inspections are generated by citizen complaint.

Assistance Agreements – The Forestry Department currently has no formal assistance agreement with any other department for emergency situations or non-tree related tasks.

Walk replacement – Each year the Forestry Department receives 30-40 walk replacement calls. In most cases the tree roots are causing the walk damage, requiring the need for tree removal.

Comprehensive Tree Management Plan – There is currently no long -range vision for managing Dubuque's urban forest. There are no goals set or guidelines in place and no comprehensive management plan for the future.

V. CRITICAL RECOMMENDATIONS FOR BEST MANAGEMENT PRACTICES:

DEVELOP A COMPREHENSIVE TREE MANAGEMENT PLAN:

With the numerous benefits and increased value that trees bring to a community, it is critical to have a Comprehensive Tree Management Master Plan to bring about change. This plan is a necessary tool to provide a framework for implementing Dubuque's vision of sustainability and complement the current initiatives for a Sustainable Dubuque. The purpose of this comprehensive plan would be to provide a complete program that incorporates all of the information necessary to guide the future urban forestry program in Dubuque. This Tree Management Master Plan should:

- Create an Urban Forest Task Force to implement and oversee the Tree Management Plan.
- Develop future Tree Management goals for the urban forest.
- Provide a comprehensive tree planting plan which separately addresses the unique variety of conditions of Dubuque's urban forest, establishes priorities and recommends phasing.
- Establish a basis of measurement and methods for monitoring progress—for example: quantify carbon sequestration.
- Estimate benefits and track progress of the program.
- Develop a plan for implementing future initiatives.
- Recommend a process for Comprehensive Tree Management Plan implementation oversight.
- Provide for periodic review of the comprehensive tree management plan.

Developing a comprehensive plan for the urban forest of Dubuque will be the most crucial step in establishing a new and effective approach to bring the urban forest to a stable good condition. This plan will provide an overarching support system which will guide the direction of planning and implementation efforts.

The different components of the comprehensive tree management plan are described in the following sections.

1. Urban Forest Task Force

The first step in the process of developing a Comprehensive Tree Management Plan is to create an Urban Task Force made up of a variety of community members, interested volunteer non-profit group members, representatives of the various City departments affected by the plan such as the Forestry Department, Public Works Department and Leisure Services department members. The purpose of this Task Force will be to develop the Comprehensive Tree Management Plan and oversee its implementation. A diagram/ flow chart *(Figure 5)* of the tree management plan shows the main components of the plan along with their relationship to other entities as described in this report. The task force should refine this diagram upon being appointed. *A complete Tree Management Plan Flow Diagram can be found on Page 10.*

2. Tree Management Plan Goals

The first assignment of the newly developed Urban Forest Task Force will be to refine the Tree Management Plan Flow Diagram as well as the recommendations outlined in this report, developing specific goals to incorporate as part of the Comprehensive Tree Management Plan. *For a summary of these recommendations see the Executive Summary (Page 2) of this report*. This committee will take the report recommendations along with their knowledge of the Community's vision and sharpen specific goals for the future. The task force will organize urban forest neighborhood planning districts and create other sub-committees as needed to implement the plan. Creating neighborhood planning districts will engage the citizens of Dubuque for their input in developing planting plans for their neighborhood. This will also encourage neighborhoods to

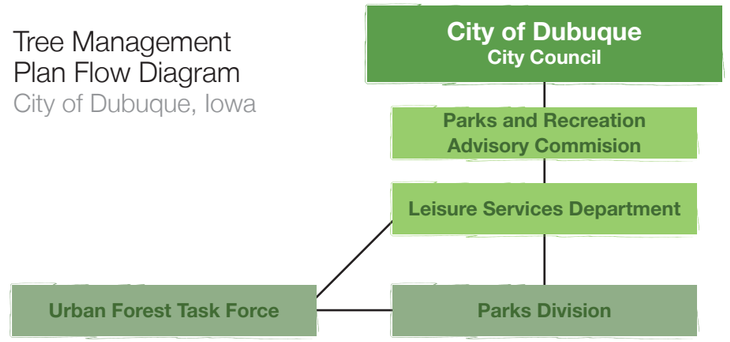


Figure 5: Flow Diagram

buy - in to the plans and generate excitement about the progress of the urban forest. The Task Force will also oversee the development of the management plan as well as plan implementation based on cost/benefit, visibility, corridors of importance or other determined priorities. In addition this group will plan future initiatives and determine their phasing and oversight. The urban task force is the group that creates goals and oversees the entire urban forest effort.

3. Comprehensive Tree Planting Plan

Plans should be undertaken to address the various neighborhood districts in Dubuque, assess the current conditions and unique problems as well as opportunities of each area to implement a consistent and thorough tree planting plan. Neighborhood districts should be developed utilizing some of the current neighborhoods delineated for Dubuque. Each neighborhood district should, with its own committee of district citizens and City personnel, work together to develop a plan to address the planting needs of the district. All plans should incorporate the goals of this report and the priorities set by the Urban Forest Task Force into their neighborhood district planting plan, looking for ways to mitigate the narrow tree lawns, provide species diversity and plant suitable trees in the proper space. These planting plans should:

- Address the species, quantity, size and placement of the trees. This includes evaluating existing tree species for the district areas, and plans for increased diversity in the new plan. Installation and phasing should also represent a 110% planting rate and a balanced size range.
- Include a phasing plan based on priorities identified by the Tree Management Plan.
- Focus on energy savings, air quality, environmental benefits, aesthetics and value.
- Make provisions for an amendment process for potential future revisions.

4. Basis of Measurement and Methods for Evaluating the Urban Forest

To effectively evaluate Dubuque's progress in establishing and maintaining a sustainable urban forest, criteria must be developed, methods of measurement established and a baseline of data created using "I-Tree" or other appropriate urban forestry software.

These measurement criteria are essential in order to follow the progress of the urban forest over time and measure the value to the community. Urban forest evaluation and monitoring should be done with the assistance of the Forestry Department and trained volunteers.

Based on the City's vision for creating a more sustainable Dubuque, the following are suggested areas of future measurement:

- Reduction in stormwater runoff (cu. ft. annually).
- Electricity saved in MWH + ($ saved) annually.
- CO2 Reduction in ton + $ valued total and per tree.
- Reduction in Ozone, nitrogen dioxide, sulfur dioxide and particulate matter.
- Percent canopy increase.
- Change in the ambient air temperature in the summer months.
- Total of all monetary benefits - average per tree .
- Expenses calculated per tree.

5. Estimated Benefits and Progress Tracking

Using data collected through monitoring efforts and expenses tracked by the Forestry Department, Dubuque should obtain an estimate of cost benefit/tree to assist in determining urban forest priorities. Periodic monitoring should be recorded and analyzed to measure progress toward urban forestry goals. Data should be compiled and all findings summarized in a "State of Dubuque's Urban Forest" report. This periodic monitoring and assessment should take place every 7 years, correlating with the recommended pruning maintenance cycle.

In addition records should be kept on file of the species planted so that periodic assessments can be made on the status of the diversity.

There are many ways that the urban forest brings value to a community. Determining benefits in quantitative measurements will bring the community greater recognition of the value of Dubuque's urban forest.

6. Future Initiatives

a. Establish an Educational Outreach Program

Educational outreach programs are beneficial in a number of ways.

- Raise awareness of the value of the urban forest.
- Encourage volunteerism.
- Increase local collaboration and investment.
- Encourage stewardship of trees and the urban forest.

Outreach programs can take different forms. Programs can be created where volunteers play a key role in helping Dubuque educate citizens about the multiple benefits of increasing the urban tree canopy.

The Sacramento Tree Foundations has such a program called Leading Education and Awareness in Urban Forestry (LEAF). Based on a successful UC Master Gardener program, LEAF stewards received 32 hours of hands-on training to provide assistance to the community for information as well as technical knowledge for various outreach activities. This type of program would greatly benefit the Dubuque area.

Other possible educational programs may take the form of conferences and workshops with urban forestry programs given free of charge to the public. These may be initiated by the City and implemented with the assistance of other volunteers such as the Master Gardeners. Urban forest educational programs may be promoted along with other related initiatives as part of a greater educational initiative for a Sustainable Dubuque.

A third model may incorporate an educational outreach program specifically targeted to the schools to teach the students about the value of the urban forest and how it relates to sustainability as well as to involve the students in planning and implementation for their own school grounds.

In addition, educational bulletins may be developed as part of the City newsletters, or placed on the City web site. Possible topics include:

- Proper pruning and the City Forester's pruning cycle
- Tree planting permit application and planting specifications
- Tree Ordinance highlights
- Tree ownership responsibilities
- How to prevent mower and construction damage
- How to volunteer to be a tree advocate for the City forestry program

- Dubuque's forestry program and how to report a problem

With any outreach events, the result can be increased interest and new volunteer participation.

b. Partnering with Non-Profit Organizations
Partnering with other like minded non-profit organizations can reap many benefits. Not only are there possibilities for support from the group directly, but non-profit status or partnering with a non-profit organization is often a general requirement for receiving charitable donations. Cooperation between like-minded organizations is often more appealing to a potential funder. Forming partnerships with other organizations offers other advantages such as pooling resources, networking and providing existing structure for accomplishing goals. Examples of such partnerships would include: Trees Forever, Master Gardeners, 4H, or Tree City USA.

c. Other Partnering
There are numerous benefits to other types of partnering as well:

- Universities and other research organizations may become potential research, monitoring, or funding partners.
- Interns may assist in various capacities with demonstrations, educational opportunities, developing new outreach opportunities, monitoring and assisting with all areas of outreach and volunteer support.
- Citizen volunteers should be trained to assist in planting events, promotion, pruning, and urban forest monitoring.
- A volunteer organization should be formed for those individuals interested in assisting the Forestry Department with routine pruning and clean-up efforts. Volunteers will be trained by the department in safety and technique and work alongside the department during specific pruning events.

d. Develop an Awards Program
An important aspect of a successful urban forest initiative is recognizing individuals and corporations for outstanding accomplishments. Awards should be given for promoting importance of trees, tree care and stewardship. Awards can also be given to exemplary landscapes or woodlands for their contribution to the urban forest. An awards program helps bring the urban forest and its value to the attention of the general public and rewards the efforts of deserving individuals or corporations.

e. Establish a Carbon Offset Program
A carbon offset program allows citizens to measure their carbon footprint or (their contribution to the buildup of greenhouse gases in the environment from their lifestyle) and then consider a monetary contribution to a program that offsets part or all of the lifestyle emissions. The value of carbon sequestration programs are questioned by those who would reason that they don't address the root of the problem by getting people to change their behavior, but instead allows them to "buy" credits to offset their inefficient or wasteful activities. It is also argued that it is often difficult to ascertain that all credits purchased are truly offsetting the carbon footprint and that credits purchased are sometimes used for carbon reducing programs that would have happened regardless of the credit purchased.

However, a carbon offset program in Dubuque could have some advantages. First, it will bring a greater awareness of sustainability as an issue and the value of trees in their role of carbon sequestration. Secondly, the credits purchased could be funneled to a specific sustainable project for Dubuque.

A carbon footprint calculator added to the City website would allow individuals to measure their carbon footprint. From that site, carbon credits could be purchased toward a City project which partially or fully offsets the emissions. Carbon credit projects would be funded through the carbon offset program and supplemented with other outside funding, not funded through the City's general budget. Carbon credit projects could relate directly to urban forest through tree planting projects or could be used for other sustainable initiatives such as smart energy projects to reduce energy use in public facilities.

7. Tree Management Plan Oversight

The Urban Forest Task Force will supervise the management of all aspects of the Tree Management Plan under the direction of the Leisure Services Department, and ultimately, the City Council. The Task Force's responsibilities include, but are not limited to:

- Developing a Tree Management Plan
- Refining and outlining specific goals, priorities and phasing for the urban forest

Tree Management Plan Flow Diagram
City of Dubuque, Iowa

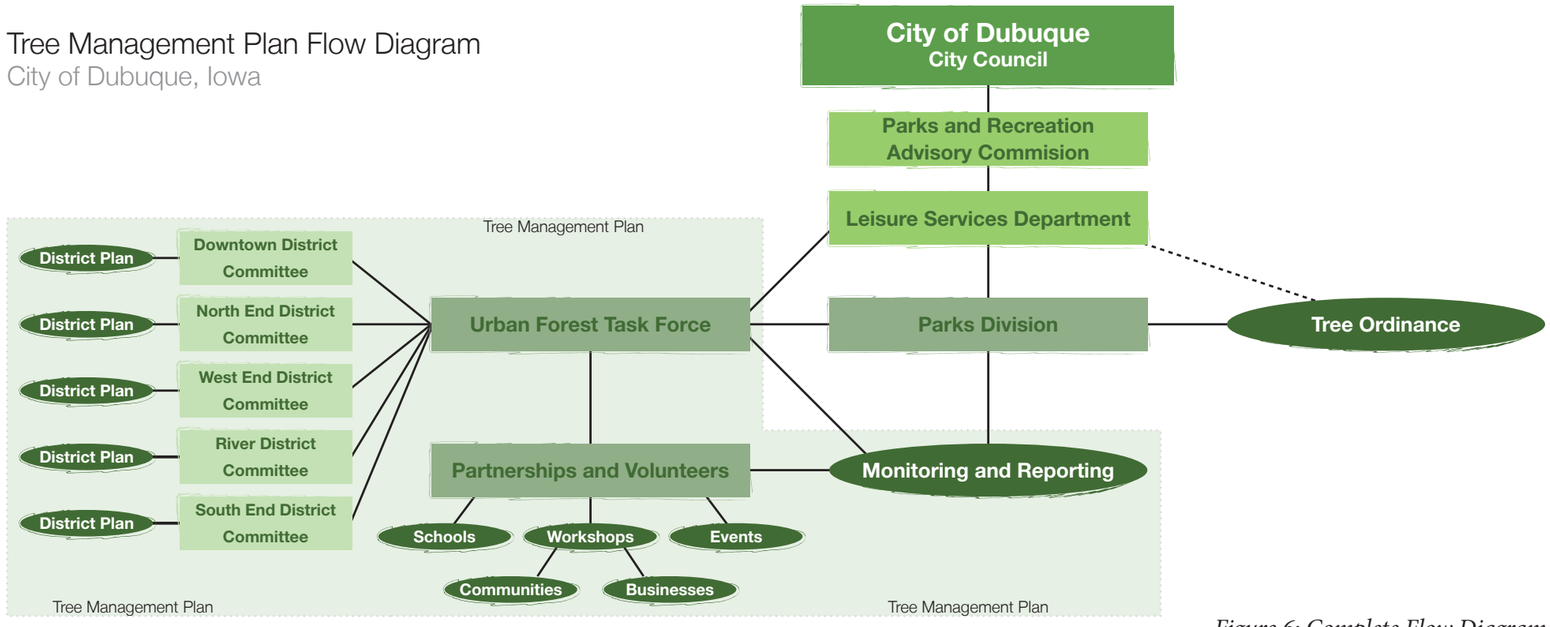


Figure 6: Complete Flow Diagram

- Delineating planting districts
- Creating planting district sub-committees
- Determining final basis of measurement for quantifying the urban forest benefits
- Acquiring funding/developing partnerships
- Choosing and developing plans for educational outreach programs
- Developing an accomplishment recognition program
- Establishing a carbon offset program

The complete Tree Management Plan Flow Diagram shows the structure and hierarchy of the tree management plan (Figure 6).

8. Tree Management Plan Periodic Review

To maintain an efficient and effective Tree Management Plan, the need for changes may occur. Because of this, the Leisure Services Department will periodically review the Tree Management Plan with the input of the Task Force, Forestry Department and Public Works Department and will recommend any necessary changes to the plan.

DEVELOP A STAND-ALONE TREE ORDINANCE:

A new forest initiative requires clear and comprehensive policies. While there are many excellent policies in place, a single more encompassing stand-alone ordinance should be developed for ease in use and to address all policies related to the urban forest. Current policies lack the requirement for right of way planting permits, protection, care and maintenance, among others. Implementation of these policies will give the City legal right to enforce these new provisions as well as current provisions that are missing or vague. The following needs should be addressed in the new ordinance.

1. Street Tree and Landscaping on Public Rights-of-Way Policy

The "Street Tree and Landscaping on Public Rights-of-Way Policy" should be an article cited in the Tree Ordinance. It should be expanded to include the following:

a. Protection, Care and Maintenance
Provide a section to legally define the responsibilities of the owner of private trees along with clarification of the protection, care and maintenance of City trees. This includes the pruning of trees and shrubs in such a manner that they will not obstruct street lights, pedestrians or vehicles, visibility of any traffic signs, or intersections.

b. Roadside Vegetation
Unimproved roadsides are rights-of way where there are no sidewalks with vegetation that grows unchecked to the point where plant material encroaches into the driving lanes. Require abutting property owners of unimproved roadsides to be responsible to keep the right-of-way mowed and free of volunteer trees and shrubs.

The following are two options for the implementation and management of a new unimproved roadside vegetation management provision:

- The City can remove the volunteer trees and shrubs from the rights-of-way and then enforce a mowing code where the abutting property owner is responsible for keeping the right-of-way mown and free of trees and shrubs.
- The City can enforce a mowing code where the abutting property owner must remove the trees and shrubs and then keep the area mown. If the abutting property owner does not perform this maintenance the city can then hire a contractor and bill the owner for the cost.

c. Tree Protection
Except for emergency repairs, any construction within the drip line of existing right-of-way trees must first be reviewed by the City Forester. This includes walk or curb replacement and utility installation or repair.

d. Planting Permits
No tree or shrub shall be planted on public property, including parks, rights-of-ways, except where a special permit is obtained from the city forester. Information submitted to obtain the permit should include the location, species and method of planting and conform to the district's planting plan. The city forester will have the power to either issue or deny the permit in strict accordance with arboricultural specifications and standards of practice.

e. Planting Specifications – Tree Lawn Width
To receive a City Planting Permit the tree lawn must be a minimum of 8 feet wide. Trees shall not be located within 4 feet of a public sidewalk, road or the anticipated location of a future public walk where one does not exist. Where no walk exists, there must be at least 13 feet of City right-of-way outside of the road surface and the tree must be planted a minimum of 4 feet from the edge of the road and be in accordance with the district planting plan *(Figure 7)*.

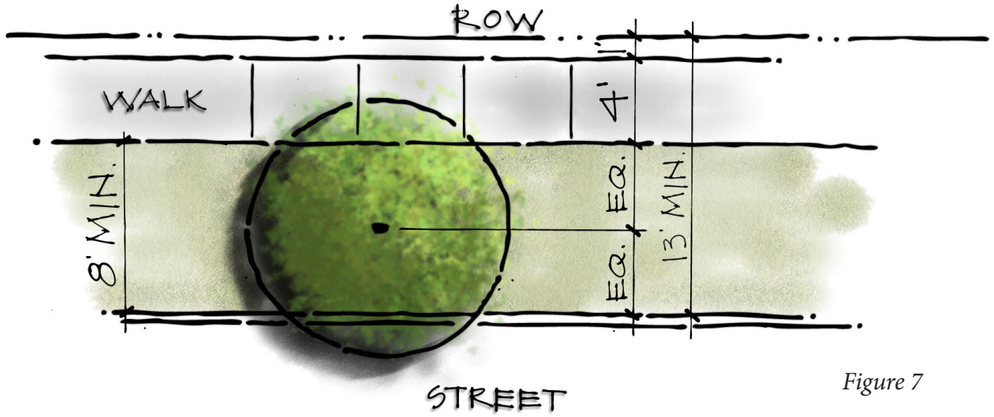


Figure 7

f. Supervision of City Tree Planting
The City Forester will inspect each new tree planting to assure that it is the proper species, planted in the correct location and properly installed.

g. Supervision of Street, Walk, Drive and Utility Construction near Street Trees
All construction planned within the drip line of a street tree will be reviewed by the City Forester. The City Forester shall make recommendations of how best to preserve the tree and protect it from construction damage.

h. Utility Street Tree Trimming
Proposed trimming by utility contractors will be reviewed by the City Forester. The City Forester will make recommendations of how to minimize any damage to the health and aesthetics of the tree. City Forester shall meet with certified utility trimming personnel to review current practices.

i. Tree Replacement
The guidelines for replacement of street trees removed from existing tree lawns are as follows:

Tree Replacement Guidelines
When tree lawn or planting area is:

5 ft. wide or less
- do not replace in tree lawn—place on adjacent property

5ft.–8ft. wide
- 1st preference—replace on adjacent private property
- 2nd preference—replace in tree lawn with conditions

8 ft. wide or more
- replace overstory tree in tree lawn

When a tree is removed from a tree lawn less than 5' in width, no tree will be replaced in the tree lawn. If a tree is removed from a tree lawn that is less than 8' in width, the City may provide and plant a tree beyond the public walk on private property, base on site suitability as determined by the city Forester and if budget considerations allow. When a tree is removed from a tree lawn that is between 5' and 8' wide, the City may make an exception to the standard policy and replace the tree with a small understory tree as recommended by the Forestry Department if site conditions allow. The Forestry Department shall maintain a recommended understory tree list with a variety of species for replacement in small tree lawns. Such list shall contain only small understory species and ornamental trees less than 30' in height such as Crabapples, Serviceberry, Amur Maple, and Japanese Tree Lilac.

j. Species Diversity
The City Forestry department shall make recommendations on tree species to the district planting committees for their incorporation into the district plans. Recommendations will be based on the goal that the urban forest shall contain no more than 10% of any one tree species within the urban forest. These recommendations shall be updated periodically as new data is available. Many years will be required to achieve a balanced species population and is best achieved by reduced input of dominant species rather than a prolonged moratorium. Recommended tree species lists shall be updated to include underutilized tree species such as Hackberry, hybrid Elm, Honeylocust, Oak, Sycamore, Ginkgo, Tuliptree, Kentucky Coffeetree(non fruiting), Hawthorne, Hophornbeam, Crabapple, Linden and Japanese Lilac.

See the Glossary (Page 95) for the for underutilized tree species lists.

k. Size Class
Maintain a goal for approximately half of the urban forest inventory to be larger than 15 inches in diameter and the remainder at less than 15 inches in diameter to increase and maintain the forest canopy. This provides a well balanced range of sizes to provide for the future while maintaining a large segment of trees at the larger and most beneficial size when they provide the greatest amount of canopy cover.

l. New Housing Development Tree Reforestation Fee
Require developers a fee of $2.00 per lineal foot of frontage on housing lots that abut the public right-of-way. This fee shall be applied to the cost of City installation of Street Trees in the right-of-way.

2. Dubuque City/County Severe Weather Plan

Modification to the Severe Weather Plan should include a definition of how private debris will be handled when a tree from private property falls onto the public right-of-way. This clarification will remove the City's burden of responsibility to completely remove the debris from public streets.

a. Private Debris:
The City shall respond to clear debris and fallen trees from public streets and alleys. Where possible, the material shall be stacked and left on the private property and the abutting right-of-way of the property from which the debris or tree has fallen. The original owner is responsible to remove the stacked debris. At the City's discretion and where space is not available or it is more efficient – the City may opt to remove the debris.

3. Disease and Pest Control Policy

Provide a flexible policy that gives the Forestry Department authority to quickly implement Disease and Pest Control Policies when a threat may become of epidemic proportions to the urban forest. When a pest problem is identified as such a threat then the City Forester shall take steps to identify the scope of the infestation and enforce sanitation or treatments that are necessary to control the pest.

The impending threat of Emerald Ash Borer highlights the importance of advanced planning for pest and disease. Ash trees represent an estimated 20% of the current forest canopy in Dubuque. The affect of this pest could threaten a one fifth of the existing street trees. As other diseases and pest become a major threat, the Forestry Department should develop readiness plans as needed.

a. Emerald Ash Borer (EAB) Policy
Dubuque should be in contact with the State Entomologist's Office at 2230 South Ankeny Boulevard, Ankeny, Iowa and become partners with the Iowa Forest Insect & Disease Management Council which includes:

- Iowa Department of Agriculture and Land Stewardship – State Entomologist
- Iowa Department of Natural Resources – Forestry Bureau
- Iowa State University Extension
- United States Department of Agriculture – Plant Protection Quarantine
- United State Department of Agriculture - Forest Service

A commitment to become involved in a partnership would be well worth the effort in dealing effectively with the disease. It is important to maintain communication with State and Federal authorities on the latest information concerning the development of and treatment of EAB because the strategies change frequently as new information becomes available.

The council has developed an "Iowa Emerald Ash Borer Readiness Plan" that can assist Dubuque in dealing with this pest. The 25 page document can guide Dubuque through the entire process—from understanding the risks to dealing with the eventual infestation.

See the Appendix (Page 94) for the portions of the EAB plan that would benefit Dubuque.

b. Oak Wilt Policy
Oak Wilt was observed at Bunker Hill Golf Course and at Eagle Point Park. In response, an Oak Wilt Policy should be developed and implemented to assist in properly monitoring this disease.

Annual tree inspections should identify where Oak Wilt is active in Dubuque. The City Forester shall perform a thorough inspection of that area and identify the scope of the infestation. Infected trees on public property should be isolated and treated by approved methods to control the spread of Oak Wilt. Where sanitation is the preferred method, the infected materials must be removed and treated to kill the Oak Wilt fungus.

Dubuque's policy should clearly state how they will deal with Oak Wilt infected trees that are on private property. The City should authorize the Forester to be able to inspect trees on private property and if deemed necessary, allow for the enforcement methods needed to control the spread of Oak Wilt.

4. Coordination Among Departments

Improved communication regarding tree planting and removal as well as interdepartmental workload coordination will improve the effectiveness of the urban forest effort.

Tracking the number and species of trees planted and removed each year is integral to maintaining an effective tree management plan. Interdepartmental coordination methods must be developed to track the planting and removal of trees when they fall outside of the forestry's workload, so that the Forestry's section maintains an accurate count of such activities.

In order to efficiently clear streets and debris from larger storms and natural disasters, trained around-the-clock workers are needed. Current staffing levels do not allow this; therefore, formal assistance agreements should be developed between departments. Staff should be cross-trained on equipment in order to be able to come to the aid of other departments. Providing assistance to the Forestry Department for other non-tree related duties would allow Forestry staff to concentrate on providing manpower for work related to the trees in the urban forest.

UPDATE MAINTENANCE PROGRAM:

1. Annual Tree Inspections

Annual tree inspections are used to understand the general health of the urban forest, identify trees that have health issues and assist in scheduling specific maintenance needs. Tree inspections should be performed annually on both street and park trees. At a minimum, the street trees require a drive-by inspection and the parks should have walk through or an all-terrain vehicle drive-by inspection. Both inspections should identify specific needs which should then be prioritized.

These inspections should identify improper planting depth, insect or disease problems, hazardous conditions and other tree health concerns. Hazardous trees are a risk to public safety and should be given high priority. Identification, condemnation and removal of hazardous trees near the rights-of –way will eliminate trees that are most likely to fall onto public properties. This reduces the need for storm related debris removal by the Forestry Department.

In addition to the annual tree inspection, the City can also reduce hazardous conditions by doing area inspections after each significant storm resulting in tree damages. The Forestry department should identify the storm affected area and inspect for new hazardous trees, adding them to the work schedule as necessary.

2. Pruning Cycle

A regular pruning cycle is a critical factor in maintaining a healthy urban forest. Shifting from a reactive to a proactive management system will increase the quality, care and vitality of the City's trees. It will also help to alleviate the cost of deferred maintenance which often results in expensive storm damage cleanup or additional pruning and removal costs.

Research by Robert Miller and William Sylvester for the City of Milwaukee shows that the length of pruning cycle has a significant effect on tree value. They state in their resulting article "An Economic Evaluation of the Pruning Cycle" that:

> *"…longer pruning cycles result in reduced tree value, with the decline in value accelerating over time. Savings to the City may be realized by longer pruning cycles, but only at a loss in tree value. This loss in value exceeds savings once the pruning cycle is extended to and beyond five years."* [4]

As a modest goal, Dubuque should strive for no greater than a 7 year pruning cycle with goal of reducing the cycle to 5 years over time. Young trees should be pruned 2 to 3 times in the first four years.

3. Bundling of Contractual Services

It is advantageous in some circumstances to use private contractors to provide some tree- related services. When storms or disease create a backlog of high priority maintenance needs, hiring private contractors can be effective in reducing the backlog. While contractors are assisting with the emergency backlog reduction, City crews can work on the normally scheduled work. When City crews may not have the optimal equipment or training to safely perform high-risk tasks, hiring a contractor transfers the risk.

Project specifications should be written according to the City's requirements and be placed out for bid. All tree contractors hired to work within the City should be required to carry a business license and insurance as well as a bond that covers workman's compensation and liability. Contractors should also be required to have an International Society of Arboriculture (ISA) Certified Arborist or Certified Tree Worker on staff. As an alternative to a required ISA Certification, the City could interview contractors to determine if they have the proper staff and equipment and are capable of the specified work .

4. Tree Healthcare Program

To maintain the health of the urban forest, a tree healthcare program should be implemented. The focus of this program should be proactive and preventative care. Preventing or correcting problems before they compromise the health and integrity of the tree reduces the Forestry departments' future workload.

a. Specifications for Planting

Planting specifications should be developed and enforced. These specifications should have provisions that allow the planting manager to inspect the tree stock before planting so that unhealthy trees or trees with girdling roots can be identified and rejected or corrected prior to planting. In addition, specifications should outline the proper planting depth with an approved planting pit depth to eliminate girdling roots. Research has shown that trees planted with the root collar greater than 2 inches below grade will likely suffer severe root collar rot which makes the trees susceptible

to high winds or death. Planting specifications should clearly identify that trees should be planted with the root collars at finish-grade level.

b. Fertilization
Newly planted trees should receive an application of root stimulator solution at planting time to promote a strong root system and healthy growth. This is an extremely effective fertilization application when planting in urban soils.

Because it is impractical to do soil samples and extensive fertilization on thousands of trees, additional fertilization should be limited to trees that exhibit signs of nutrient deficiency. These trees should be identified through the annual tree inspection program. Often trees needing fertilization will exhibit visible signs such as chlorotic leaves (yellowing of leaves which is an indication of lack of iron). Each of these identified trees can then be treated individually.

MODIFY THE UNIFIED DEVELOPMENT CODE:

Consider the following modifications to the Unified Development Code (UDC):

1. Apply the Unified Development Code Conservation Subdivision Checklist

Consider using the UDC checklist for conservation subdivisions as the application for all major subdivisions.

2. Woodland Protection

Modify the UDC to include a provision for regulating the development of wooded areas 2 acres in size or larger or groves of trees with 10 or more individual trees having a diameter of at least 12 inches and a canopy cover of at least 50 percent of the area encompassed by the trees. As part of the site plan review, require all groves of trees and all woodlands to be delineated on the plan. Require all woodlands to be protected according to a retention requirement based upon the zoning district, with guidelines in the range of 10% retention in Commercial and Industrial zones, 20% retention in Multi-family residential zones and 50% in single family residential zones. All woodland areas retained must have a buffer of 50' from the trunks of trees to be preserved, to protect the trees. If the City determines that a required woodland area cannot be retained due to site constraints or infrastructure requirements, replacement trees must be planted at a rate of one tree for every 200 square feet of woodland removed from the retention area. Where that is not feasible, mitigation may take place by planting supplemental trees at an offsite woodland approved by the City.

3. Tree Lawn Widths

Modify the Unified Development Code from the current 5' minimum tree lawn width to correspond with the new 8' width recommendation.

Refer to Planting Specifications – Tree Lawn Width (Page 11) for more information.

4. Street Tree Requirements

As an alternate to the proposed street tree policy requiring an 8' minimum tree lawn, consider requiring street trees to be planted adjacent to the right-of-way on private property, according to the district plan, placing overstory trees within 14' of the right- of way and understory trees within 8' of the right of way. If conditions preclude planting adjacent the right-of-way, require street trees to be planted within the tree lawn area if the 8' minimum requirement exists and other site conditions permit. The quantity of trees shall be placed according to the length of frontage. Recommended spacing shall be a minimum ratio of one tree for every 45' for overstory trees and every 30' for understory trees. On corner lots require only one overstory tree for every 60' of frontage. Tree planting permits shall be required as a way to ensure that the neighborhood district planting plan *(Page 9)* is implemented.

RETROFIT FOR NARROW TREE LAWNS:

Narrow trees lawns are prevalent in many areas of Dubuque, leading to a decline in the urban forest and added expense in maintenance and tree removal. This issue is challenging because the existing infrastructure and rights-of -way are set and not easily modified. Modifications to the tree lawns and rights-of-way and streets should be considered on a street-by-street basis. Input from residences and businesses should be considered anytime a street upgrade or replacement project is taking place. On-street parking should be evaluated to determine the feasibility of creating larger tree lawns in specific locations through the replacement of on-street parking with curb bump-outs. This would create sufficient space for planting large canopy trees. Each reconstruction project should look creatively for opportunities to increase the urban forest canopy. When other traffic-calming measures or intersection modifications such as large roundabouts are created, the designs should be evaluated for the inclusion of canopy trees. Designs should acknowledge the possible constraints that could limit a tree lawn retrofit. These include challenges for snow removal, narrow streets, steep slopes, loss of parking, and visibility limitations near or at intersections. The classic bump-out tree retrofit may not be realistic in this climate but innovative solutions should be considered, seriously taking into account the above mentioned limitations.

See Appendix (Pages 87-89) for examples of possible tree lawn retrofits.

IDENTIFY POTENTIAL FUNDING SOURCES:

Necessary resources for implementing urban forestry projects can be raised in many creative ways. There are a number of different grant opportunities available which apply to the urban forest. Funding may come from a variety of different sources depending on the type of best management practice being implemented and the type of project. Along with typical government programs and other, more well-known grant sources, private foundations, corporations and individuals can be an excellent source of funding and should not be overlooked.

Private foundations often look for ways to make a real impact with their money, preferring specific projects and new programs that require funding to proceed. They are also required by law to give money away each year.

Many major corporations give financial assistance through grants, cash and matching gifts. Banks and financial institutions are typically strong supporters of community and economic development. Larger retail stores often have some funds to apply locally in addition to larger grant programs. Corporations may have

matching gift programs that can double contributions from their employees to be applied to a community program.

Large companies occasionally look to develop partnerships with nonprofits, schools and local governments for sponsorship relationships where the exclusive rights to market their products are given in return for money.

The following is a list compiled from various sources to be used as a resource for acquiring funding. These funding opportunities change frequently and thus, this list is not meant to be exhaustive, but instead meant to stimulate ideas for further research.

Funding Sources

Utility companies
Iowa Department of Natural Resources
Iowa Department of Transportation
Trees Forever
Iowa Department of Economic Development
USDA Forest Service
Community Foundation of Greater Dubuque
The Environmental Protection Agency
Other private trusts and foundations
Corporations
Philanthropists and other individuals

Grant and Giving Programs

Alliant Energy and Trees Forever – Branching Out Program
Iowa DOT Iowa's Living Roadways Projects Program
Iowa Statewide Transportation Enhancement Funding
Iowa DNR – REAP City Parks and open spaces grant program
Iowa DNR – REAP Conservation Education Program
Iowa Great Places (if funded)
Dubuque Racing Association Grant Program
USDA Cooperative Forestry Assistance Grant
American Forests – Greenworks
American Forest – Global ReLeaf (only for ecosystem damaged by natural causes, insects, diseases, misguided treatment by humans, or other causes.)
Home Depot – Building Healthy Communities Grant Program
Walmart – State and National Giving Programs
John Deere Foundation – Community Betterment Program
Andersen Corporate Foundation
U.S. Bankcorp Foundation
Diamond Jo Casino – Diamond Conservation Fund

VI. Bibliography Footnotes

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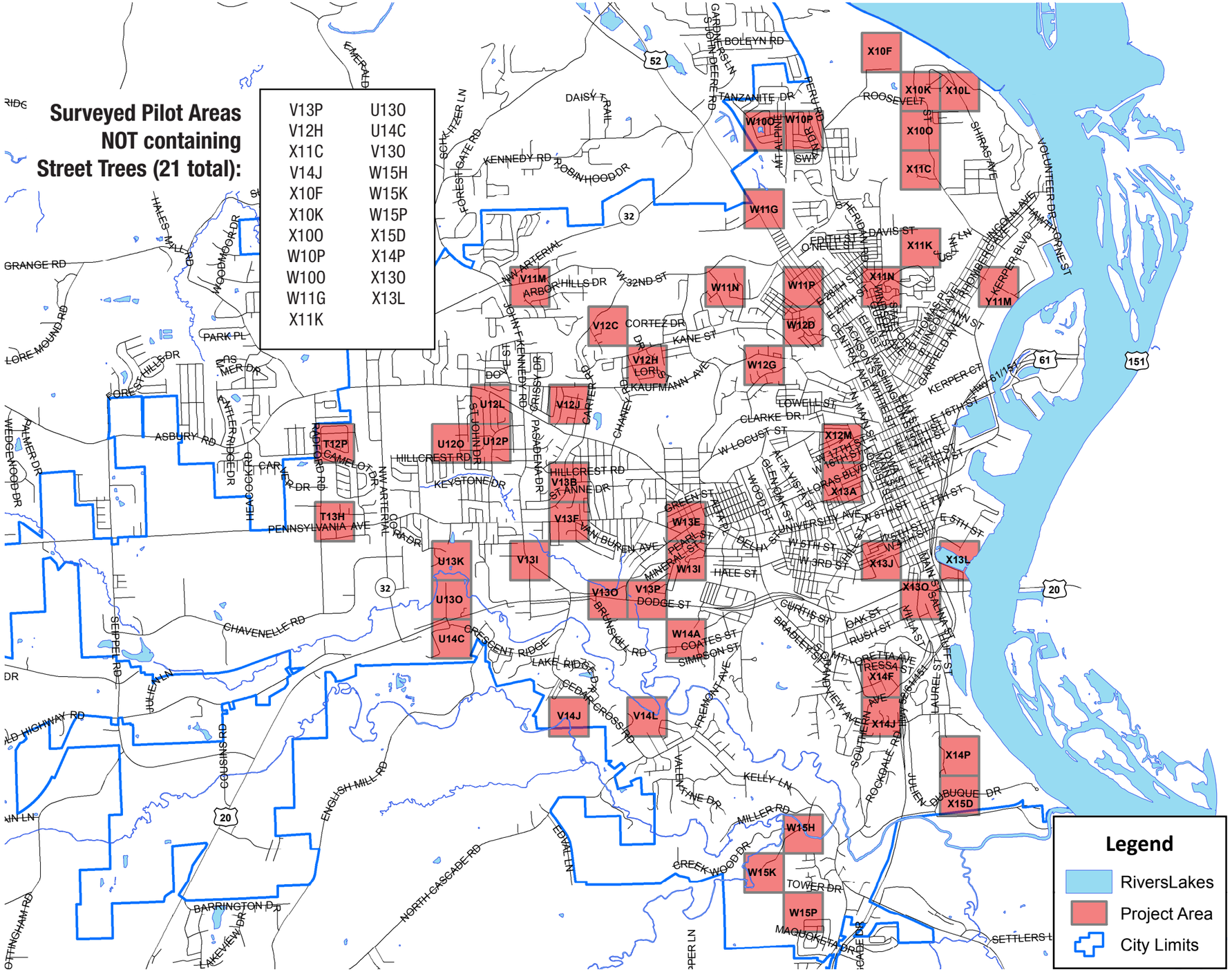


PILOT AREA LOCATOR MAP

STREET TREE SURVEY

DUBUQUE, IOWA

This page identifies symbols and abbreviations used in the street tree field data section of this report.

The street tree tally sheets contain raw data collected for each tree included in the survey. Each entry identifies the location (address) of the tree, boulevard width, species, size, condition, and general comments. An additional column indentifies areas that are well suited for future tree planting. The raw data taken from this survey was used to generate conclusions about the condition of the urban forest in the City of Dubuque.

Following the tally sheets are a series of plot maps that identify the location of each surveyed street tree within the context of the pilot area. In these maps, symbols identify the species of each specimen, and numbers correspond to the tree numbers indicated in the Street Tree Tally Sheets. These maps help identify how tree species are distributed within each plot.

STREET TREE SURVEY

ASSIGNMENT:

To survey a sample of the street trees in Dubuque, inspect trees within randomly selected sample plots, and collect data to provide a fair representation of the species, sizes, and conditions of street trees within the urban forest. The objective was to analyze the collected data, determine if the urban forest is in decline and, if so, identify the cause or contributing causes.

METHOD:

After studying the layout of the City, survey plots were chosen to concentrate on the older, more heavily populated portion of the City, primarily east of the NW Arterial in an effort to provide the best representation of the City's street trees. This older portion of the City contained 247 plots, representing 1,500ft x 1,500ft sections. To survey approximately 25% of this area, 49 plots were randomly selected by a computer. Two plots of the 49 were manually assigned in order to assure representation of the area located west of NW Arterial, as well as include the Grandview Avenue boulevard district.

DATA COLLECTED:

Street trees within the plots were inspected and the following data was collected for each specimen:

- Address
- Tree lawn widths (space between the curb and sidewalk)
- Tree species
- Size (diameter in inches at approximately 4.5 feet above grade)
- Condition (Good, Fair, Poor, Dead)
- Comments (general comments on condition and factors that influence condition)

Dubuque Street Trees - **Totals**

Species	Good	Fair	Poor	Dead	**Total**
American Elm	0	1	1	0	2
American Linden	17	18	3	0	38
Chinese Elm	0	0	1	1	2
Columnar Norway Maple	2	0	0	0	2
Crimson King Norway Maple	9	8	1	0	18
Eastern Redbud	0	0	1	0	1
Excelsior Ash	1	2	0	0	3
Freeman Maple	8	2	0	0	10
Green Ash	18	128	10	0	156
Hackberry	6	0	2	0	8
Hawthorne	14	1	0	0	15
Honey Locust	11	6	0	0	17
Hybrid Elm	1	0	0	0	1
Lilac Bush	1	0	0	0	1
Littleleaf Linden	7	4	1	0	12
Norway Maple	57	128	52	1	238
Ornamental Pear	37	26	5	1	69
Ornamental Pin Cherry	1	0	0	0	1
Pin Oak	0	2	1	0	3
Red Flowering Crabapple	31	8	0	0	39
Red Maple	20	16	1	0	37
Red Oak	0	4	0	0	4
Schwedler Norway Maple	2	9	1	0	12
Serviceberry	1	0	0	0	1
Siberian Elm	0	0	1	0	1
Silver Maple	5	37	7	0	49
Sugar Maple	22	28	9	0	59
Sycamore	0	1	0	0	1
White Ash	15	6	0	0	21
White Flowering Crabapple	20	2	0	0	22
White Oak	0	1	0	0	1
Total	306	438	97	3	844

Figure 3: Street Tree Species by Condition

Tree Abbreviations (TALLY SHEETS)

Free M	Freemanii Maple
Blk M	Black Maple
NM	Norway Maple
RM	Red Maple
SM	Silver Maple
SUM	Sugar Maple
AM	Amur Maple
BE	Box Elder
OBE	Ohio Buckeye
HCN	Horse Chestnut
Blk A	Black Alder
PB	Paper Birch
RB	River Birch
BH	Bitternut Hickory
SH	Shagbark Hickory
CC	Chinese Chestnut
Cat	Catalpa
HB	Hackberry
ERB	Eastern Redbud
HT	Hawthorn
RusO	Russian Olive
AB	American Beech
EB	European Beech
WA	White Ash
GA	Green Ash
BA	Blue Ash
GK	Ginkgo
HL	Honeylocust
BN	Butternut
KC	Kentucky Coffeetree
BW	Black Walnut
GT	Goldenrain Tree
SG	Sweetgum
TT	Tulip Tree
SauM	Saucer Magnolia
WFC	White Flowering Crabapple
RFC	Red Flowering Crabapple
MBy	Mulberry
AC	Amur Corktree
LP	London Planetree
Syc	Sycamore
WP	White Poplar
CWd	Cottonwood
BAsp	Bigtooth Aspen
QA	Quaking Aspen
PP	Purpleleaf Plum
SgtC	Sargent Cherry
BCh	Black Cherry
CC	Chokecherry
OrnP	Ornamental Pear
SawO	Sawtooth Oak
WO	White Oak
SWO	Swamp White Oak
NPO	Northern Pin Oak
SHO	Shingle Oak
BO	Burr Oak
CHO	Chinkapin Oak
PO	Pin Oak
WO	Willow Oak
ChnO	Chestnut Oak
EO	English Oak
BlkO	Black Oak
BL	Black Locust
WW	Weeping Willow
AMA	American Mountain Ash
EMA	European Mountain Ash
JTL	Japanese Lilac Tree
AL	American Linden
LL	Littleleaf Linden
SL	Silver Linden
AE	American Elm
SE	Siberian Elm
RE	Red Elm
BF	Balsam Fir
WF	White Fir
ERC	Eastern Redcedar
EL	European Larch
Ala	American Larch
NSp	Norway Spruce
WSp	White Spruce
BHS	Black Hills Spruce
CBS	Colorado Blue Spruce
AuP	Austrian Pine
PonPe	Ponderosa Pine
RP	Red Pine
WhP	White Pine
SP	Scotts Pine
DF	Douglas Fir
Bcy	Baldcypress
CHem	Canadian Hemlock
S-NM	Schwedler Norway Maple
CK-NM	Crimson King – Norway Maple

Comment Abbreviations (TALLY SHEETS)

DW	Deadwood
NE	Northeast
NW	Northwest
N	North
SE	Southeast
SW	Southwest
S	South
E	East
W	West
LP	Lift Prune
RE	Remove

Street Tree Symbols (PLOT MAPS)

- Norway Maple
- Sugar Maple
- Silver Maple
- Red Maple
- Schwedler Norway Maple
- Freemanii Maple
- Crimson King Norway Maple
- Columnar Norway Maple
- Green Ash
- White Ash
- Excelsior Ash
- American Elm
- Siberian Elm
- Chinese Elm
- Red Oak
- Willow Oak
- Pin Oak
- Red Flowering Crabapple
- White Flowering Crabapple
- American Linden
- Littleleaf Linden
- Honeylocust
- Ornamental Pear
- Hawthorn
- Hackberry
- Ornamental Pin Cherry
- Sycamore
- Lilac Bush
- Serviceberry
- Eastern Redbud
- Potential Tree Location

PLOT X14J - Middle Class - Single Family Residential - 5/11/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	1500 S. Grandview	2.5'	NM	17.5"	F-P		Middle Top / Removed - Wires / Lean S
2	1470 S. Grandview	2.5'	GA	13"	P		Wires - top, middle RE / Lean S / DW
3	1460 S. Grandview	2.5'	SUM	18"	F-P		Wires - top, middle RE / Structural Defect

PLOT X14F - Lower Middle Class - Single Family Residential - 5/11/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	825 Southern Ave.	none	AE	multi. 6"	P		Growing at base of utility pole.
2	960 Tressa St.	2'	SUM	13"	P		S side - wire trim / N lean - V cretch
3	465 Esther St. on Tressa	2'	SM	25"	F		Crown leaves sparse / sidewalk broken
4	465 Esther St.	2'	SM	29"	P		Top dieback / walk broken / root rot with conks
5	933 Tressa St.	2'	NM	13"	P		Roots problem - girdle / planted too deep

PLOT V14L - Upper Middle Class - Single Family Residential - Well Landscaped - 5/12/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	2499 Knob Hill Dr.	4'	HL	20"	G-F		Thin crown
2	2499 Knob Hill Dr.	4'	HL	15"	G-F		
3	2515 Knob Hill Dr.	4'	SM	4"	G		Young
4	2535 Knob Hill Dr.	4'	S-NM	9"	F-P		Poor Base - flat / thin crown - DW
	2520 Knob Hill Dr.	4'				2	
	2490 Knob Hill Dr.	4'				2	
	2505 Knob Hill Dr.	4'				1	
5	2535 Knob Hill Dr.	4'	S-NM	11.5"	F-G		Lack root flare - west side
6	2545 Knob Hill Dr.	4'	GA	16"	F		Lean S
7	2545 Knob Hill Dr.	4'	GA	12"	F		Crooked trunk
8	2545 Knob Hill Dr.	4'	GA	16"	F		DW minor
9	2555 Knob Hill Dr.	4'	GA	27"	F		
	2559 Knob Hill Dr.	4'				1	
10	2565 Knob Hill Dr.	4'	NM	7"	P		Too deep - stunted / storm damaged
11	2575 Knob Hill Dr.	4'	GA	22"	F-P		Lean S / DW / Lionstail Prune
12	2575 Knob Hill Dr.	4'	SM	19"	P-F		Lean S
	2575 Knob Hill Dr.	(16" and 8" Stumps)					
	2580 Knob Hill Dr.	4'				2	
	2570 Knob Hill Dr.	4'				2	
13	2560 Knob Hill Dr.	4'	GA	22"	F		Lionstail trim
	2560 Knob Hill Dr.	4'				2	
	2560 Knob Hill Dr. on Beacon	4'				1	
14	2540 Knob Hill Dr.	4'	GA	7"	F-G		
15	2540 Knob Hill Dr.	4'	GA	9"	F-G		Lean NE
16	2540 Knob Hill Dr.	4'	WA	9"	F		Poor leaf color / no root flare
17	2540 Knob Hill Dr. on Beacon	4'	SM	12"	F		
18	2540 Knob Hill Dr. on Beacon	4'	Free M	12"	F		
	2478 Beacon Hill					1	
	2477 Beacon Hill					1	

PLOT V13F - Middle Class - Single Family Residential - 5/12/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	1815 Horizon Ct.	4'	NM	20"	P		Root system
	1810 Horizon Ct.	4'				1	
	1780 Horizon Ct.	4'				1	
2	1760 Horizon Ct.	4'	AL	5"	G		

3	1882 Carter Rd.	4'	AL	5"	G		
	1879 Carter Rd.	4'				1	
	1880 Carter Rd.	4'				1	
	1880 Carter Rd. on Carter Ct.	4'				1	
4	1872 Carter Ct.	4'	RM	18"	F-G		
5	1876 Carter Ct.	4'	RM	12"	F-P		Root system / leaves stunted
	1870 Carter Ct.	4'				1	
6	1868 Carter Rd. on Carter Ct.	4'	WA	8"	F-G		Graft enlarged
7	1867 Carter Rd.	4'	SM	1"	P-F		Dieback top
8	1867 Carter Rd.	4'	GA	22"	F-G		
9	1865 Carter Rd.	4'	SUM	2"	P		Still staked - dieback / poor leaf color
10	1868 Carter Rd.	4'	GA	22"	G-F		
11	1866 Carter Rd.		NM	5"	G		Columnar variety
12	1864 Carter Rd.		NM	8"	G		

PLOT V13B - Middle Class - Single Family Residential - 5/12/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	1884 Carter Rd.	4'	GA	22"	G		
2	1886 Carter Rd.	4'	GA	30"	G		
	1888 Carter Rd.	4'				1	
	1890 Carter Rd.	4'				1	
3	1892 Carter Rd.	4'	GA	21"	F		Lean W / broken top branch
4	1896 Carter Rd.	4'	RM	2"	G		
5	3050 St. Anne Dr. on Carter Rd.	4'	RM	2"	F-P		Poor color leaves
	3070 St. Anne Dr. on Carter Rd.	4'				2	
6	1891 Carter Rd.	4'	GA	18"	F-P		Sparse leaves / root system
7	1887 Carter Rd.	4'	NM	7"	F		
8	1895 Carter Rd.	4'	NM	20"	F-P		Dieback / root problems
9	1893 Carter Rd.	4'	NM	22"	F-P		Root problems

	1881 Carter Rd.	4'				1	
10	1883 Churchill Dr.	4'	SM	12"	F-P		Root problems / poor shape
11	3020 St. Anne Dr.	4'	NM	24"	F		
12	1865 Horizon Ct.	4'	OrnP	3"	G		
13	1855 Horizon Ct.	4'	GA	20"	F-P		Trunk cracked
	1840 Horizon Ct.	4'				1	
	1845 Horizon Ct.	4'				1	
14	1825 Horizon Ct.	4'	GA	24"	F-P		Lean E / needs LP / walk lifting
15	1820 Horizon Ct.	4'	SM	24"	F		

PLOT W13E - Middle Class - Older - Single Family Residential - 5/12/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	1720 Avoca St.	2'	NM	12"	P		Trunk seam / lean W
2	2435 Pearl St.	2'	HL	20"	F-P		Lionstail / wires
3	1710 Asbury	3'	NM	24"	P		
4	1770 Asbury	4'	NM	8"	F		

PLOT W13I - Middle Class - Older - Single Family Residential near College- 5/12/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	1201 McCormick	4'	RO	22"	F-P		Wires
2	1201 McCormick	4'	RO	26"	F-P		Wires
3	2305 Mineral St.	3.5'	SM	12"	F		Trunk wounds / roots

PLOT X13J - Lower Middle Class - Older - Single Family Residential - 5/13/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
	625 W. 5th St.	8'				1	
	637 W. 5th St.	8'				1	
1	645 W. 5th St.	8'	NM	14"	P		Planted too deep / stress - dieback
2	657 W. 5th St.	8'	AL	24"	F		Minor dieback

3	631 W. 5th St.	8'	NM	19"	P		Dieback - trunk seams / root problems
4	694 W. 5th St.	8'	AL	18"	F		Minor dieback
5	692 W. 5th St.	8'	NM	14"	F		Top - wires pruned
6	672 W. 5th St.	8'	NM	18"	P		Top - wires RE / hollow and decay
7	672 W. 5th St.	8'	NM	19"	P		DW - wires
8	656 W. 5th St.	8'	NM	24"	P		Center top - wires pruned / DW extensive
	640 W. 5th St.	8'				1	
8A	480 Gilmore St. on W. 5th	8'	HL	28"	F		Wires pruned
	610 W. 5th St.	8'				1	Wires - ornamental
9	615 Cooper Pl.	4'	S-NM	23"	F-P		Root system / DW - decay
10	605 Cooper Pl.	4'	S-NM	28"	P		Lean NE / DW - decay
11	601 Cooper Pl.	4'	S-NM	22"	F		Lean S
12	595 Cooper Pl.	4'	NM	20"	F		Lean W / circling roots
13	595 Cooper Pl.	4'	NM	20"	P		Sparse - thin / root problem - interior / lean S
14	514 Fenelon Pl.	4'	AL	24"	F		Wires - center removed / Lean N
15	524 Fenelon Pl.	4'	AL	24"	F		Minor DW
16	541 Fenelon Pl.	5'	HL	24"	F-G		Minor dieback
17	565 Fenelon Pl.	5'	NM	10"	F-G		
18	583 Fenelon Pl.	5'	GA	22"	F		
19	583 Fenelon Pl.	5'	GA	20"	P		Lean S / large borer holes
	607 Fenelon Pl.	4'				2	
20	Vacant Lot	4.5'	AL	26"	P		Severe storm damage
	Vacant Lot	4.5'				1	
21	663 Fenelon Pl.	4.5'	GA	26"	F		Lean S
	689 Fenelon Pl.	4.5'				1	
22	695 Fenelon Pl.	4.5'	HL	26"	G		Root damage / walk repair
23	695 Fenelon Pl. on Summit	4'	NM	18"	F		
24	695 Fenelon Pl. on Summit	4'	NM	14"	F-P		Some buttress problems
25	449 Summit St.	4'	NM	9"	G		
26	447 Summit St.	4'	NM	16"	F		
27	443 Summit St.	4'	NM	26"	F		Lean E
28	419 Summit St.	4'	HT	4"	G		LP
29	709 Fenelon Pl. on Summit	4'	NM	12"	F-G		Roots
30	709 Fenelon Pl.	4'	SUM	16"	P		Dead bark / center dead
	725 Fenelon Pl.	4'				1	
31	727 Fenelon Pl.	4'	SUM	28"	F-G		
32	731 Fenelon Pl.	4'	WO	32"	F-P		Anthraenose - early leaves / late frost leaf damage
33	732 Fenelon Pl.	4'	NM	6"	F-G		Not full crown
	710 Fenelon Pl.	4'				1	
34	710 Fenelon Pl. on Summit	4'	SM	12"	F		
35	690 Fenelon Pl.	4'	CK-NM	12"	G		
	658 Fenelon Pl.	4'				1	
36	642 Fenelon Pl.	4'	NM	12"	P		Planted too deep / storm damage
	630 Fenelon Pl.	4'				1	
	608 Fenelon Pl.	4'				1	
37	584 Fenelon Pl.	4'	GA	18"	G		
38	755 W. 3rd St.	14'	GA	29"	F		Sparse crown
39	755 W. 3rd St.	14'	NM	24"	F-G		
40	741 W. 3rd St.	14'	GA	17"	F-P		Shaded by yard tree
	729 W. 3rd St.	14'				1	
41	719 W. 3rd St.	14'	GA	18"	F		Lean S
42	705 W. 3rd St.	14'	GA	16"	F-G		Lean S
43	691 W. 3rd St.	14'	NM	20"	F-G		
	633 W. 3rd St.	14'				1	
	629 W. 3rd St.	14'				1	
44	629 W. 3rd St.	14'	NM	21"	P		Half dead
45	609 W. 3rd St.	14'	NM	24"	F-P		Storm damaged
46	477 W. 3rd St.	14'	GA	14"	F		
47	475 W. 3rd St.	14'	GA	26"	F-G		

	579 W. 3rd St.					2	
	567 W. 3rd St.					1	
	553 W. 3rd St.					1	
	541 W. 3rd St.					2	
	521 W. 3rd St.					1	
	Vacant Lot, west of 477					3	
48	461 W. 3rd St.	14'	NM	16"	F		Root collar
49	461 W. 3rd St.	14'	GA	14"	F		
50	Vacant lot	14'	GA	26"	F-G		
51	435 W. 3rd St.	14'	GA	24"	G		
52	433 W. 3rd St.	14'	GA	25"	G		
53	421 W. 3rd St.	14'	GA	25"	F-G		Some trunk scars
54	315 Bluff St. on 3rd	14'	AL	18"	F-P		Sparse top / scars at base
55	W. of Bluff St. on 3rd	2'	AL	16"	P		Wires -scars / planted too deep
56	440 W. 3rd St.	2'	NM	7"	P		Wires / scars on trunk
57	462 W. 3rd St.	2'	AL	10"	P		Center - wires / no root flare
58	489 W. 4th St.	2'	NM	17"	F-P		Lean S
59	471 W. 4th St.	2'	NM	9"	F-P		Dieback / scar N side base
60	409 W. 4th St.	3'	HL	20"	G-F		
61	454 W. 4th St.	3'	HL	18"	F-P		Wires

PLOT X13A - Middle Class - Older - Single Family + College Residential - 5/13,17/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	459 Loras Blvd.	3'	SUM	22"	F-G		Dieback / scar N side of base
2	469 Loras Blvd.	3'	AL	14"	F-P		Steel support past / DW
3	517 Loras Blvd.	4'	SUM	5"	F		Support - guy wires
4	525 Loras Blvd.	4'	SUM	9"	G		
5	561 Loras Blvd.	4'	SM	32"	P		Sparse Leaves / DW / hollow
6	515 Arlington St.	3'	OrnP	6"	G		
7	555 Arlington St.	4'	SUM	6"	F-G		Crown defect
8	567 Arlington St.	4'	OrnP	5"	F-P		Scar on N side
9	579 Arlington St.	4'	OrnP	6"	G		
10	603 Arlington St.	4'	C-NM	8"	G		
	609 Arlington St.	4'				1	
11	623 Arlington St.	4'	WA	9"	G		
12	637 Arlington St.	4'	C-NM	9"	G		
13	637 Arlington St.	4'	OrnP	5"	F-G		
14	649 Arlington St.	4'	OrnP	6"	G		
15	649 Arlington St.	4'	OrnP	6"	G		
16	649 Arlington St. on Prairie	7'	AL	21"	G		
17	649 Arlington St. on Prairie	7'	AL	22"	F		Crown - not full
18	1349 Prairie St.	7'	AL	22"	F-G		
19	1295 Prairie St.	7'	NM	11"	F		
20	655 Chestnut St. on Prairie	7'	NM	14"	G		
21	1296 Arlington St. on Prairie	7'	NM	14"	P		Dieback / scar S side
22	1296 Arlington St.	4'	NM	8"	F		Wires
23	647 Chestnut St.	3.5'	WA	4"	G		
24	643 Chestnut St.	3.5'	ChE	2"	P		Poor leaf / crown misshapen
25	643 Chestnut St.	3.5'	OrnP	5"	F		
26	631 Chestnut St.	3.5'	RFC	4"	G		
27	609 Chestnut St.	3.5'	NM	3"	F		Wires
28	609 Chestnut St.	3.5'	NM	1"	F		
29	509 Chestnut St.	3.5'	NM	3"	F		
30	507 Chestnut St.	3.5'	WA	5"	G		
31	1245 Highland St. on Chestnut	3.5'	RM	12"	G		
32	1245 Highland St. on Chestnut	3.5'	ChE	3"	D		Bark removed / DEAD-RE
33	1245 Highland St. on Chestnut	3.5'	GA	10"	F		
34	552 Chestnut St.	4'	GA	10"	F		Lean NW
35	552 Chestnut St.	4'	NM	5"	G		Stakes and guy wires still on
35A	574 Chestnut St.	4'	NM	3"	F		Vines - shaded by other trees
36	604 Chestnut St.	4'	HL	7"	F-G		Lean NE

37	632 Chestnut St.	4'	WA	4"	G		
38	632 Chestnut St.	4'	SM	9"	F		
39	632 Chestnut St.	4'	NM	4"	G		
40	632 Chestnut St.	4'	S-NM	4"	G		
41	632 Chestnut St.	4'	NM	4"	F-G		Root problems
42	1136 Prairie St.	7'	NM	16"	F-G		Root problems
43	1206 Prairie St.	7'	AL	20"	G		
	1206 Prairie St.	7'				1	
	658 Chestnut St. on Prairie	7'				1	
44	1209 Prairie St.	7'	AL	22"	F		Root problems
45	1209 Prairie St.	7'	AL	21"	F-G		
46	653 W. 11th St. on Prairie	7'	RFC	4"	G		
47	653 W. 11th St. on Prairie	7'	RFC	4"	G		
48	653 W. 11th St. on Prairie	7'	GA	9"	G		
49	653 W. 11th St. on Prairie	10'	HL	22"	G		
50	641 W. 11th St.	10'	NM	14"	F		Dieback
51	641 W. 11th St.	10'	NM	21"	G		
52	605 W. 11th St.	10'	AL	29"	G		
53	605 W. 11th St.	10'	AL	21"	F		Root problems
54	595 W. 11th St.	10'	RM	13"	F		
	563 W. 11th St.	10'				2	Wires - ornamental
55	570 W. 11th St.	10'	SUM	13"	F		Dieback / roots
56	584 W. 11th St.	10'	SM	24"	F-P		Root problems / lionstail pruning
57	596 W. 11th St.	10'	NM	16"	F		Crowded
58	596 W. 11th St.	10'	NM	17"	F		Trunk seam / DW
59	596 W. 11th St.	10'	NM	18"	F-P		Dieback
60	596 W. 11th St.	10'	NM	18"	F-G		
61	630 W. 11th St.	10'	Free M	2"	G		Recently Planted - guy wired
62	630 W. 11th St. on Spruce	3'	Free M	2"	G		Recently Planted - guy wired
63	630 W. 11th St. on Spruce	3'	Free M	2"	G		Recently Planted - guy wired
64	636 W. 11th St. on Spruce	3'	NM	6"	F		Wires
65	636 W. 11th St.	10'	SUM	10"	F-P		Dieback / too deep
66	1209 Walnut St.		S-NM	7"	F-P		Scars on SW side / shaded
67	1209 Walnut St.		SUM	12"	P		Deep decaying scar / RE
68	1209 Walnut St.		SUM	6"	F		Shaded
69	1209 Walnut St.		SUM	10"	F		Poor shape
70	705 Rose St.	4'	GA	29"	F		Lean S
71	705 Rose St.	4'	NM	22"	F-G		Root
72	721 Rose St.	4'	GA	25"	F-P		Dieback / lean S
73	761 Rose St.	4'	SM	28"	F-P		Dieback in crown
74	785 Rose St.	4'	NM	22"	F-P		Dieback / storm damage
75	764 Rose St.	3'	NM	10"	F-P		No flare
76	764 Rose St. on Race	6'	RO	28"	F-P		Dieback
77	1170 Race St.	6'	RO	31"	F		
78	732 Rose St. on Race	6'	HB	20"	P		Large scar / storm damaged

PLOT X12M - Lower Middle Class - Residential + LT Business - 5/17/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	Just W of 599 Almond St.	3'	SM	26"	F		
2	595 Almond St.	3'	GA	22"	F-G		
3	575 Almond St.	3'	NM	16"	F		Root
4	595 Almond St.	3'	NM	4"	G		
5	519 Almond St.	3'	NM	26"	P-F		Structural defects
6	471 Almond St.	3'	NM	31"	P		Structural defects - decay / RE
7	417 Almond St.	3'	NM	26"	F		Structural problems
8	409 Almond St.	3'	NM	20"	F		Minor dieback / root issue
9	1990 Ellis St.	7'	S-NM	19"	F		
10	1972 Ellis St.	7'	SM	24"	F-G		
	1954 Ellis St.	7'				1	
11	1918 Ellis St.	5'	GA	26"	F		Scars
12	1906 Ellis St.	5'	OrnP	7"	G		
13	1850 Ellis St.	5'	NM	4"	F-G		

14	1836 Ellis St.	5'	GA	18"	F-G		
15	1836 Ellis St.	5'	NM	12"	F-G		
16	433 W. Locust St.	3'	HL	28"	F		
17	569 W. Locust St.	3'	GA	24"	F-P		Wires - center trim
18	575 W. Locust St.	3'	GA	21"	F-P		Wires - center trim
19	575 W. Locust St.	3'	AL	19"	F		Wires - center trim / vehicle damage
20	595 W. Locust St.	3'	GA	30"	P		
	655 W. 17th St.	8'				1	
21	635 W. 17th St.	8'	HL	12"	G		
22	595 W. 17th St.	8'	ExA	32"	G		
23	531 W. 17th St.	8'	ExA	31"	F-P		Dieback / girdling root
24	511 W. 17th St.	8'	AL	34"	G		
	481 Clark St.	8'				1	
	455 Clark St.	8'				1	
	449 Clark St.	8'				1	
25	443 Clark St.	8'	GA	7"	G		
	439 Clark St.	8'				1	
26	419 Clark St.	8'	HB	16"	P		No flare / trunk scar / decay
27	440 Clark St.	4'	CK-NM	18"	F		
28	440 Clark St.	4'	NM	21"	F		
29	440 Clark St. on W. 17th	4'	NM	14"	F		Storm damage
30	440 Clark St. on W. 17th	4'	NM	7"	F		
31	532 W. 17th St.	8'	S-NM	15"	F		
32	556 W. 17th St.	8'	NM	15"	F-G		
33	566 W. 17th St.	8'	ExA	38"	F-P		Wires - trim

PLOT W12G - Middle Class - Single Family Residential - 5/17/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	695 Kaufmann Ave.	4'	SM	36"	G		
2	847 Spires Dr.	3.5'	AE	14"	F		
3	847 Spires Dr. on Kuhn	3.5'	WA	4"	G		
4	2445 Clarke Crest Dr.	3.5'	GA	14"	F		Leaves sparse
5	2415 Clarke Crest Dr.	3.5'	GA	14"	G		LP
6	2415 Clarke Crest Dr.	3.5'	GA	12"	F-P		Scar - large / storm damage or truck
7	2415 Clarke Crest Dr.	4'	GA	21"	G		
8	804 Lacey Ct.	4'	Orn PC	1.5"	G		
9	907 Farrell Ct.	4'	SUM	10"	F		
10	906 Farrell Ct.	4'	NM	9"	G		
11	906 Farrell Ct.	4'	NM	9"	G		
12	902 Farrell Ct.	4'	RM	8"	P		Large scar S side

PLOT W12D - Middle Class - 5/19/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	2753 Central Ave.	3'	NM	18"	F		
2	2747 Central Ave.	3'	SM	4"	F		
3	430 Gay St.	3'	NM	20"	P		Structural problem / sparse leaves
4	2578 Greeley St.	2'	NM	16"	F		Lean W
5	2620 Greeley St.	2'	OrnP	10"	F		
6	2720 Pleasant View Dr. on Ventura	2'	SE	2 trunk, 18" 12"	P		
7	2777 Pleasant View Dr.	2'	NM	12"	D		Girdling root / planted too deep
8	2777 Pleasant View Dr.	3' -	GA	28"	F		Vehicle damage N side
9	2743 Ventura Dr.	2' +	NM	15"	P		Girdling root / planted too deep
10	2725 Ventura Dr.	2'	NM	3"	G		
11	2725 Ventura Dr.	2'	NM	14"	P		Roots / planted too deep

PLOT W11P - Lower Income Residential Housing - 5/19/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	2825 Davenport St. on Sabula	3'	CK-NM	1"	G		
2	2825 Davenport St. on Sabula	3'	NM	10"	F		Girdling root
3	2870 Davenport St.	4'	CK-NM	12"	G		
4	2890 Davenport St.	3'	NM	16"	F		Minor dieback
5	2780 Central Ave.	3'	GA	16"	F-P		Wire trimmed / minor dieback
6	2780 Central Ave.	3'	GA	17"	F-P		Wire trimmed / minor dieback
7	2833 Central Ave.	3'	RFC	4"	F		
8	2921 Central Ave.	3'	NM	12"	P		Girdling root / planted too deep / dieback
9	2921 Central Ave.	2'	NM	7"	F		Shaded
10	2921 Central Ave.	2'	NM	6"	F-P		Shaded / dieback
11	3011 Central Ave.	3'	NM	3"	G		
12	3029 Central Ave.	3'	GA	16"	F-P		Large scar - E side
13	3029 Central Ave.	3'	GA	16"	F		
14	3063 Central Ave.	3'	NM	11"	F		Trunk Seam
15	3087 Central Ave.	3'	RM	12"	F		Dieback
16	3040 Lemon St.	4'	SM	22"	F		Lean NW
17	3034 Lemon St.	4'	NM	6"	F-G		
18	3034 Lemon St.	4'	NM	5"	G		
19	3030 Lemon St.	4'	NM	12"	G		
20	3000 Central Ave. on 30th	4'	GA	17"	F-G		Needs pruning
21	111 E. 30th St.	4'	GA	17"	P		Bad scar / decay
22	3000 Jackson St. on E. 30th	3'	GA	12"	F		
23	2834 Jackson St.	3'	GA	28"	F		Cut - roots
24	2845 Jackson St.	3'	GA	31"	F		
25	2885 Jackson St.	3'	GA	28"	F		
26	2904 Jackson St.	3'	GA	26"	F-P		Large scar - NW side
27	2910 Jackson St.	3'	NM	4"	G		
28	2919 Jackson St.	3'	WA	7"	F		Crown not full
29	2920 Jackson St.	3'	GA	26"	F		Minor dieback
30	2930 Jackson St.	3'	GA	26"	F		Minor dieback
31	2967 Jackson St.	3'	NM	6"	F		Root issues
32	2914 Washington St.	3'	GA	20"	F		Cable braced
33	2912 Washington St.	3'	GA	21"	F		

PLOT X11N - Lower Middle Class - Residential Housing - 5/19/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	2758 Burden St. on Strauss	3'	GA	23"	G		
2	2758 Burden St. on Strauss	3'	GA	14"	F		Dieback
3	2811 Buena Vista St. on Strauss	3'	GA	21"	F		
4	2795 Buena Vista St. on Strauss	3'	GA	20"	G		
5	855 Strauss St.	3'	GA	21"	F		Wire trimmed
6	2790 Buena Vista St. on Strauss	3'	HL	20"	G		
7	2790 Strauss St.	3'	NM	17"	F		
8	2782 Strauss St.	3'	PO	2"	P		Chlorotic
9	2660 Queen St.	3'	NM	12"	F		Roots
10	2640 Queen St.	3'	Free M	1.5"	G		
11	2363 Queen St.	3'	AL	8"	G		
12	2363 Queen St. on Clinton	3'	AL	8"	G		
13	2363 Queen St. on Clinton	3'	AL	16"	F		
14	2363 Queen St. on Clinton	3'	AL	8"	G		
15	2636 Queen St. on Clinton	3'	AL	8"	G		
16	2614 Queen St.	3'	GA	21"	F		
17	2614 Queen St.	3'	AL	12"	F		

PLOT Y11M - Lower Middle Class - Lt. Industry - 5/19/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	1635 Garfield	3.5'	NM	10"	G		
2	1685 Garfield	3.5'	GA	8"	F-P		Planted too deep / roots
3	1701 Block of Garfield	3.5'	NM	4"	F-P		
4	1701 Block of Garfield	3.5'	GA	13"	F-P		Dieback
5	1701 Block of Garfield	3.5'	Syc	11"	F-P		Anthraenose
6	1701 Block of Garfield	3.5'	NM	4"	G		
7	Kerper Blvd.	28'	RFC	3"	G		
8	Kerper Blvd.	28'	RFC	3"	G		
9	Kerper Blvd.	28'	HT	3"	G		
10	Kerper Blvd.	28'	HT	3"	G		
11	Kerper Blvd.	28'	RFC	3"	G		
12	Kerper Blvd.	28'	RFC	3"	G		
13	Kerper Blvd.	28'	RFC	5"	G		
14	Kerper Blvd.	28'	RFC	2"	G		
15	Kerper Blvd.	28'	HT	2"	G		
16	Kerper Blvd.	28'	Lilac		G		
17	Kerper Blvd.	28'	RFC	4"	G		
18	Kerper Blvd.	28'	RFC	4"	G		
19	Kerper Blvd.	28'	RFC	4"	G		
20	Kerper Blvd.	28'	WFC	4"	G		
21	Kerper Blvd.	28'	WFC	4"	G		
22	Kerper Blvd.	28'	HT	2"	G		
23	Kerper Blvd.	28'	HT	2"	G		
24	Kerper Blvd.	28'	RFC	1"	G		
25	Kerper Blvd.	28'	RFC	4"	G		

PLOT W11N - Upper Middle Class - Residential Housing + Apartments - 5/19/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	2980 Wildwood Dr.	3'	NM	7"	F		
2	2975 Wildwood Dr.	3'	NM	9"	F		
3	2975 Wildwood Dr.	3'	OrnP	11"	F		
4	2965 Wildwood Dr.	3'	RM	14"	G		
5	2960 Wildwood Dr.	3'	NM	15"	P		DW / Girdling roots
6	2960 Wildwood Dr.	3'	RM	16"	G		
7	2935 Wildwood Dr.	3'	NM	12"	G		
8	2920 Wildwood Dr.	3'	NM	10"	F		Storm damage - minor
9	2910 Wildwood Dr.	3'	GA	19"	G		
10	2888 Wildwood Dr.	3'	RM	8"	F		
11	2884 Wildwood Dr.	3'	GA	11"	G		
12	2899 Wildwood Dr.	3'	NM	6"	G		
13	2873 Wildwood Dr.	3'	NM	3"	F		
14	2876 Wildwood Dr.	3'	GA	16"	F		
15	2870 Wildwood Dr.	3'	NM	10"	P		Large scar / decay
16	2873 Wildwood Dr.	3'	GA	16"	F		
17	2865 Wildwood Dr.	3'	Free M	1"	G		
18	2865 Wildwood Dr.	3'	Free M	1"	G		
19	2822 Wildwood Dr.	3'	SB	4"	G		
20	2822 Wildwood Dr.	3'	ERB	12"	P		
21	2899 Wildwood Dr. on Meadow	3'	RM	7"	F		
22	2882 Meadow Wood	3.5'	OrnP	1.5"	F-G		
23	2879 Meadow Wood	3.5'	SUM	8"	G		
24	2874 Meadow Wood	3.5'	GA	16"	G		
25	2854 Meadow Wood	3.5'	NM	12"	G		
26	2839 Meadow Wood	3.5'	SM	12"	F		

PLOT V11M - Upper Middle Class - Residential - 5/19/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	3187 Highland Park	4'	OrnP	3"	F-P		Poor leaf color
2	3030 Arbor Hills Dr.	4'	NM	8"	G		
3	3053 Arbor Hills Dr.	4'	NM	16"	G		
4	3066 Arbor Hills Dr.	4'	AL	8"	G		
5	3102 Arbor Hills Dr.	4'	PO	14"	F		Chlorotic
6	3123 Arbor Hills Dr.	4'	GA	14"	G		
7	3118 Arbor Hills Dr.	4'	GA	14"	G		
8	3123 Arbor Hills Dr.	4'	S-NM	3"	G		
9	3136 Arbor Hills Dr.	4'	CK-NM	6"	F-P		Scar on W side
10	3136 Arbor Hills Dr.	4'	RM	8"	F-P		Planted too deep

11	3143 Arbor Hills Dr.	4'	RM	7"	G		
12	3154 Arbor Hills Dr.	4'	LL	8"	G		
13	3172 Arbor Hills Dr.	4'	NM	5"	G		
14	3172 Arbor Hills Dr.	4'	SUM	4"	G		
15	2999 Olde Contry Ln.	4'	NM	3"	G		
16	3110 Castle Woods	4'	OrnP	3"	D		
17	3110 Castle Woods	4'	RM	6"	G		
18	3110 Castle Woods	4'	RM	5"	G		
19	3110 Castle Woods	4'	RM	5"	G		
20	3110 Castle Woods	4'	RM	5"	G		
21	2950 Wilderness	4'	HL	9"	G		
22	3085 Castle Woods	4'	OrnP	6"	G		
23	3085 Castle Woods	4'	OrnP	5"	F		Color is off
24	3055 Castle Woods	4'	SM	8"	F		

PLOT U12L - Middle Class - Single Family Residential - 5/19/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	3398 Venture Ct.	3.5'	NM	6"	G		
2	3394 Venture Ct.	3.5'	CK-NM	1"	G		
3	3386 Venture Ct.	3.5'	GA	15"	F		
4	3380 Venture Ct.	3.5'	NM	8"	F		
5	3375 Venture Ct.	3.5'	GA	10"	F		
6	3391 Venture Ct.	3.5'	GA	15"	F		
7	3391 Venture Ct.	3.5'	SM	12"	F		
8	2244 Delmonaco	3.5'	GA	20"	F		
9	2244 Delmonaco	3.5'	NM	8"	F		
10	2243 Delmonaco	3.5'	GA	20"	G		
11	2247 Delmonaco	3.5'	NM	12"	P		Root problems / girdling root
12	2247 Delmonaco on Dana	3.5'	SUM	10"	F		Root problems
13	3470 Dana	3.5'	NM	4"	G		
14	3472 Dana	3.5'	CK-NM	1"	G		
15	2293 Southway	4'	NM	12"	F		
16	2293 Southway	4'	RM	12"	F		
17	2289 Southway	4'	NM	10"	P		Planted too deep / girdling root
18	2289 Southway	4'	NM	11"	F		Planted too deep
19	2287 Southway	4'	GA	19"	F		
20	2287 Southway	4'	CK-NM	1"	G		
21	2283 Southway	4'	GA	18"	F		
22	2277 Southway	4'	SM	21"	F		
23	2273 Southway	4'	RM	10"	F-P		Scars / DW
24	2273 Southway	4'	SM	20"	F		
25	2261 Southway	4'	SUM	10"	F		
26	2243 Southway	4'	NM	12"	F-P		Dieback / girdling root
27	2237 Southway	4'	NM	12"	F		
28	2229 Southway	4'	NM	13"	F		Roots
29	2213 Southway	4'	GA	17"	F		
30	2209 Southway	4'	GA	24"	F		
31	2210 Southway	4'	GA	21"	F		
32	2226 Southway	4'	SM	6"	F		
33	2230 Southway	4'	GA	7"	F		
34	2246 Southway	4'	GA	14"	F		
35	2250 Southway	4'	SM	14"	F		
36	2256 Southway	4'	CK-NM	1"	G		
37	2208 Graham Circle	3.5'	GA	18"	F		DW
38	2224 Graham Circle	3.5'	OrnP	10"	F		
39	2224 Graham Circle	3.5'	OrnP	12"	G		
40	2236 Graham Circle	3.5'	OrnP	13"	F		
41	2240 Graham Circle	3.5'	OrnP	5"	F		
42	2246 Graham Circle	3.5'	OrnP	10"	G		
43	2252 Graham Circle	3.5'	OrnP	10"	F		
44	2258 Graham Circle	3.5'	OrnP	4"	G		
45	2262 Graham Circle	3.5'	OrnP	13"	F		
46	2270 Graham Circle	3.5'	OrnP	10"	G		
47	2280 Graham Circle	3.5'	OrnP	5"	G		
48	2280 Graham Circle	3.5'	OrnP	10"	G		
49	2282 Paisey Ct.	3.5'	OrnP	13"	F		
50	2284 Paisey Ct.	3.5'	OrnP	9"	F		
51	2288 Paisey Ct.	3.5'	AL	10"	G		
52	2290 Graham Circle	3.5'	OrnP	13"	F		
53	2290 Graham Circle	3.5'	GA	17"	F		
54	2290 Graham Circle	3.5'	OrnP	14"	F		
55	OMIT	3.5'					
56	2306 Graham Circle	3.5'	OrnP	14"	F		
57	2306 Graham Circle	3.5'	OrnP	12"	G		
58	2306 Graham Circle	3.5'	OrnP	12"	G		
59	2305 Graham Circle	3.5'	OrnP	10"	F		

60	2299 Graham Circle	3.5'	OrnP	11"	F		
61	2295 Graham Circle	3.5'	OrnP	12"	G		
62	2279 Graham Circle	3.5'	OrnP	14"	P		Large scar
63	2279 Graham Circle	3.5'	OrnP	11"	F		
64	2273 Graham Circle	3.5'	OrnP	11"	G		
65	2269 Graham Circle	3.5'	OrnP	12"	G		
66	2263 Graham Circle	3.5'	OrnP	6"	F		
67	2255 Graham Circle	3.5'	OrnP	4"	P		Basal damage
68	2251 Graham Circle	3.5'	OrnP	4"	P		Basal damage
69	2245 Graham Circle	3.5'	OrnP	11"	F		Root scars
70	2239 Graham Circle	3.5'	OrnP	11"	G		
71	2235 Graham Circle	3.5'	OrnP	6"	F		
72	2231 Graham Circle	3.5'	OrnP	10"	F		Not full crown
73	2221 Graham Circle	3.5'	OrnP	6"	G		
74	2215 Graham Circle	3.5'	OrnP	12"	G		
75	2207 Graham Circle	3.5'	RM	10"	F		Root
76	2212 St. John Dr.	4'	NM	6"	G		
77	2234 St. John Dr.	4'	GA	12"	P		DW / no basal flare
78	2238 St. John Dr.	4'	NM	10"	F		Storm damage
79	2244 St. John Dr.	4'	GA	20"	F		
80	2250 St. John Dr.	4'	NM	10"	P		No flare / scars / planted too deep / lean W
81	2256 St. John Dr.	4'	SUM	2"	G		
82	2278 St. John Dr.	4'	WA	7"	F		
83	2280 St. John Dr.	4'	GA	21"	F		
84	2275 St. John Dr.	4'	GA	12"	F		
85	2269 St. John Dr.	4'	GA	16"	F		DW
86	2263 St. John Dr.	4'	CK-NM	9"	F		
87	2235 St. John Dr.	4'	SM	27"	F		
88	2233 St. John Dr.	4'	GA	19"	P		Large scar / decay
89	2211 St. John Dr.	4'	NM	4"	G		

PLOT U12P - Middle Class - Single Family Residential - 5/19/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	2209 St. John Dr.	4'	GA	19"	F		DW
2	2199 St. John Dr.	4'	GA	22"	G		
3	2195 St. John Dr.	4'	SUM	4"	F		Scars on base
4	2185 St. John Dr.	4'	GA	19"	F		DW
5	2181 St. John Dr.	4'	NM	8"	G		
6	2163 St. John Dr.	4'	SUM	10"	G		
7	2155 St. John Dr.	4'	GA	23"	F		
8	2145 St. John Dr.	4'	GA	21"	F		
9	2129 St. John Dr.	4'	SM	24"	F		
10	2129 St. John Dr. on Graham Circle	3.5'	GA	17"	F		
11	2127 Graham Circle	3.5'	SM	13"	P		Storm damage
12	2126 Graham Circle	3.5'	GA	26"	F		
13	2128 Graham Circle	3.5'	SM	29"	F		
14	3535 Hillcrest Rd. on St. John	4'	SUM	12"	P		No root flare / planted too deep
15	3535 Hillcrest Rd. on St. John	4'	GA	18"	F		
16	2130 St. John Dr.	4'	SUM	3"	P		Vehicle damage
17	2154 St. John Dr.	4'	GA	12"	P		Storm damage
18	2162 St. John Dr.	4'	GA	21"	F-P		Dieback
19	2172 St. John Dr.	4'	SUM	12"	F		Roots
20	2172 St. John Dr. on West Way	4'	RM	16"	F		Roots
21	2172 St. John Dr. on West Way	4'	SM	17"	F		DW
22	2184 St. John Dr. on West Way	4'	SUM	18"	P		Dieback / planted too deep / girdling root
23	2184 St. John Dr. on West Way	4'	RM	13"	F-P		Dieback / planted too deep / no root flare
24	2184 St. John Dr.	4'	OrnP	9"	G		
25	2186 St. John Dr.	4'	NM	9"	G		
26	2194 St. John Dr.	4'	NM	12"	F		
27	2195 Graham Circle	3.5'	Free M	5"	F		
28	2191 Graham Circle	3.5'	GA	18"	F		DW
29	2187 Graham Circle	3.5'	GA	14"	F		
30	2185 Graham Circle	3.5'	GA	14"	F-P		DW / dieback
31	2173 Graham Circle	3.5'	GA	20"	F		DW
32	2173 Graham Circle	3.5'	GA	22"	F		DW
33	2173 Graham Circle	3.5'	GA	16"	F		DW
34	2169 Graham Circle	3.5'	GA	2"	P		DW / shaded
35	2159 Graham Circle	3.5'	GA	22"	F		
36	2149 Graham Circle	3.5'	NM	8"	G		

37	2139 Graham Circle	3.5'	WA	5"	G		
38	2131 Graham Circle	3.5'	GA	15"	F		
39	2130 Graham Circle	3.5'	GA	25"	F		
40	2132 Graham Circle	3.5'	SUM	4"	G		
41	2134 Graham Circle	3.5'	GA	24"	F		
42	2146 Graham Circle	3.5'	GA	22"	F		
43	2148 Graham Circle	3.5'	GA	25"	F		
44	2168 Graham Circle	3.5'	NM	10"	F		
45	2170 Graham Circle	3.5'	OrnP	1"	G		
46	2170 Graham Circle	3.5'	Free M	1"	G		
47	2174 Graham Circle	3.5'	GA	21"	F		DW
48	3502 West Way	4'	NM	2"	G		
49	3503 West Way	4'	SM	18"	F-P		Scars
50	3503 West Way	4'	RM	11"	F		
51	2184 Graham Circle on West Way	4'	GA	21"	F		
52	2184 Graham Circle	3.5'	GA	19"	F		
53	2186 Graham Circle	3.5'	NM	9"	G		
54	2190 Graham Circle	3.5'	NM	10"	F		Crown not full
55	2194 Graham Circle	3.5'	GA	18"	F		
56	2194 Graham Circle	3.5'	GA	12"	F		
57	2198 Graham Circle	3.5'	NM	9"	F		Dieback
58	2204 Graham Circle	3.5'	RM	3"	G		
59	2187 Key Way Dr.	4'	NM	1"	F		
60	2187 Key Way Dr. on Delmonico	3.5'	SM	3"	F		
61	2187 Key Way Dr. on Delmonico	3.5'	SM	1"	G		
62	2187 Key Way Dr. on Delmonico	3.5'	GA	13"	F		
63	2195 Delmonico	3.5'	GA	16"	F		
64	2183 Key Way Dr.	4'	NM	10"	F		
65	2181 Key Way Dr.	4'	NM	10"	F		
66	2194 Southway	4'	GA	10"	F-P		DW / lean
67	2205 Southway	4'	WA	6"	G		
68	2193 Southway	4'	GA	20"	F-P		DW / scars
69	2105 Key Way Dr.	4'	OrnP	6"	G		
70	3501 Hillcrest Rd.	4'	LL	14"	G		
71	2090 Hillcrest Rd.	4'	LL	18"	G		
72	2093 Hillcrest Rd.	4'	SUM	16"	G		
73	3422 Foothill Rd.	4'	NM	4"	G		
74	3404 Foothill Rd.	4'	SM	10"	F		
75	3390 Foothill Rd.	4'	LL	14"	F		
76	2132 Key Way Dr.	4'	PO	8"	F		Chlorotic
77	2138 Key Way Dr.	4'	SUM	1"	F		Stressed
78	2180 Key Way Dr.	4'	SM	7"	F		
79	2184 Key Way Dr.	4'	HL	12"	G		

PLOT U120 - Older Middle Class - Residential - 5/19/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	2045 Woodrow Dr.	3'	GA	12"	F		
2	3610 Woodrow Dr.	3'	SUM	12"	F		
3	3610 Woodrow Dr.	3'	GA	14"	F-P		Roots
4	3610 Woodrow Dr. on Hillcrest	2'	GA	10"	F-P		Dieback
5	3610 Woodrow Dr. on Hillcrest	2'	GA	7"	F-P		Thin / DW / dieback / roots
6	3610 Woodrow Dr. on Hillcrest	2'	GA	13"	F		Roots / scars
7	3610 Woodrow Dr. on Hillcrest	2'	NM	9"	P		Large scar
8	3610 Woodrow Dr. on Hillcrest	2'	GA	12"	F		
9	3620 Hillcrest Rd.	2'	NM	9"	F-P		Planted too deep / girdling roots
10	3637 Keymeer	3.5'	LL	6"	G		Roots
11	3631 Keymeer	3.5'	SUM	3"	F		Top damaged
12	3626 Keymeer	3.5'	GA	18"	F		
13	2080 Winne Ct.	3.5'	AL	14"	G		
14	2094 Hillcrest Rd.	2'	GA	10"	F		
15	2094 Hillcrest Rd.	2'	GA	10"	F		
16	2094 Hillcrest Rd. on Ellen	3.5'	GA	14"	G		
17	2086 Ellen	3.5'	GA	14"	F-P		Structural defects
18	2070 Ellen	3.5'	NM	12"	P		Roots
19	2097 Ellen	3.5'	SUM	9"	G		
20	2097 Ellen on Hillcrest	2'	NM	16"	P		Scars / dieback / roots
21	2092 Hillcrest Rd.	2'	NM	16"	P		No root flare / dieback

22	2092 Hillcrest Rd.	2'	GA	21"	F		
23	2092 Hillcrest Rd. on Grant	3.5'	CK-NM	1"	F		Scar
24	2076 Grant	3.5'	GA	21"	G		
25	2095 Hillcrest Rd.	2'	NM	9"	P		Dieback / no root flare
26	2111 Hillcrest Rd. on St. Celia	3.5'	GA	12"	F		
27	2110 Graham Circle	4'	OrnP	8"	G		
28	2112 Graham Circle	4'	WA	8"	G		
29	2120 Graham Circle	4'	GA	2"	F		DW
30	2113 Graham Circle	4'	SUM	13"	G		
31	2105 Graham Circle	4'	NM	5"	F-P		Planted too deep / dieback
32	2105 Graham Circle on St. Celia	3.5'	HB	13"	G		
33	2150 St. Celia	3.5'	HB	13"	G		
	2104 Graham Circle	4'				1	
	2116 Graham Circle	4'				1	
	2109 Graham Circle	4'				1	
34	2168 St. Celia	3.5'	HB	13"	G		
35	2174 St. Celia	3.5'	HB	11"	G		
36	2180 St. Celia	3.5'	GA	12"	G		
37	2180 St. Celia on West Way	4'	RM	10"	F		Girdling root
38	2190 St. Celia on West Way	4'	LL	13"	F		
39	2190 St. Celia on West Way	4'	AL	10"	F-P		Basal damage
40	2190 St. Celia on West Way	4'	HL	12"	G		
41	2198 St. Celia	3.5'	SUM	2"	G		
42	2204 St. Celia	3.5'	SUM	4"	F		Planted too deep / girdling root
43	2203 St. Celia	3.5'	SUM	2"	G		
44	2201 St. Celia	3.5'	SUM	5"	G		
45	2195 St. Celia	3.5'	CK-NM	10"	F		Minor defects
46	2183 St. Celia	3.5'	NM	6"	P		Basal damage
47	2177 St. Celia	3.5'	HB	12"	G		
48	2173 St. Celia Ct.	3.5'	NM	7"	G		
49	2165 St. Celia Ct.	3.5'	WA	22"	F		DW / girdling root
50	2159 St. Celia Ct.	3.5'	HB	14"	G		
51	2149 St. Celia Ct.	3.5'	RM	18'	G		
52	2145 St. Celia Ct.	3.5'	HL	18"	G		
53	2139 St. Celia Ct.	3.5'	SUM	6"	G		
54	2155 Suzanne Dr.	4'	NM	10"	F		
55	2146 Suzanne Dr.	4'	GA	12"	F-P		No root flare
56	2156 Suzanne Dr.	4'	OrnP	3"	G		
57	2174 Suzanne Dr.	4'	OrnP	5"	P		Basal scar large
58	2176 Suzanne Dr.	4'	NM	2"	G		
59	2196 Suzanne Dr.	4'	HT	3"	G		
60	2208 Suzanne Dr.	4'	GA	22"	G		
61	2205 Suzanne Dr.	4'	WA	6"	G		
62	2199 Suzanne Dr.	4'	NM	6"	G		
63	2189 Suzanne Dr. on West Way	4'	RM	12"	F		
64	2189 Suzanne Dr. on West Way	4'	SM	10"	F		
65	2189 Suzanne Dr. on West Way	4'	SM	10"	F		
66	2179 Suzanne Dr. on West Way	4'	LL	18"	F		DW
67	2179 Suzanne Dr.	4'	NM	4"	G		
68	2179 Suzanne Dr.	4'	OrnP	4"	G		
69	2171 Suzanne Dr.	4'	SUM	9"	G		
70	2165 Suzanne Dr.	4'	CK-NM	7"	P		Basal scar

PLOT T12P - New - Upper Middle Class - Residential - 5/20/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	4951 Twilight Dr.	3.5'	OrnP	9"	G		
2	4951 Twilight Dr.	3.5'	OrnP	7"	G		
3	4923 Twilight Dr.	3.5'	OrnP	4"	G		
4	4917 Twilight Dr.	3.5'	RM	2"	G		
5	4917 Twilight Dr.	3.5'	RM	4"	G		
6	4911 High Cloud Dr.	3.5'	LL	5"	G		
7	4902 High Cloud Dr.	3.5'	RM	5"	G		
8	4927 Red Violet Dr.	3.5'	OrnP	4"	G		Steel post and guy wire
9	4927 Red Violet Dr.	3.5'	OrnP	4"	G		
10	2333 Sunnyslope Dr.	3.5'	OrnP	6"	G		
11	2333 Sunnyslope Dr.	3.5'	OrnP	6"	G		

12	2333 Sunnyslope Dr.	3.5'	OrnP	6"	P		Large scar / trunk ripped
13	2331 Sunnyslope Dr.	3.5'	LL	5"	G		
14	2249 Sunnyslope Dr.	3.5'	LL	4"	G		
15	2189 Sunnyslope Dr.	3.5'	WA	3"	G		
16	2189 Sunnyslope Dr.	3.5'	WA	3"	G		
17	4989 Wildflower Dr.	3.5'	WA	3"	G		
18	4916 Wildflower Dr.	3.5'	SUM	3"	P		Scars / damaged
19	4919 Wildflower Dr.	3.5'	RM	3"	F		
20	4916 Wildflower Dr.	3.5'	SUM	3"	F-P		Planted too deep
21	4902 High Cloud Dr.	3.5'	RM	6"	G		
22	2330 High Cloud Dr.	3.5'	RM	2"	G		
23	2290 High Cloud Dr.	3.5'	RM	3"	G		
24	4908 High Cloud Dr.	3.5'	SUM	4"	F		
25	4912 Gabriel Dr.	3.5'	WA	7"	G		
26	4948 Gabriel Dr.	3.5'	GA	7"	F		
27	4948 Gabriel Dr.	3.5'	GA	7"	G		

PLOT T13H - Lt. Industry - 5/20/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	4970 Northrange Ct.	3.5'	RM	6"	G		

PLOT X10L - 5/20/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	2188 Orchard Dr.	3'	CK-NM	12"	G		
2	2188 Orchard Dr.	3'	CK-NM	9"	F-P		Large scar - W side
3	2188 Orchard Dr.	3'	CK-NM	10"	F		

PLOT X10L - 5/20/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	2320 Clydesdale Ct.	3'	NM	6"	F		
2	2320 Clydesdale Ct.	3'	WA	6"	G		

PLOT U13K - Newer Upper Middle Class Residential - 5/20/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	3740 Welu Dr.	4'	SUM	10"	G		

PLOT V13I - Upper Middle Class + Business - 5/20/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	3424 Daniels	4'	NM	4"	G		
2	3408 Daniels	4'	SUM	5"	G		
3	3394 Daniels	4'	GA	21"	F		DW
4	3395 Daniels	4'	NM	20"	G		Root
5	3409 Daniels	4'	NM	18"	F		Thin crown
6	3409 Daniels	4'	NM	2"	G		
7	3409 Daniels	4'	SUM	3"	G		

PLOT W14A - Countryside Residential - 5/20/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	2215 Coates St.	3'	NM	8"	P		Too deep

PLOT V12J - Middle Class Residential - 5/20/2010

Tree #	Address	Blvd WD	Species	Size	Condition	Plant	Comments
1	2285 Woodlawn on Karen	2.5'	NM	16"	F-P		Too deep - roots - dieback in crown
2	2285 Woodlawn on Karen	2.5'	NM	14"	F-P		Girdling roots - dieback in crown
3	3050 Karen on Woodlawn	2.5'	SUM	12"	F		

Grandview Avenue - 5/20/2010

South Grandview - East Side

Address	Blvd WD	Species	Size	Condition	Plant	Comments
1276 S. Grandview	4'	NM	22"	F		
1276 S. Grandview	4'	S-NM	19"	F		
1276 S. Grandview	4'	NM	20"	F-P		Roots - dieback
1262 S. Grandview	center 15'	WFC	9"	G		
1262 S. Grandview	center 15'	WFC	5"	F		
1250 S. Grandview	4'	NM	22"	F		
1250 S. Grandview	4'	NM	22"	F		Dieback
1200 S. Grandview	4'	NM	26"	F-G		
1200 S. Grandview	center 15'	RFC	4"	F		
1160 S. Grandview	4'	SUM	28"	F		Roots
Vacant Lot	center 15'	WFC	10"	G		
Vacant Lot	4'	NM	10"	G		No flare
Vacant Lot	center 15'	WFC	8"	G		
1134 S. Grandview	4'	AL	18"	G		
1110 S. Grandview	center 15'	WFC	6"	G		
1110 S. Grandview	4'	Free M	5"	G		
1110 S. Grandview	center 15'	WFC	8"	G		
1110 S. Grandview	4'	Free M	5"	G		
1110 S. Grandview	center 15'	WFC	8"	G		
1092 S. Grandview	center 15'	RFC	3"	F		
998 S. Grandview	center 15'	RFC	4"	F		
940 S. Grandview	4'	NM	21"	F		
900 S. Grandview	4'	NM	22"	F-P		Girdling root
900 S. Grandview	4'	RM	14"	G		
888 S. Grandview	center 15'	RFC	4"	G		
880 S. Grandview	4'	SUM	24"	F		
876 S. Grandview	center 15'	RFC	8"	G		
876 S. Grandview	4'	NM	26"	F-P		Roots - DW - structure
874 S. Grandview	4'	NM	22"	G		
870 S. Grandview	4'	NM	14"	G		
864 S. Grandview	4'	SUM	10"	P		Trunk structure - cable braced
864 S. Grandview	4'	AL	22"	G		
858 S. Grandview	center 15'	WFC	6"	G		
858 S. Grandview	4'	NM	24"	F		
850 S. Grandview	4'	GA	13"	F		
850 S. Grandview	4'	NM	14"	F		
850 S. Grandview	4'	SM	26"	F		
840 S. Grandview	4'	SUM	24"	F		
830 S. Grandview	center 15'	RFC	8"	G		
830 S. Grandview	4'	NM	24"	P		Roots - dieback
820 S. Grandview	center 15'	RFC	8"	F		
810 S. Grandview	4'	NM	24"	F		
804 S. Grandview	4'	NM	28"	P		Trunk decay
760 S. Grandview	4'	SM	34"	F		
750 S. Grandview	center 15'	RFC	6"	G		
726 S. Grandview	4'	SM	36"	F		
710 S. Grandview	4'	GA	20"	F		
680 S. Grandview	4'	WA	14"	G		
658 S. Grandview	4'	NM	2"	G		
658 S. Grandview	4'	WFC	10"	G		
618 S. Grandview	4'	NM	12"	G		
618 S. Grandview	center 15'	RFC	7"	G		
612 S. Grandview	4'	NM	1"	F		
560 S. Grandview	4'	WFC	3"	G		
560 S. Grandview	4'	NM	4"	G		Under wires
550 S. Grandview	8'	RFC	4"	G		
530 S. Grandview	8'	NM	22"	P		Utility trim wires - crack - hollow
520 S. Grandview	8'	NM	20"	P		Utility trim wires
520 S. Grandview	center 15'	RFC	6"	G		
510 S. Grandview	8'	NM	20"	P		Roots - utility trim wires
490 S. Grandview	8'	SUM	5"	G		Under wires
470 S. Grandview	8'	RFC	6"	G		
450 S. Grandview	8'	NM	20"	F		Utility trim wires
440 S. Grandview	8'	GA	26"	P		Utility trim wires
440 S. Grandview	center 15'	WFC	6"	G		
430 S. Grandview	8'	NM	24"	F-P		Utility trim wires
390 S. Grandview	8'	HT	4"	G		Under wires
378 S. Grandview	8'	GA	24"	P		Vehicle - decay
376 S. Grandview	center 15'	RFC	5"	G		
376 S. Grandview	8'	HT	5"	G		
368 S. Grandview	8'	HT	4"	G		
360 S. Grandview	8'	NM	30"	P		Utility trim wires
306 S. Grandview	8'	OrnP	5"	G		
306 S. Grandview	center 15'	WFC	14"	G		
290 S. Grandview	8'	NM	23"	F		Utility trim wires - roots

264 S. Grandview	center 15'	WFC	14"	G		
264 S. Grandview	8'	NM	14"	P		Utility trim wires - roots
240 S. Grandview	8'	NM	30"	P		Utility trim wires - roots
240 S. Grandview	center 15'	WFC	10"	G		
224 S. Grandview	8'	NM	25"	P		Utility trim wires - roots
190 S. Grandview	8'	OrnP	7"	G		
190 S. Grandview	8'	NM	5"	F		Roots - under wires
150 S. Grandview	8'	NM	7"	F		Utility trim wires
142 S. Grandview	8'	NM	6"	G		
142 S. Grandview	8'	HT	3"	G		
142 S. Grandview	center 15'	WFC	12"	G		
120 S. Grandview	8'	HT	3"	G		
120 S. Grandview	center 15'	WFC	4"	G		
100 S. Grandview	center 15'	RFC	6"	G		
100 S. Grandview	center 15'	RFC	6"	F		
100 S. Grandview	8'	NM	21"	F-P		Utility trim wires
100 S. Grandview	8'	RFC	6"	G		
100 S. Grandview	8'	AL	30"	G		
74 S. Grandview	center 15'	RFC	6"	G		
74 S. Grandview	8'	RFC	6"	G		
74 S. Grandview	8'	RFC	5"	G		

North Grandview - East Side

Address	Blvd WD	Species	Size	Condition	Plant	Comments
N. of Dodge	center 15'	RFC	4"	G		
N. of Dodge	center 15'	RFC	4"	G		
24 N. Grandview	8'	HT	3"	F		Basal scar - mower
24 N. Grandview	center 15'	WFC	4"	G		
44 N. Grandview	8'	NM	20"	F		Utility trim wires
44 N. Grandview	center 15'	RFC	5"	G		
70 N. Grandview	center 15'	WFC	5"	G		
96 N. Grandview	8'	WFC	4"	F		Basal scar - mower
96 N. Grandview	8'	SM	30"	P		Utility trim wires
100 N. Grandview	8'	NM	19"	F-P		Utility trim wires
130 N. Grandview	8'	NM	7"	P		Utility trim wires
196 N. Grandview	8'	NM	14"	F		Utility trim wires - roots
210 N. Grandview	8'	HyE	6"	F-G		Under wires
260 N. Grandview	8'	NM	24"	F-P		Utility trim wires
296 N. Grandview	8'	NM	23"	F		Utility trim wires
300 N. Grandview	center 15'	WFC	12"	G		
300 N. Grandview	8'	SUM	4"	G		Under wires
Hospital	center 15'	RFC	5"	F		
Hospital	center 15'	RFC	5"	F		
Hospital	8'	NM	5"	F		Under wires
Hospital	center 15'	WFC	12"	G		

North Grandview - West Side

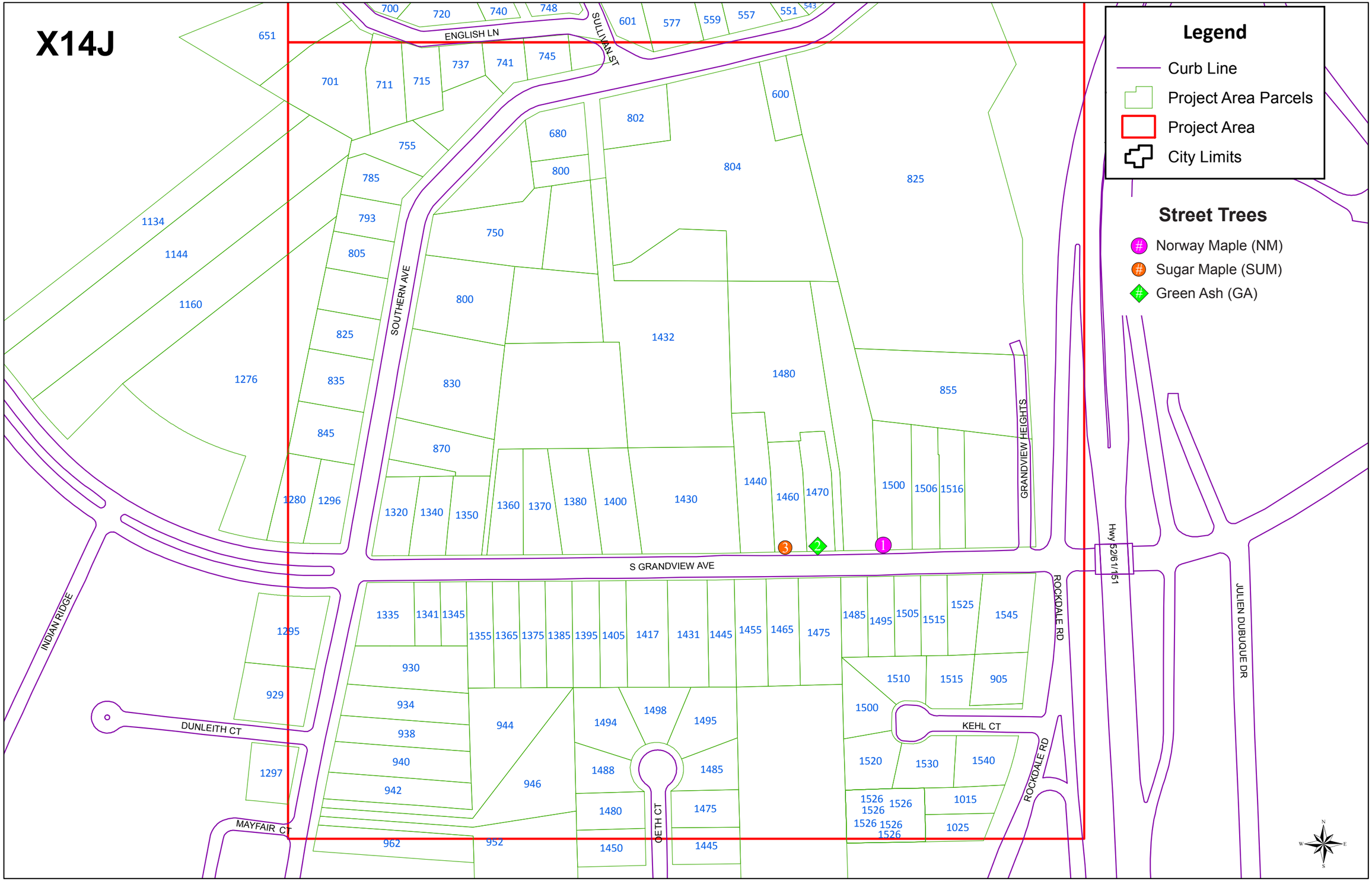
Address	Blvd WD	Species	Size	Condition	Plant	Comments
S. of Dehli	8'	CKNM	14"	F		Basal damage - mower
N. of Bennett	8'	NM	20"	P		Dieback - roots
393 N. Grandview	8'	NM	7"	F		
393 N. Grandview	8'	AL	26"	F		
361 N. Grandview	8'	SM	30"	F		Roots
345 N. Grandview	8'	SM	16"	F		
319 N. Grandview	8'	NM	20"	F-P		Decay
275 N. Grandview	8'	AL	26"	G		
275 N. Grandview	8'	NM	24"	F-P		Structure
N. of Hale	8'	NM	23"	F-G		
195 N. Grandview	8'	NM	12"	G		
187 N. Grandview	8'	SM	34"	F		
187 N. Grandview	8'	NM	12"	F		DW
131 N. Grandview	8'	AL	30"	F		Structure
127 N. Grandview	8'	NM	14"	F		
Washington School	8'	GA	18"	F		
Washington School	8'	GA	18"	F		

South Grandview - West Side

Address	Blvd WD	Species	Size	Condition	Plant	Comments
95 S. Grandview	8'	NM	24"	F		DW
N. of 185 S. Grandview	8'	GA	10"	F-G		Anthracnose
N. of 185 S. Grandview	8'	SUM	18"	F		
185 S. Grandview	8'	AL	28"	F-G		

195 S. Grandview	8'	GA	28"	G		
S. of Whelan	8'	GA	30"	F-G		
235 S. Grandview	8'	NM	16"	F		
245 S. Grandview	8'	SUM	22"	F-P		Structure
285 S. Grandview	8'	LL	28"	P		Roots
289 S. Grandview	8'	NM	1.5"	G		
325 S. Grandview	8'	CKNM	1"	G		
325 S. Grandview	8'	CKNM	1"	G		
345 S. Grandview	8'	NM	8"	F-P		Roots
373 S. Grandview	8'	NM	16"	F		Roots
379 S. Grandview	8'	GA	14"	F		Shaded
425 S. Grandview	5'	AL	28"	G		
445 S. Grandview	5'	NM	8"	G		
445 S. Grandview	8'	GA	30"	F		
459 S. Grandview	8'	SM	36"	F		
459 S. Grandview	8'	GA	6"	G		
489 S. Grandview	8'	SM	2"	G		
489 S. Grandview	8'	NM	24"	P		Large scar - decay
515 S. Grandview	8'	GA	12"	G		
535 S. Grandview	8'	NM	6"	G		
549 S. Grandview	8'	NM	16"	G		
559 S. Grandview	8'	NM	12"	G		
569 S. Grandview	8'	SM	18"	G		
589 S. Grandview	8'	NM	24"	F		
605 S. Grandview	8'	SUM	30"	F		
615 S. Grandview	8'	NM	20"	P		Structure
625 S. Grandview	8'	NM	24"	F-G		
745 S. Grandview	4'	SUM	1.5"	G		
755 S. Grandview	4'	SUM	1"	G		
775 S. Grandview	4'	NM	16"	F-P		Utility trim wires
805 S. Grandview	4'	NM	28"	P		Utility trim wires - roots
815 S. Grandview	4'	NM	10"	P		Utility trim wires
825 S. Grandview	4'	NM	15"	F		
855 S. Grandview	4'	NM	10"	F		Utility trim wires - basal scar - mower
855 S. Grandview	4'	HT	3"	G		
871 S. Grandview	4'	NM	10"	P		Scar - vehicle
975 S. Grandview	4'	LL	26"	F		Utility trim wires
999 S. Grandview	4'	WA	8"	F		Utility trim wires
1003 S. Grandview	4'	NM	28"	F-P		Utility trim wires
1105 S. Grandview	4'	OrnP	5"	G		Under wires
1109 S. Grandview	4'	NM	8"	F-P		Utility trim wires
1115 S. Grandview	4'	OrnP	8"	F-P		Utility trim wires
1125 S. Grandview	4'	HT	3"	G		
1145 S. Grandview	4'	NM	10"	P		Utility trim wires - decay
1185 S. Grandview	4'	NM	14"	P		Utility trim wires
1255 S. Grandview	4'	NM	3"	P		Basal scars - mower
1265 S. Grandview	4'	GA	18"	F-P		Utility trim wires
1275 S. Grandview	4'	NM	10"	F-P		Utility trim wires

X14J



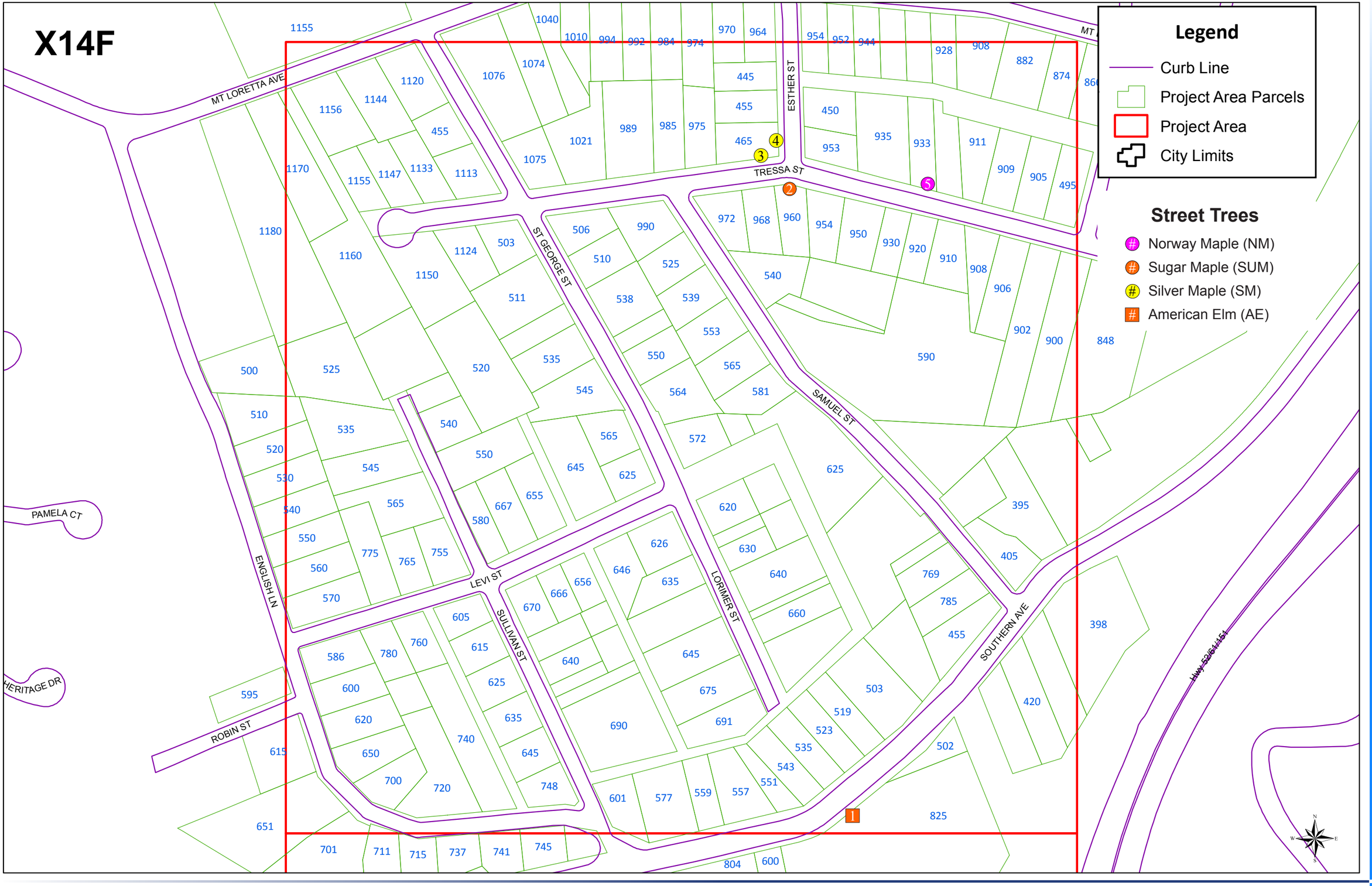
Legend

- Curb Line
- Project Area Parcels
- Project Area
- City Limits

Street Trees

- Norway Maple (NM)
- Sugar Maple (SUM)
- Green Ash (GA)

X14F


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Sugar Maple (SUM)
Silver Maple (SM)
American Elm (AE)
MT LORETTA AVE
ESTHER ST
TRESSA ST
ST GEORGE ST
SAMUEL ST
LEVI ST
SULLIVAN ST
LORIMER ST
SOUTHERN AVE
ENGLISH LN
ROBIN ST
PAMELA CT
HERITAGE DR
HWY 52/61/151
1155
1040
1010
994
992
984
974
970
964
1076
1074
1120
1144
1156
455
1170
1155
1147
1133
1113
1180
1160
1150
1124
503
511
1021
989
985
975
445
455
465
1075
954
952
944
928
908
882
874
450
935
933
911
909
905
495
953
972
968
960
954
950
930
920
910
908
906
902
900
848
590
540
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990
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525
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539
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675
691
690
670
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620
600
586
780
760
595
615
651
701
711
715
737
741
745
804
600
825
502
503
519
523
535
543
551
557
559
577
601
769
785
455
398
420
395
405
500
525
520
535
545
540
550
565
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540
550
560
570
775
765
755
667
655
580
1
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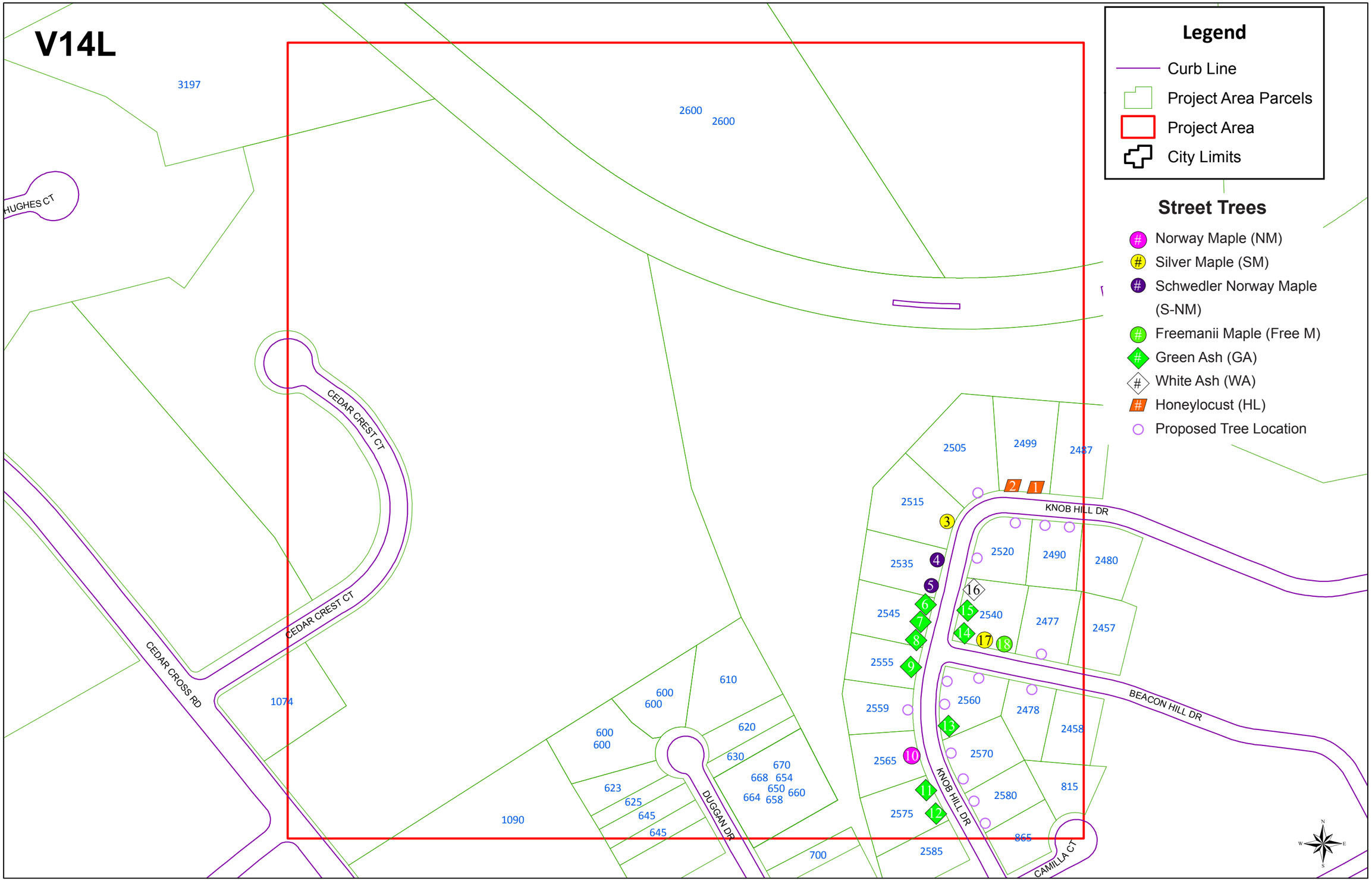
3
4
5

V14L


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Silver Maple (SM)
Schwedler Norway Maple (S-NM)
Freemanii Maple (Free M)
Green Ash (GA)
White Ash (WA)
Honeylocust (HL)
Proposed Tree Location
HUGHES CT
CEDAR CREST CT
CEDAR CROSS RD
DUGGAN DR
KNOB HILL DR
BEACON HILL DR
CAMILLA CT
3197
2600
2600
2505
2499
2487
2515
2520
2490
2480
2535
2540
2477
2457
2545
2555
2560
2478
2458
2559
2565
2570
2580
815
2575
865
2585
1074
1090
600
600
600
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620
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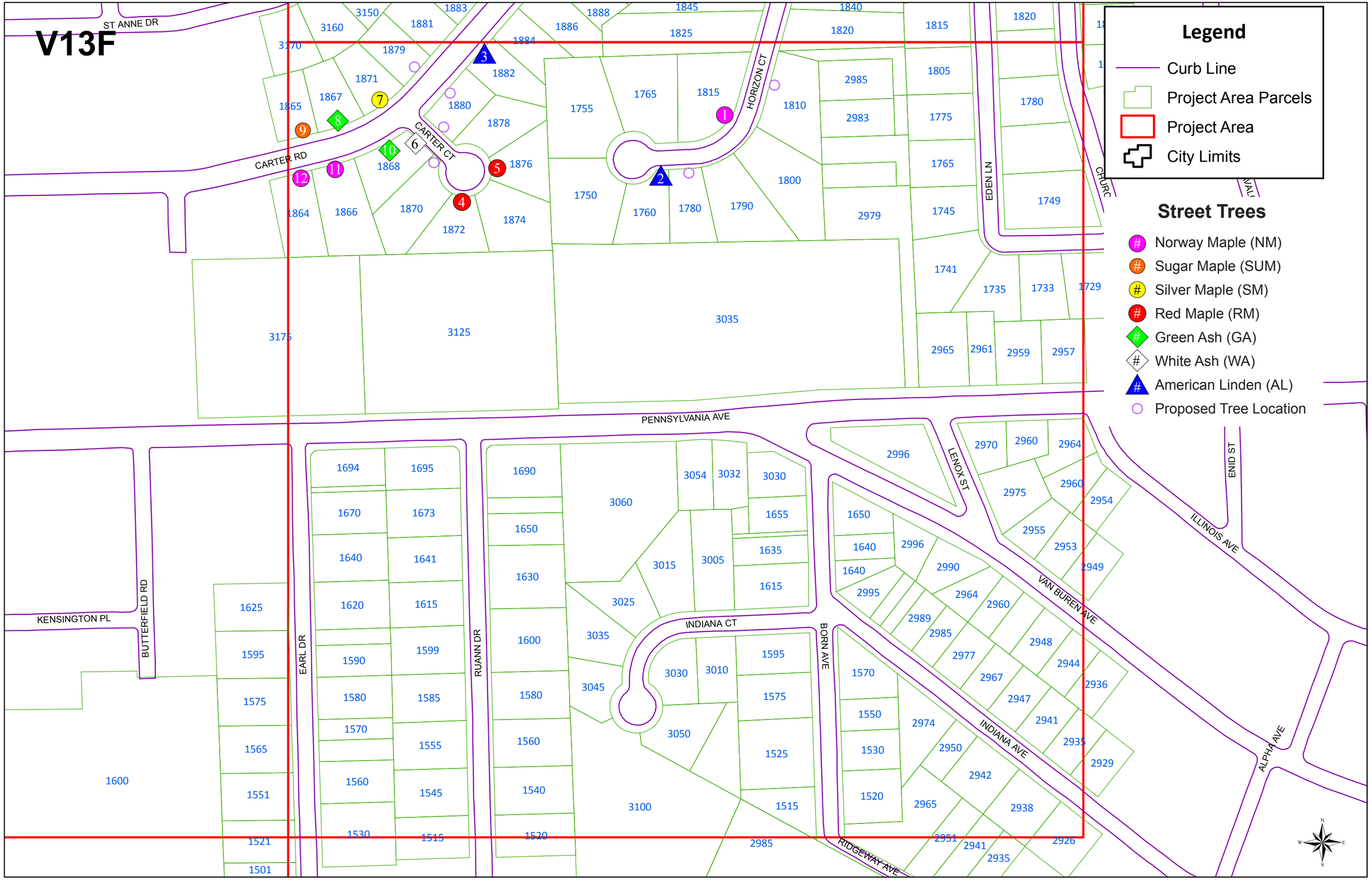
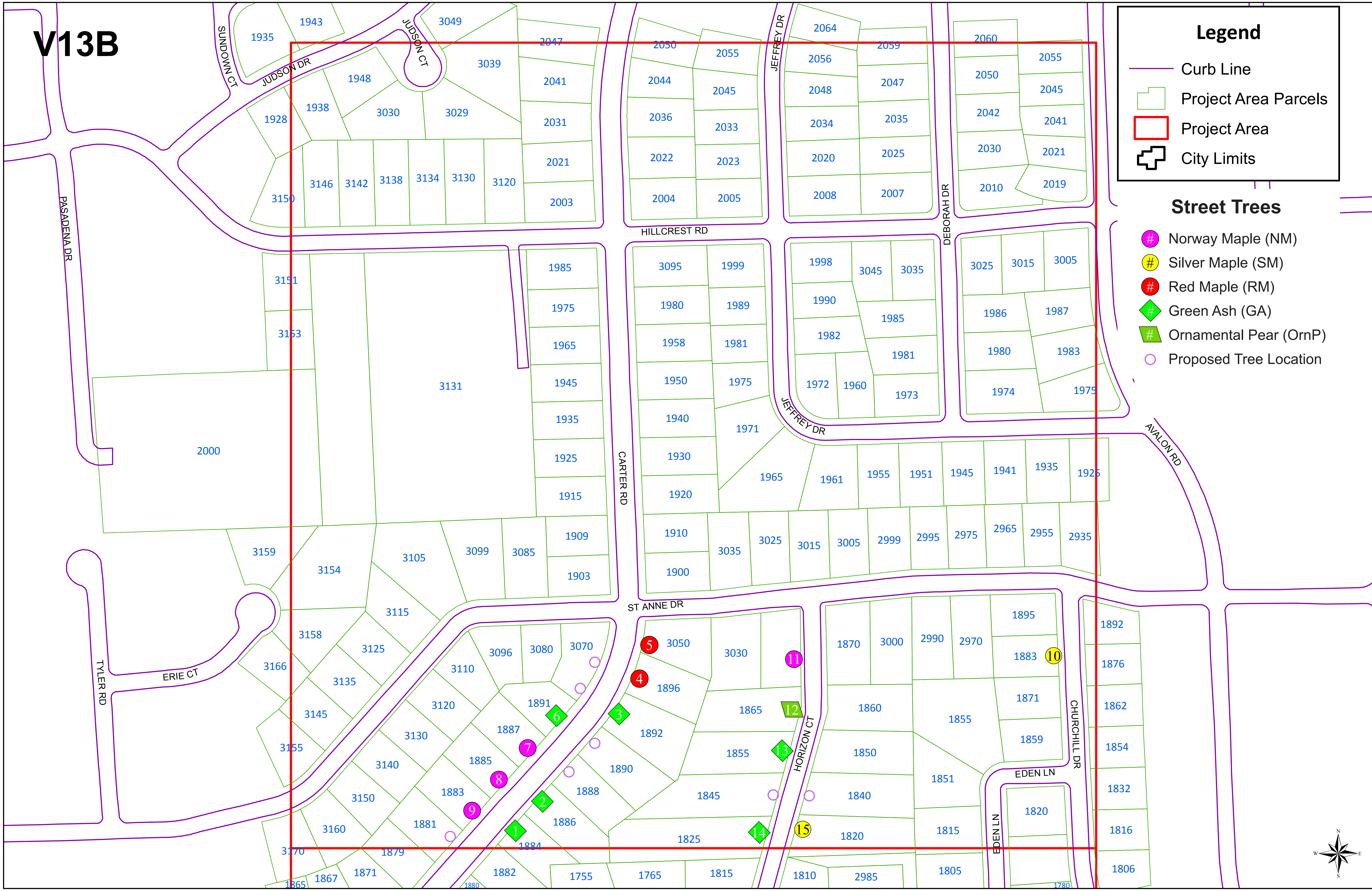
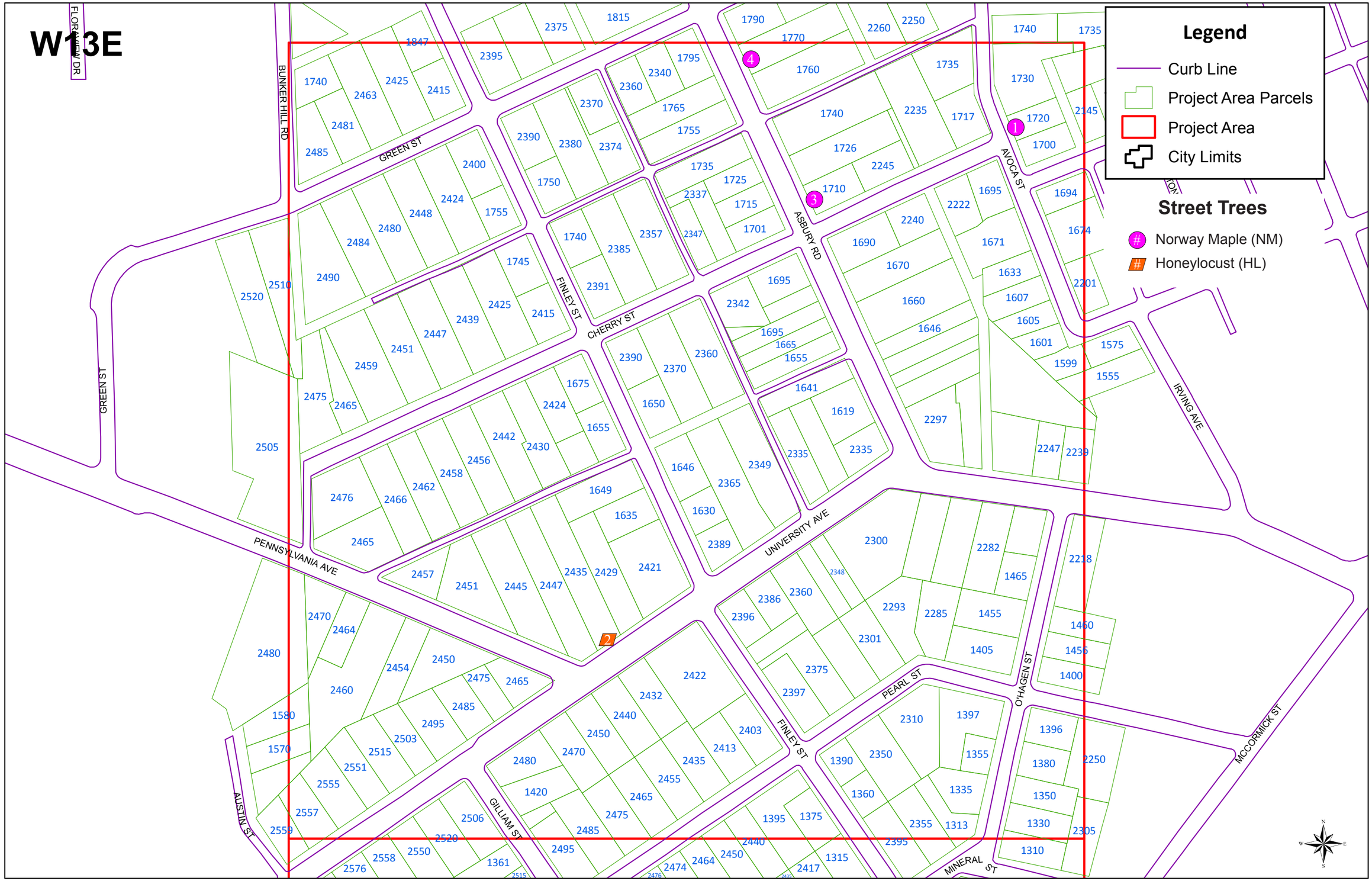
668
654
650
660
664
658
700

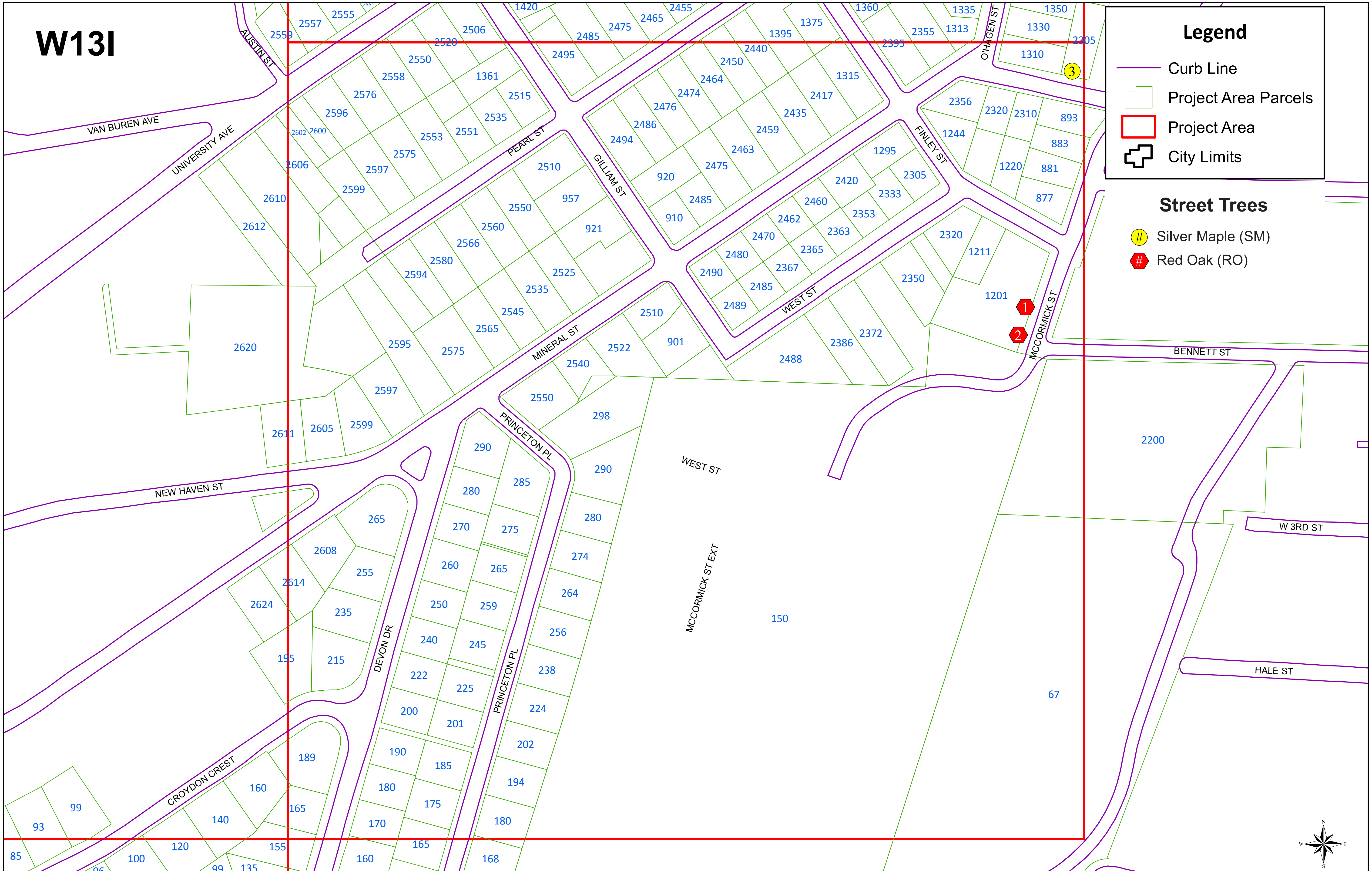
V13F


ST ANNE DR
CARTER RD
CARTER CT
HORIZON CT
EDEN LN
CHURC
PENNSYLVANIA AVE
KENSINGTON PL
BUTTERFIELD RD
EARL DR
RUANN DR
INDIANA CT
BORN AVE
LENOX ST
ENID ST
ILLINOIS AVE
VAN BUREN AVE
INDIANA AVE
ALPHA AVE
RIDGEWAY AVE
Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Sugar Maple (SUM)
Silver Maple (SM)
Red Maple (RM)
Green Ash (GA)
White Ash (WA)
American Linden (AL)
Proposed Tree Location

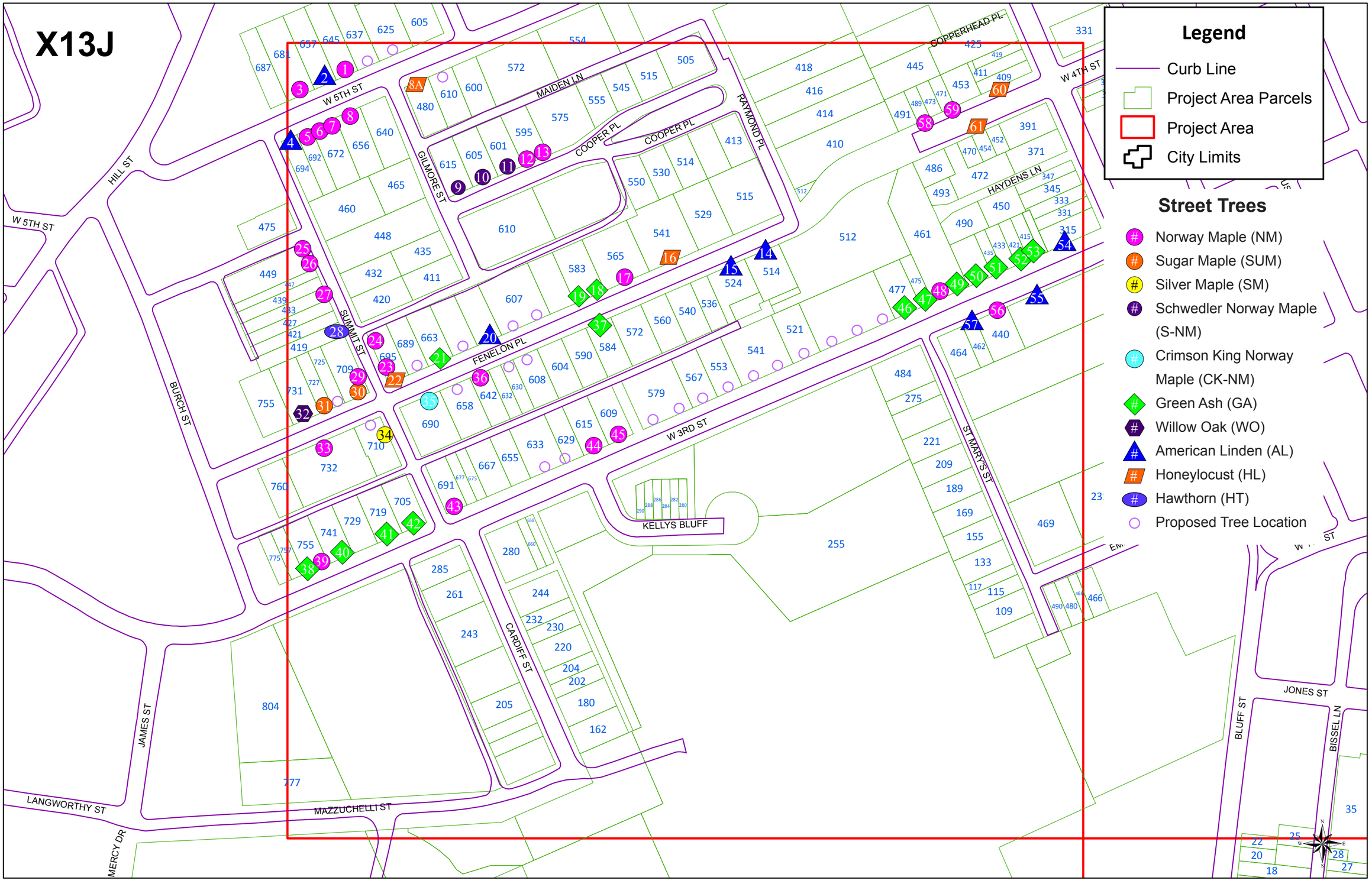

V13B
Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Silver Maple (SM)
Red Maple (RM)
Green Ash (GA)
Ornamental Pear (OrnP)
Proposed Tree Location
SUNDOWN CT
JUDSON DR
JUDSON CT
JEFFREY DR
DEBORAH DR
PASADENA DR
HILLCREST RD
CARTER RD
AVALON RD
ST ANNE DR
ERIE CT
TYLER RD
HORIZON CT
CHURCHILL DR
EDEN LN

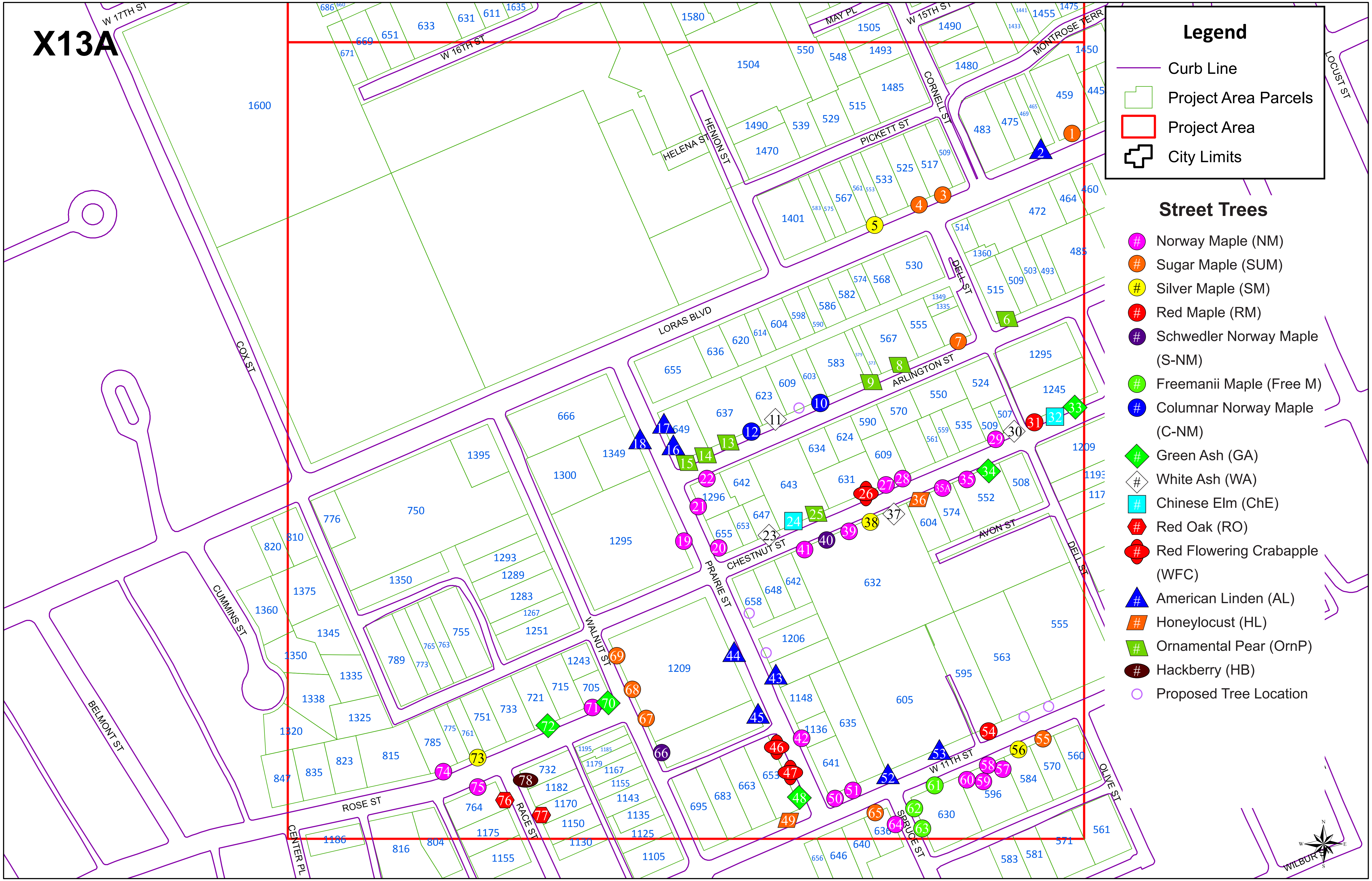
W13E


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Honeylocust (HL)
1
2
3
4
BUNKER HILL RD
GREEN ST
FINLEY ST
CHERRY ST
ASBURY RD
AVOCA ST
IRVING AVE
FLORAVIEW DR
PENNSYLVANIA AVE
UNIVERSITY AVE
PEARL ST
O'HAGEN ST
MCCORMICK ST
GILLIAM ST
AUSTIN ST
MINERAL ST

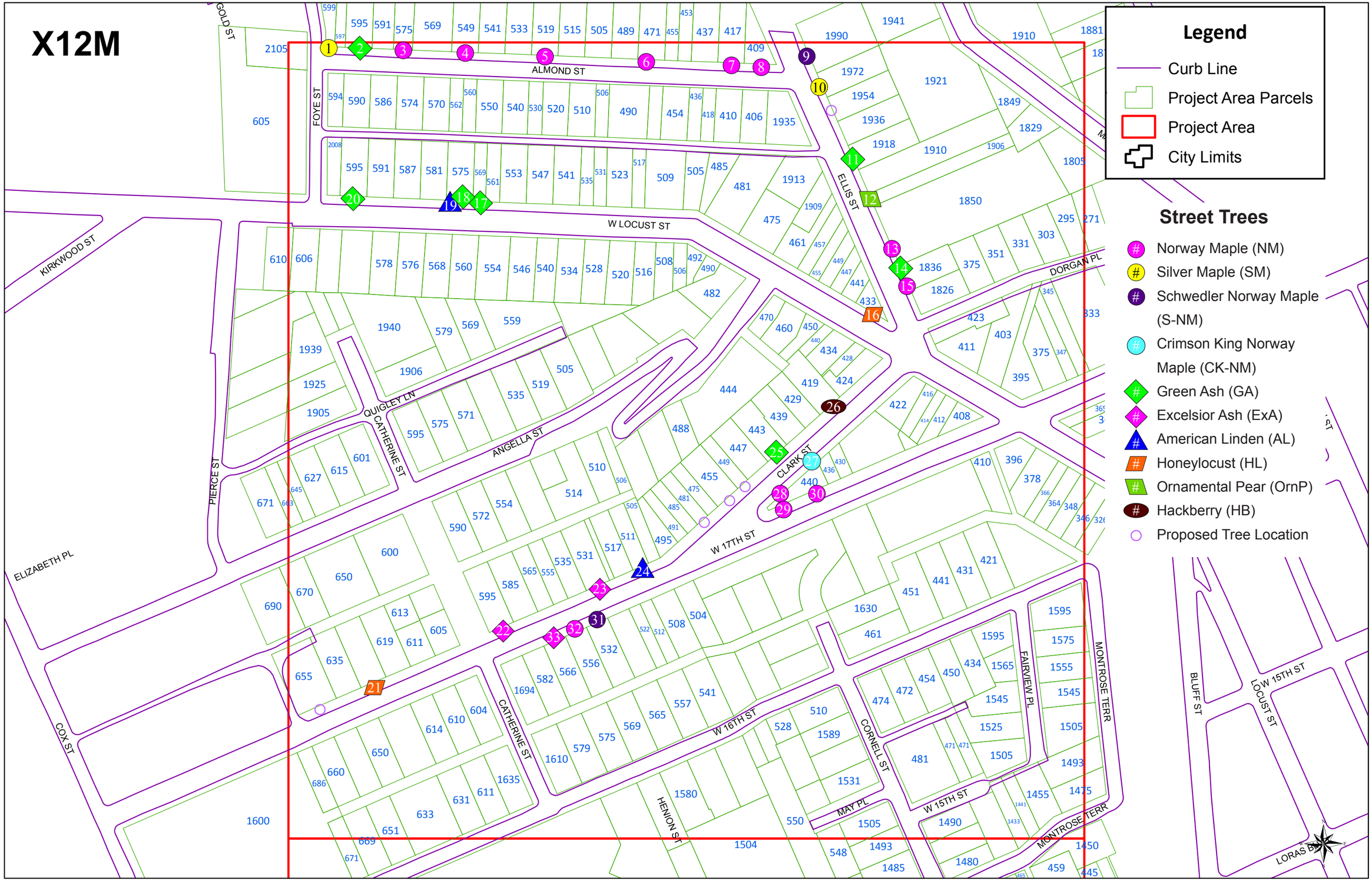

W13I
Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Silver Maple (SM)
Red Oak (RO)
1
2
3
VAN BUREN AVE
UNIVERSITY AVE
AUSTIN ST
PEARL ST
GILLIAM ST
FINLEY ST
O'HAGEN ST
MCCORMICK ST
WEST ST
MINERAL ST
BENNETT ST
PRINCETON PL
NEW HAVEN ST
DEVON DR
CROYDON CREST
MCCORMICK ST EXT
W 3RD ST
HALE ST

X13J

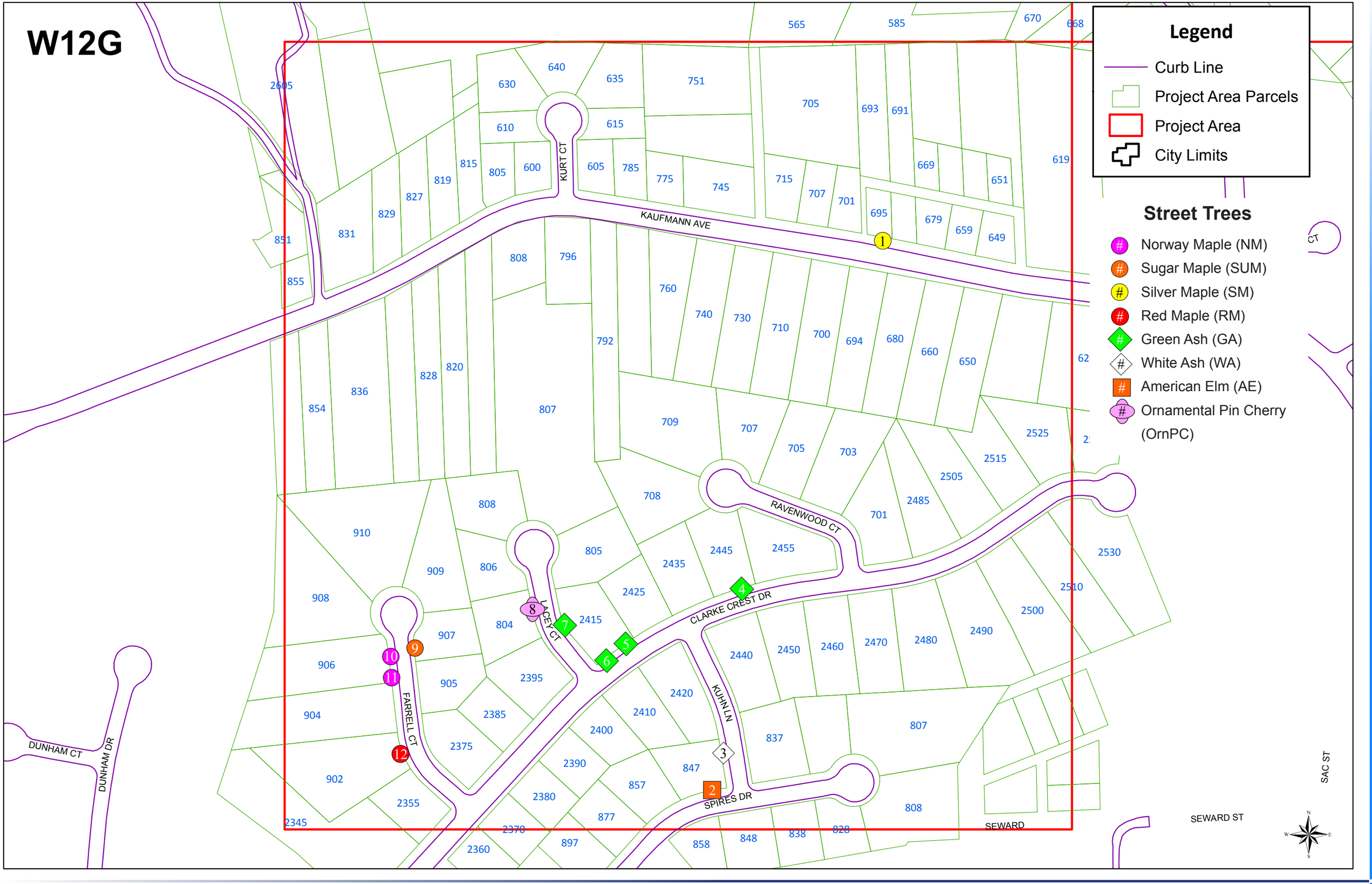

Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Sugar Maple (SUM)
Silver Maple (SM)
Schwedler Norway Maple (S-NM)
Crimson King Norway Maple (CK-NM)
Green Ash (GA)
Willow Oak (WO)
American Linden (AL)
Honeylocust (HL)
Hawthorn (HT)
Proposed Tree Location
W 5TH ST
HILL ST
BURCH ST
SUMMIT ST
GILMORE ST
MAIDEN LN
COOPER PL
RAYMOND PL
COPPERHEAD PL
HAYDENS LN
FENELON PL
W 3RD ST
KELLYS BLUFF
ST MARYS ST
CARDIFF ST
JAMES ST
LANGWORTHY ST
MAZZUCHELLI ST
MERCY DR
BLUFF ST
JONES ST
BISSEL LN


X13A
W 17TH ST
W 16TH ST
W 15TH ST
MAY PL
HELENA ST
HENION ST
CORNELL ST
PICKETT ST
MONTROSE TERR
LOCUST ST
LORAS BLVD
DELL ST
ARLINGTON ST
COX ST
CUMMINS ST
BELMONT ST
CENTER PL
ROSE ST
RACE ST
WALNUT ST
PRAIRIE ST
CHESTNUT ST
AVON ST
W 11TH ST
SPRUCE ST
OLIVE ST
WILBUR ST
Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Sugar Maple (SUM)
Silver Maple (SM)
Red Maple (RM)
Schwedler Norway Maple (S-NM)
Freemanii Maple (Free M)
Columnar Norway Maple (C-NM)
Green Ash (GA)
White Ash (WA)
Chinese Elm (ChE)
Red Oak (RO)
Red Flowering Crabapple (WFC)
American Linden (AL)
Honeylocust (HL)
Ornamental Pear (OrnP)
Hackberry (HB)
Proposed Tree Location

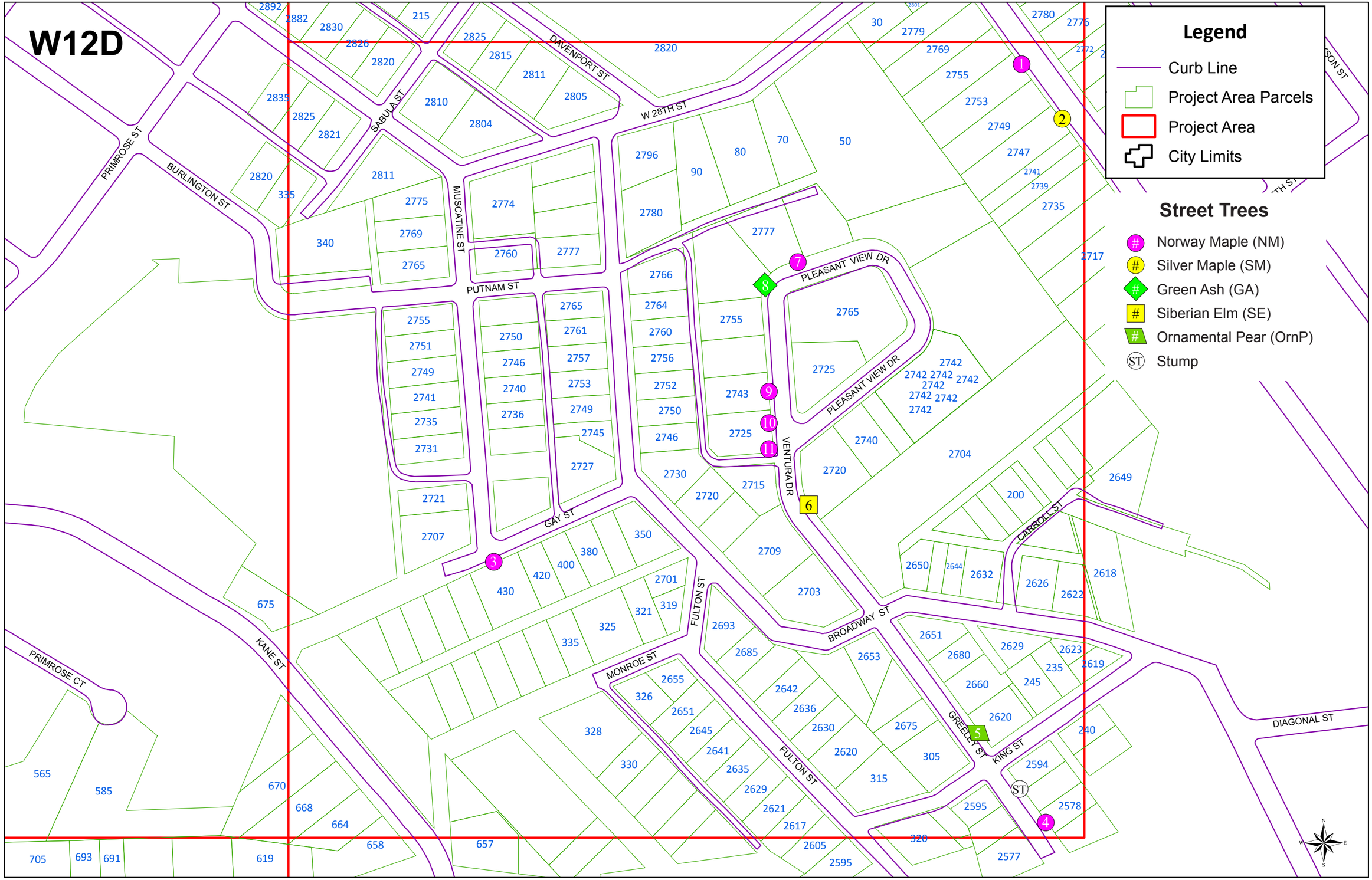
X12M


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Silver Maple (SM)
Schwedler Norway Maple (S-NM)
Crimson King Norway Maple (CK-NM)
Green Ash (GA)
Excelsior Ash (ExA)
American Linden (AL)
Honeylocust (HL)
Ornamental Pear (OrnP)
Hackberry (HB)
Proposed Tree Location
ALMOND ST
W LOCUST ST
W 17TH ST
W 16TH ST
W 15TH ST
ANGELLA ST
QUIGLEY LN
ELLIS ST
CLARK ST
DORGAN PL
FOYE ST
PIERCE ST
CATHERINE ST
CORNELL ST
FAIRVIEW PL
MONTROSE TERR
MAY PL
HENION ST
BLUFF ST
LOCUST ST
GOLD ST
KIRKWOOD ST
ELIZABETH PL
COX ST
LORAS BLVD

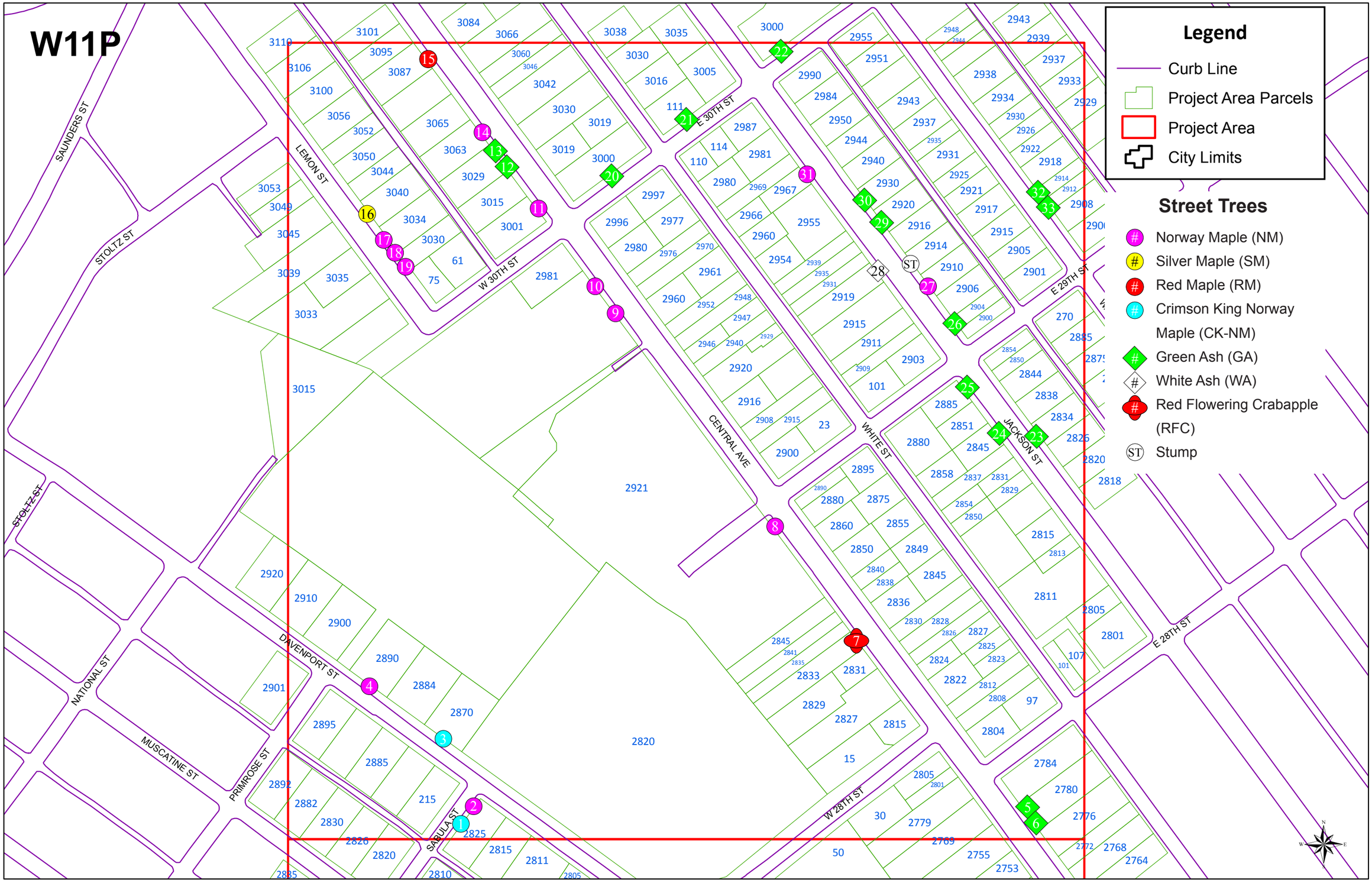
W12G


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Sugar Maple (SUM)
Silver Maple (SM)
Red Maple (RM)
Green Ash (GA)
White Ash (WA)
American Elm (AE)
Ornamental Pin Cherry (OrnPC)
KAUFMANN AVE
KURT CT
RAVENWOOD CT
CLARKE CREST DR
LACEY CT
FARRELL CT
KUHN LN
SPIRES DR
DUNHAM CT
DUNHAM DR
SAC ST
SEWARD
SEWARD ST
N
W
E
S

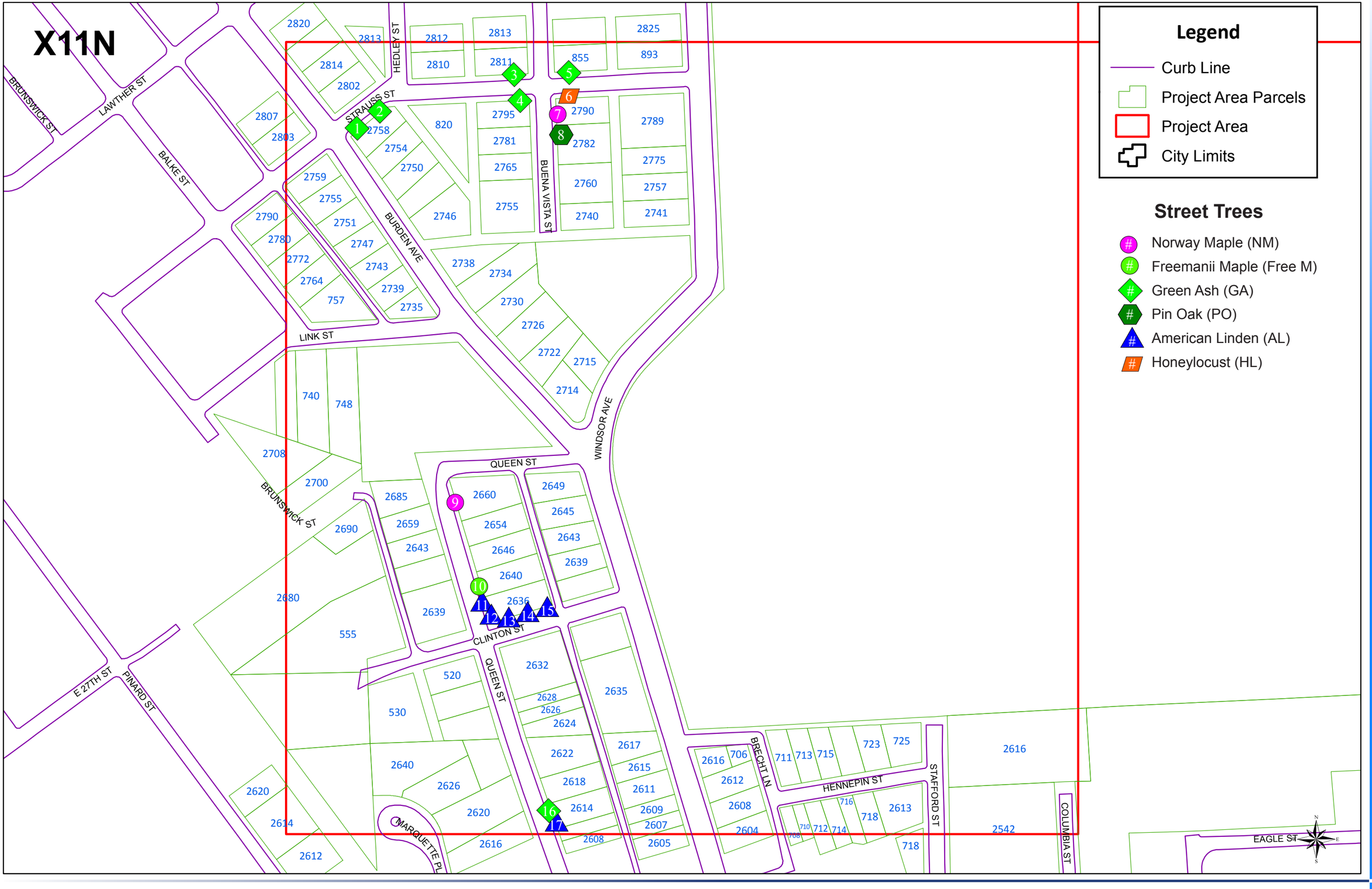
W12D


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Silver Maple (SM)
Green Ash (GA)
Siberian Elm (SE)
Ornamental Pear (OrnP)
Stump
DAVENPORT ST
W 28TH ST
SABULA ST
PRIMROSE ST
BURLINGTON ST
MUSCATINE ST
PUTNAM ST
PLEASANT VIEW DR
VENTURA DR
GAY ST
FULTON ST
BROADWAY ST
CARROLL ST
GREELEY ST
KING ST
DIAGONAL ST
MONROE ST
PRIMROSE CT
KANE ST

W11P


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Silver Maple (SM)
Red Maple (RM)
Crimson King Norway Maple (CK-NM)
Green Ash (GA)
White Ash (WA)
Red Flowering Crabapple (RFC)
Stump
SAUNDERS ST
STOLTZ ST
LEMON ST
W 30TH ST
E 30TH ST
CENTRAL AVE
WHITE ST
JACKSON ST
E 29TH ST
E 28TH ST
W 28TH ST
DAVENPORT ST
NATIONAL ST
MUSCATINE ST
PRIMROSE ST
SABULA ST

X11N



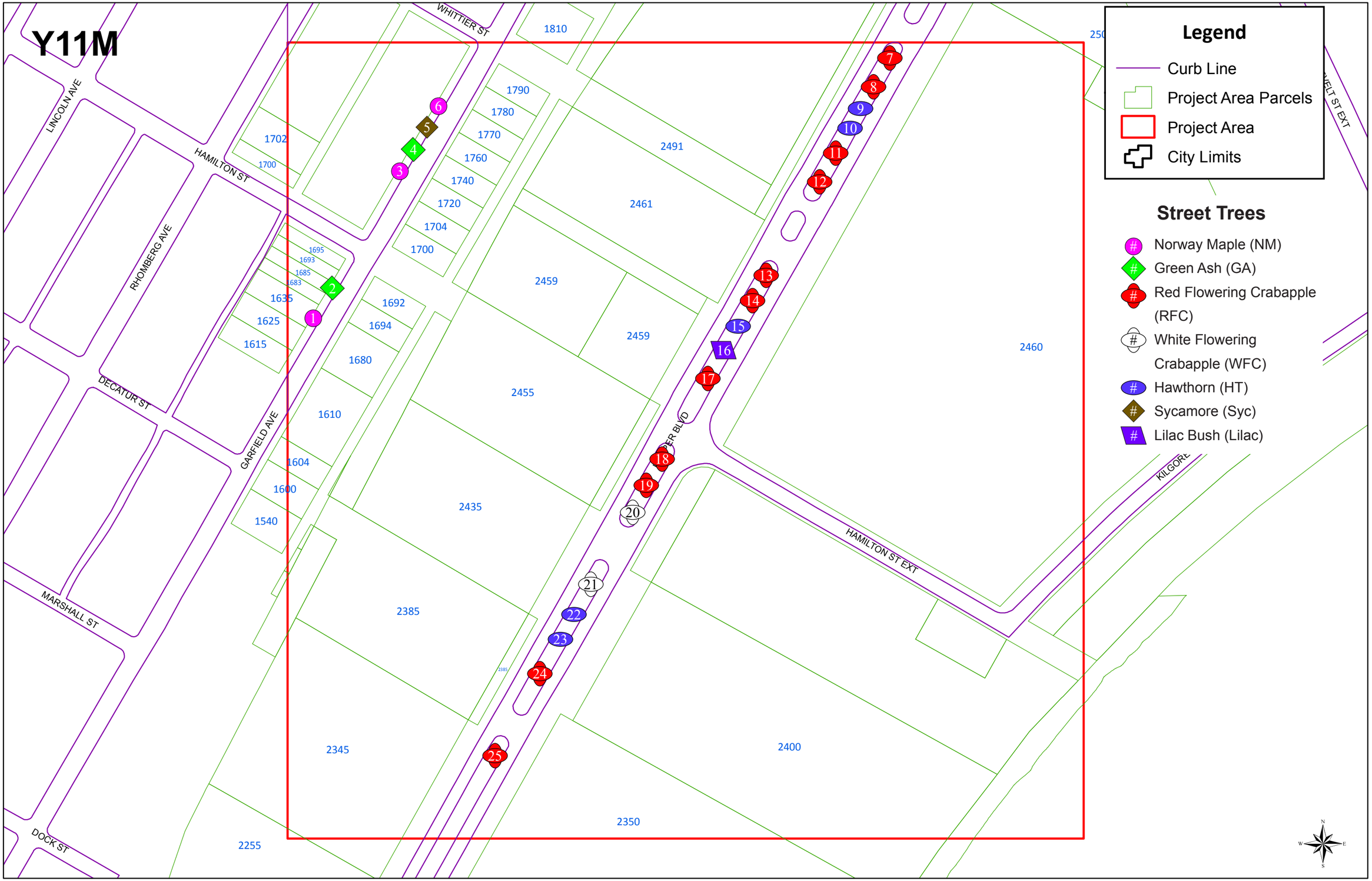
Legend

- Curb Line
- Project Area Parcels
- Project Area
- City Limits

Street Trees

- Norway Maple (NM)
- Freemanii Maple (Free M)
- Green Ash (GA)
- Pin Oak (PO)
- American Linden (AL)
- Honeylocust (HL)

Y11M



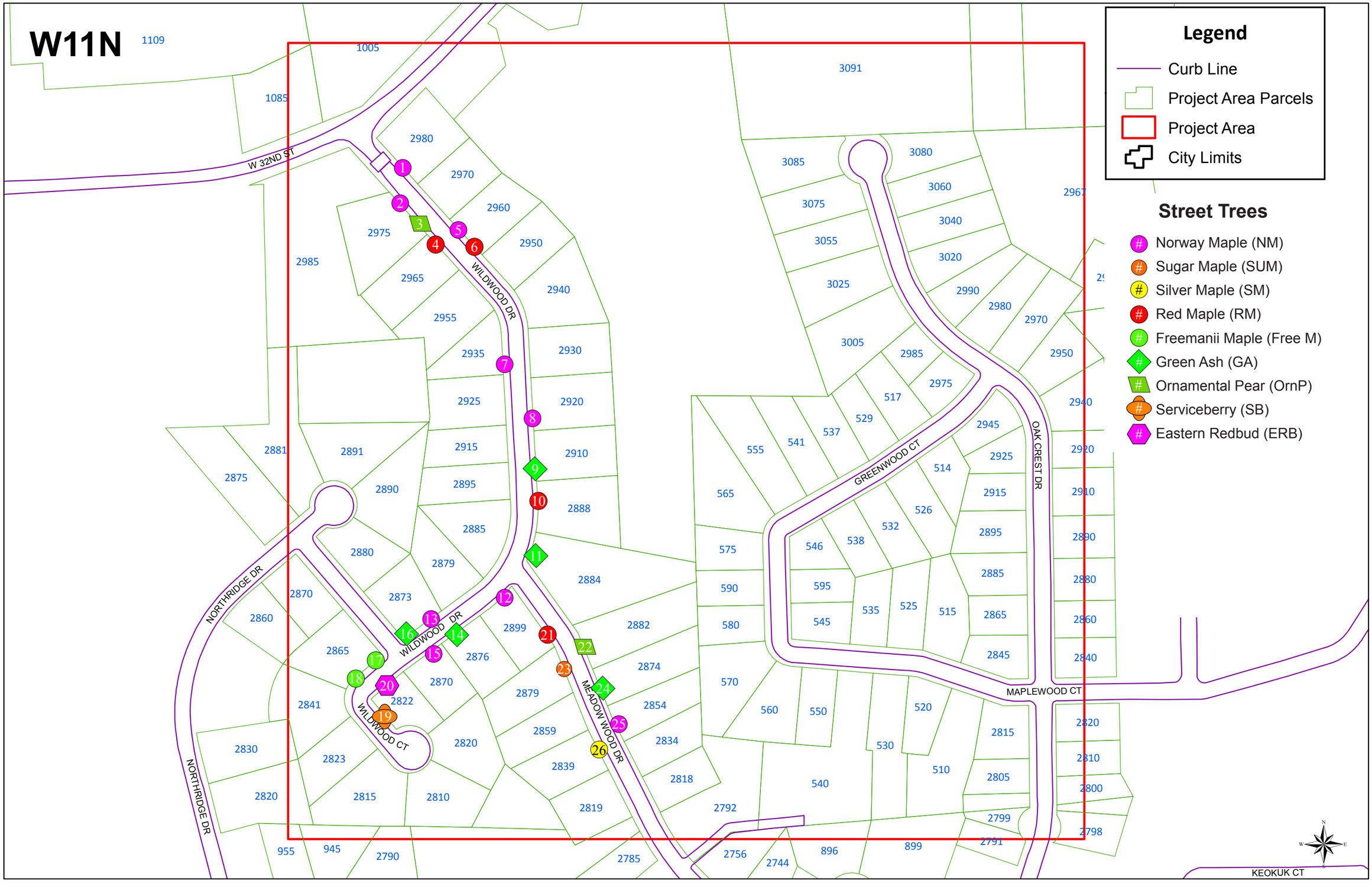
Legend

- Curb Line
- Project Area Parcels
- Project Area
- City Limits

Street Trees

- Norway Maple (NM)
- Green Ash (GA)
- Red Flowering Crabapple (RFC)
- White Flowering Crabapple (WFC)
- Hawthorn (HT)
- Sycamore (Syc)
- Lilac Bush (Lilac)

W11N



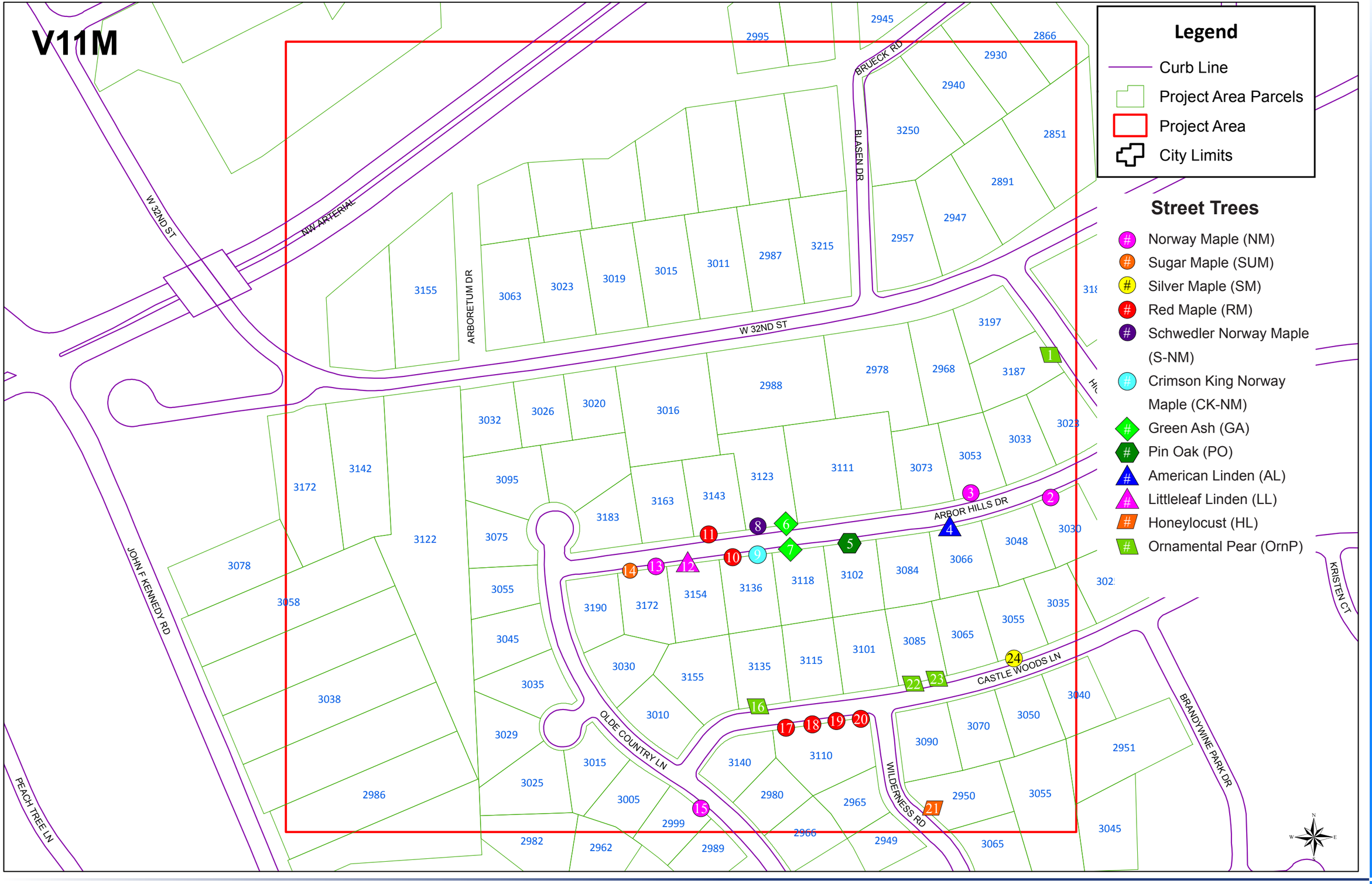
Legend

- Curb Line
- Project Area Parcels
- Project Area
- City Limits

Street Trees

- Norway Maple (NM)
- Sugar Maple (SUM)
- Silver Maple (SM)
- Red Maple (RM)
- Freemanii Maple (Free M)
- Green Ash (GA)
- Ornamental Pear (OrnP)
- Serviceberry (SB)
- Eastern Redbud (ERB)

V11M


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Sugar Maple (SUM)
Silver Maple (SM)
Red Maple (RM)
Schwedler Norway Maple (S-NM)
Crimson King Norway Maple (CK-NM)
Green Ash (GA)
Pin Oak (PO)
American Linden (AL)
Littleleaf Linden (LL)
Honeylocust (HL)
Ornamental Pear (OrnP)
W 32ND ST
NW ARTERIAL
ARBORETUM DR
BLASEN DR
BRUECK RD
ARBOR HILLS DR
CASTLE WOODS LN
OLDE COUNTRY LN
WILDERNESS RD
JOHN F KENNEDY RD
PEACH TREE LN
KRISTEN CT
BRANDYWINE PARK DR
2945
2995
2866
2930
2940
3250
2851
2891
2947
2957
3155
3063
3023
3019
3015
3011
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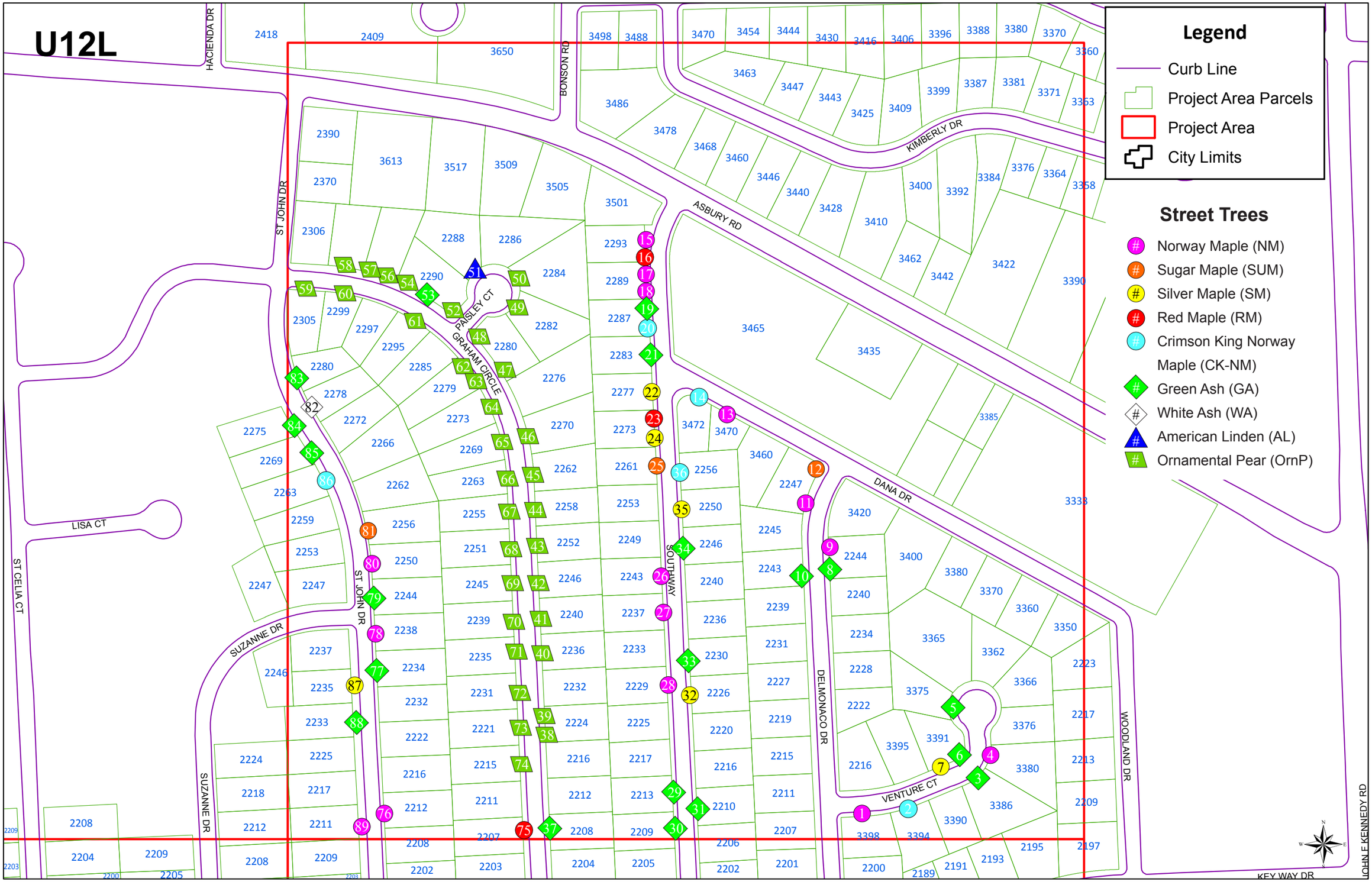
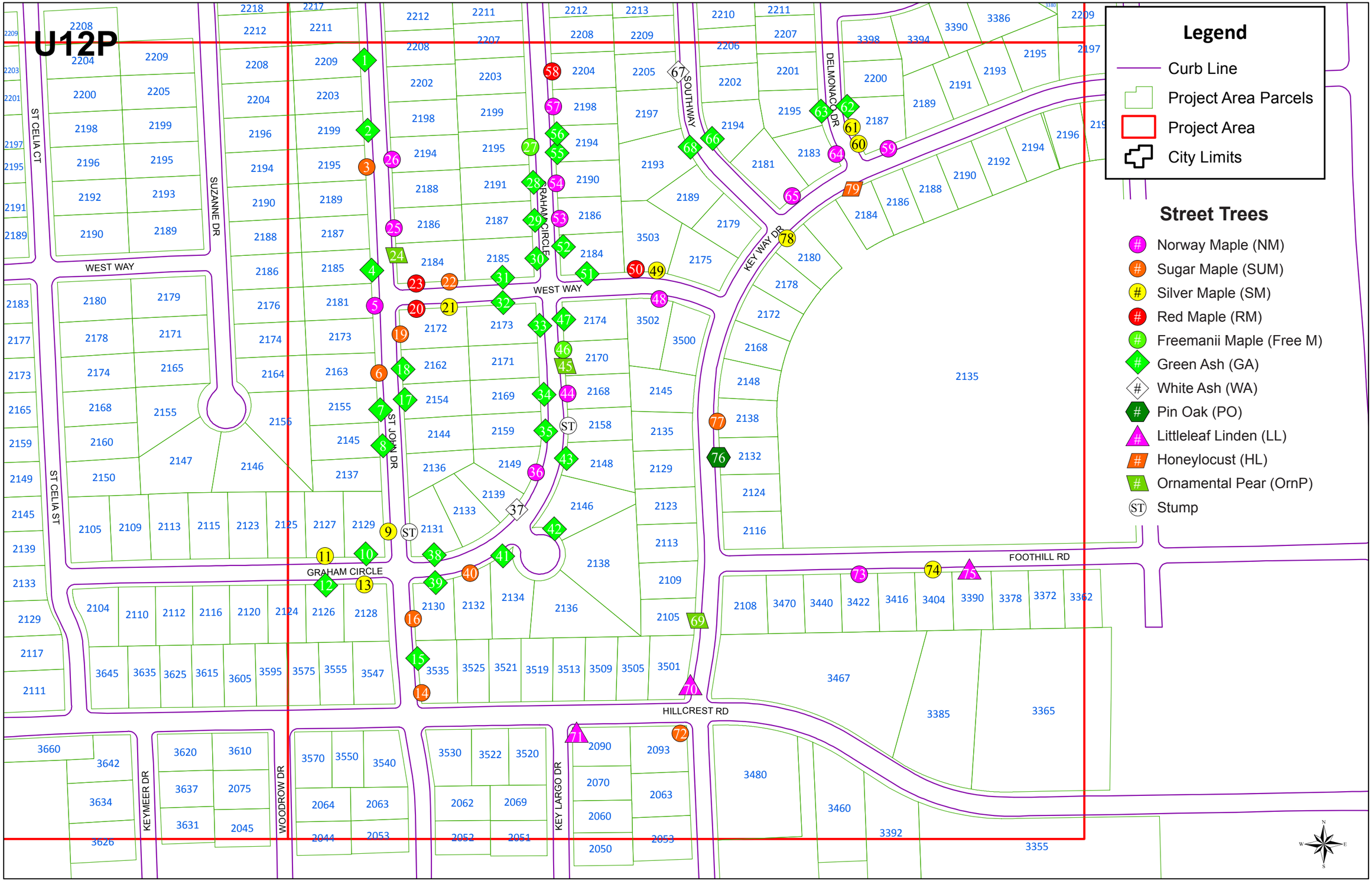
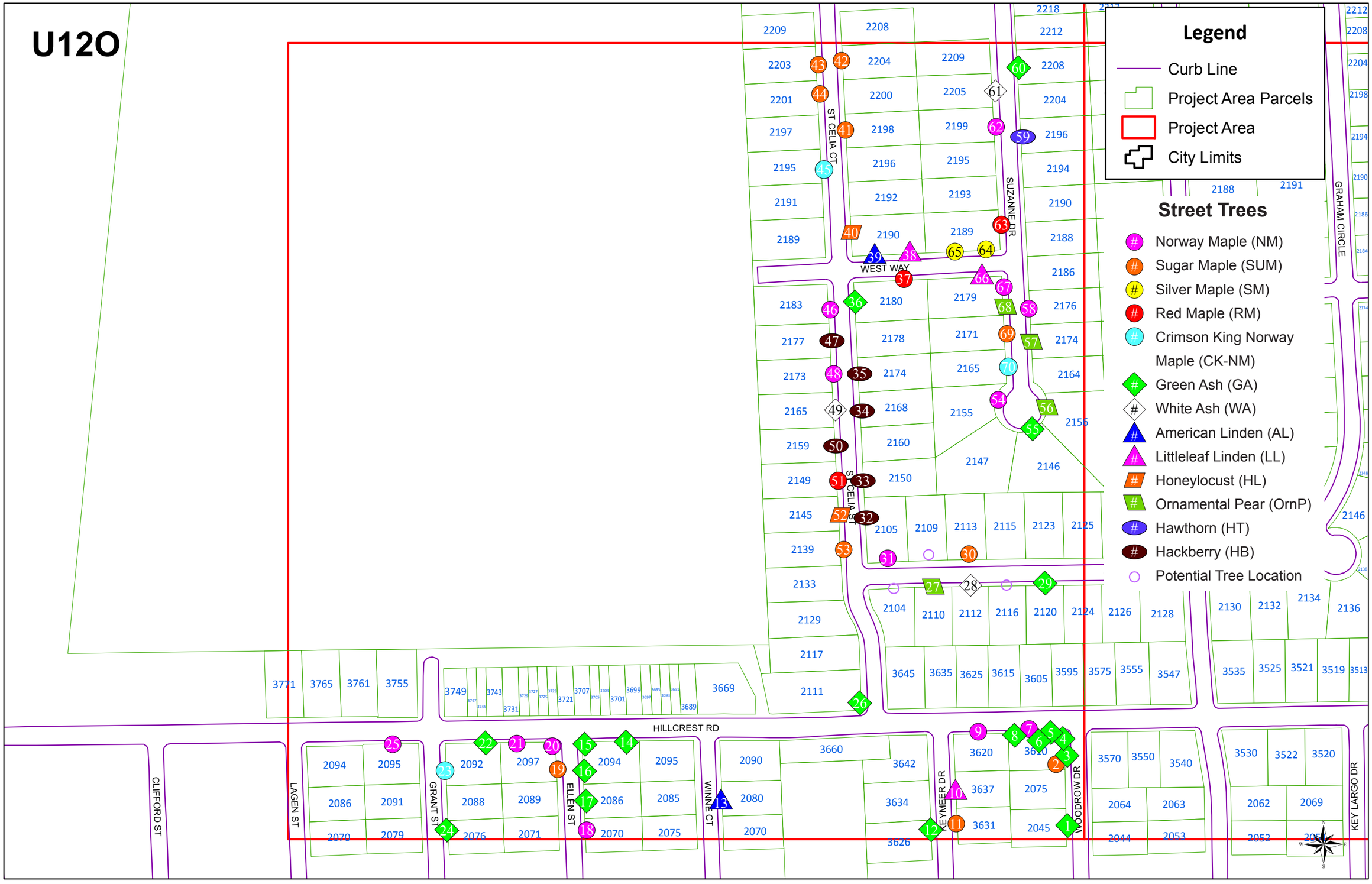
U12L


HACIENDA DR
BONSON RD
KIMBERLY DR
ASBURY RD
ST JOHN DR
PRISLEY CT
GRAHAM CIRCLE
SOUTHWAY
DANA DR
DELMONACO DR
WOODLAND DR
VENTURE CT
SUZANNE DR
LISA CT
ST CELIA CT
JOHN F KENNEDY RD
KEY WAY DR
Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Sugar Maple (SUM)
Silver Maple (SM)
Red Maple (RM)
Crimson King Norway Maple (CK-NM)
Green Ash (GA)
White Ash (WA)
American Linden (AL)
Ornamental Pear (OrnP)

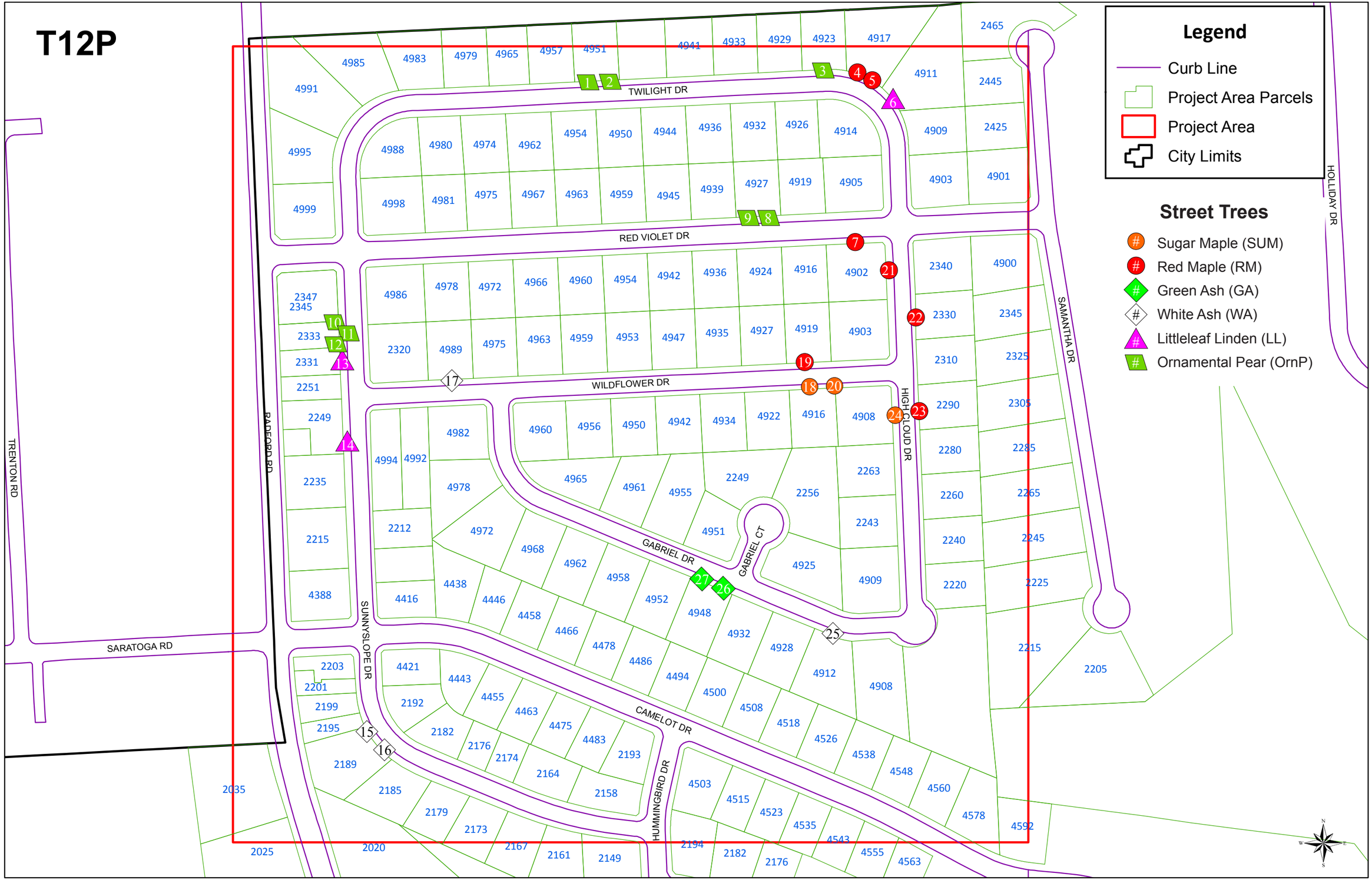
U12P


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Sugar Maple (SUM)
Silver Maple (SM)
Red Maple (RM)
Freemanii Maple (Free M)
Green Ash (GA)
White Ash (WA)
Pin Oak (PO)
Littleleaf Linden (LL)
Honeylocust (HL)
Ornamental Pear (OrnP)
Stump
WEST WAY
SUZANNE DR
ST CELIA CT
ST CELIA ST
GRAHAM CIRCLE
ST JOHN DR
SOUTHWAY
DELMONACO DR
KEY WAY DR
HILLCREST RD
FOOTHILL RD
KEYMEER DR
WOODROW DR
KEY LARGO DR

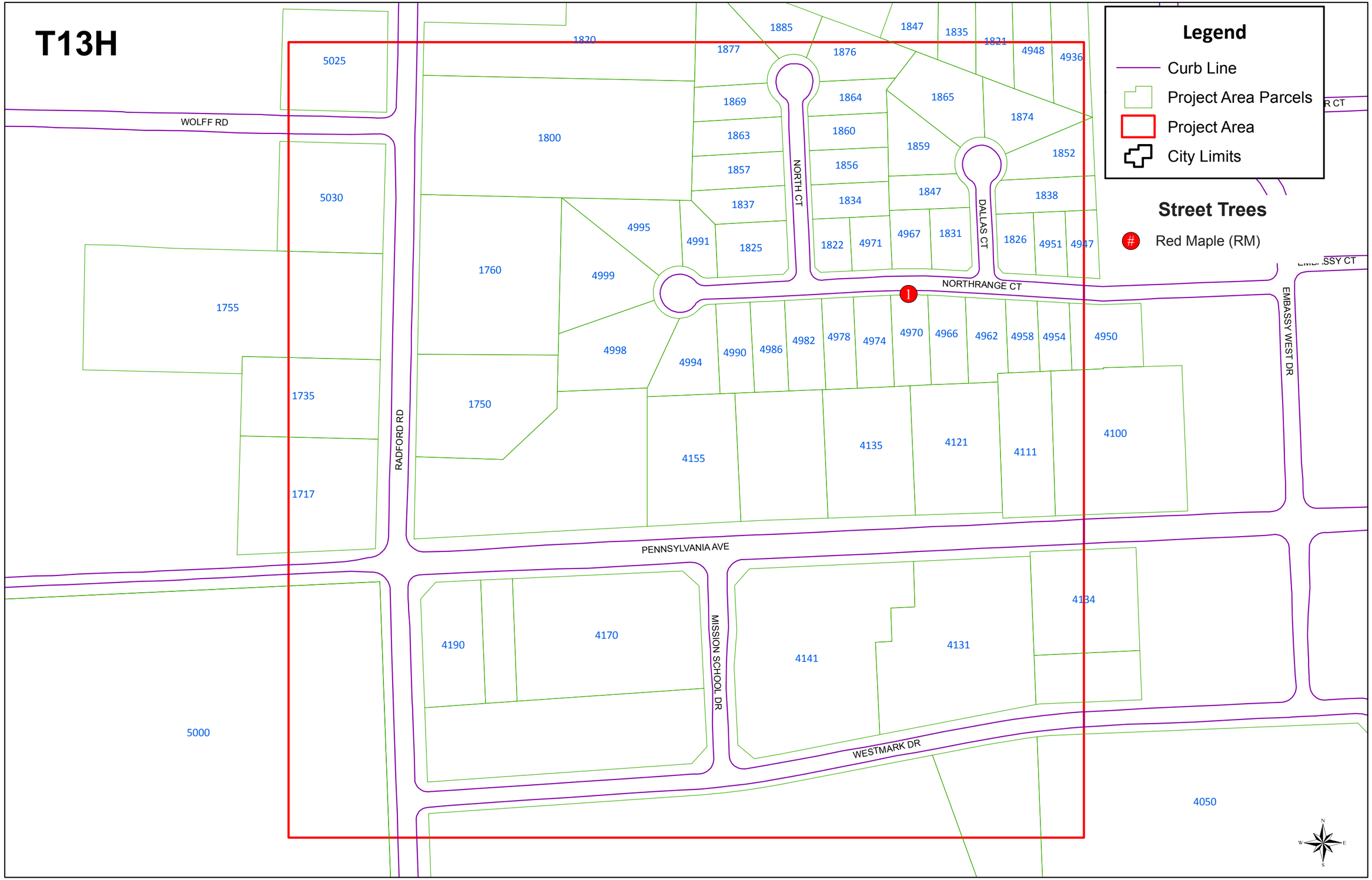
U12O


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Sugar Maple (SUM)
Silver Maple (SM)
Red Maple (RM)
Crimson King Norway Maple (CK-NM)
Green Ash (GA)
White Ash (WA)
American Linden (AL)
Littleleaf Linden (LL)
Honeylocust (HL)
Ornamental Pear (OrnP)
Hawthorn (HT)
Hackberry (HB)
Potential Tree Location
ST CELIA CT
SUZANNE DR
GRAHAM CIRCLE
WEST WAY
HILLCREST RD
CLIFFORD ST
LAGEN ST
GRANT ST
ELLEN ST
WINNE CT
KEYMEER DR
WOODROW DR
KEY LARGO DR
S CELIA ST

T12P


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Sugar Maple (SUM)
Red Maple (RM)
Green Ash (GA)
White Ash (WA)
Littleleaf Linden (LL)
Ornamental Pear (OrnP)
TWILIGHT DR
RED VIOLET DR
WILDFLOWER DR
GABRIEL DR
GABRIEL CT
CAMELOT DR
HUMMINGBIRD DR
SUNNYSLOPE DR
SARATOGA RD
TRENTON RD
RADFORD RD
HIGH CLOUD DR
SAMANTHA DR
HOLLIDAY DR

T13H


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Red Maple (RM)
WOLFF RD
RADFORD RD
NORTH CT
DALLAS CT
NORTHRANGE CT
EMBASSY WEST DR
PENNSYLVANIA AVE
MISSION SCHOOL DR
WESTMARK DR
5025
5030
1755
1735
1717
1800
1760
1750
5000
1820
1877
1885
1847
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4991
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4998
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4982
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4141
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4050
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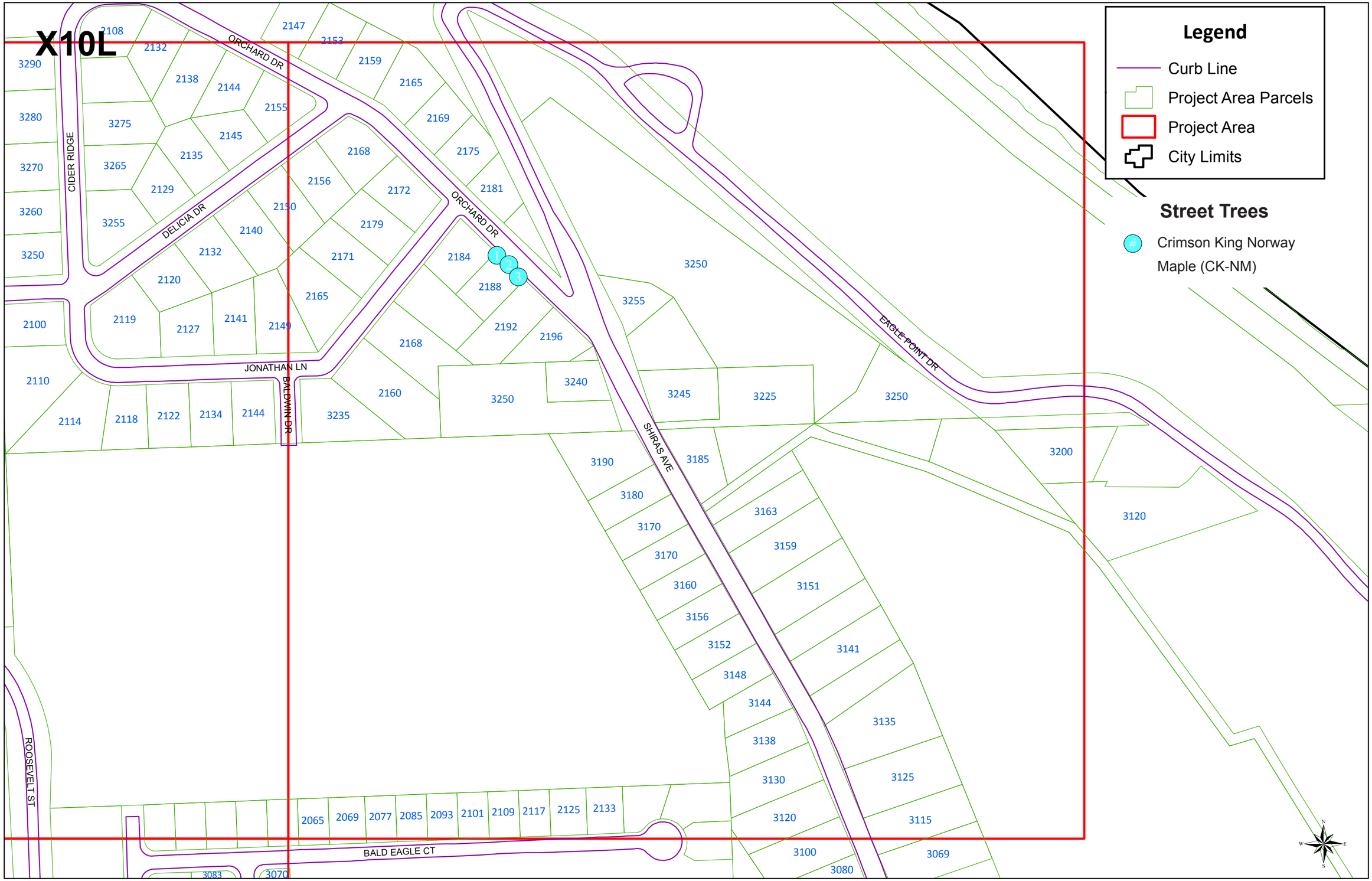
X10L


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Crimson King Norway Maple (CK-NM)
ORCHARD DR
CIDER RIDGE
DELICIA DR
JONATHAN LN
BALDWIN DR
EAGLE POINT DR
SHIRAS AVE
ROOSEVELT ST
BALD EAGLE CT
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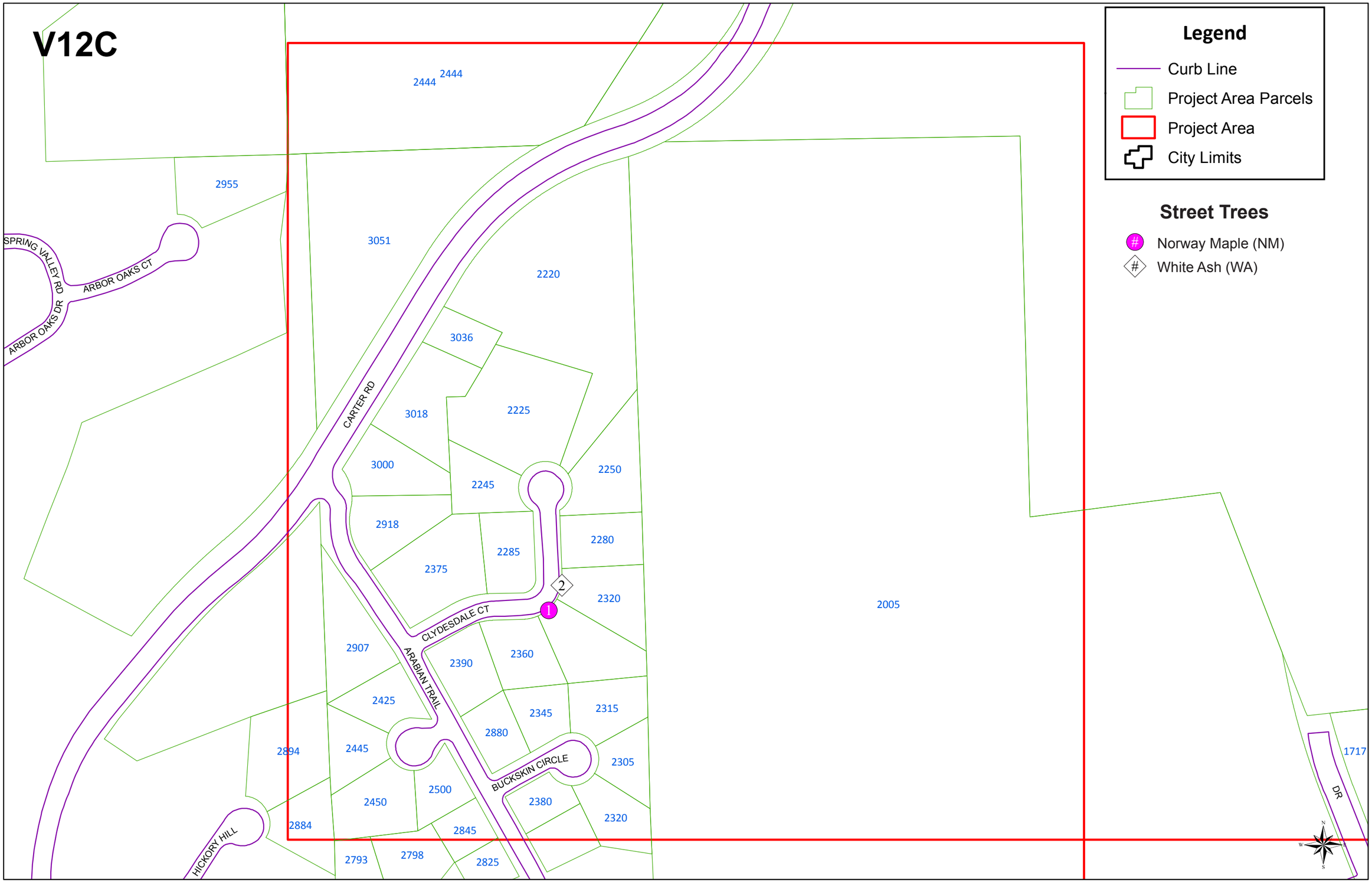
W
E
S

V12C



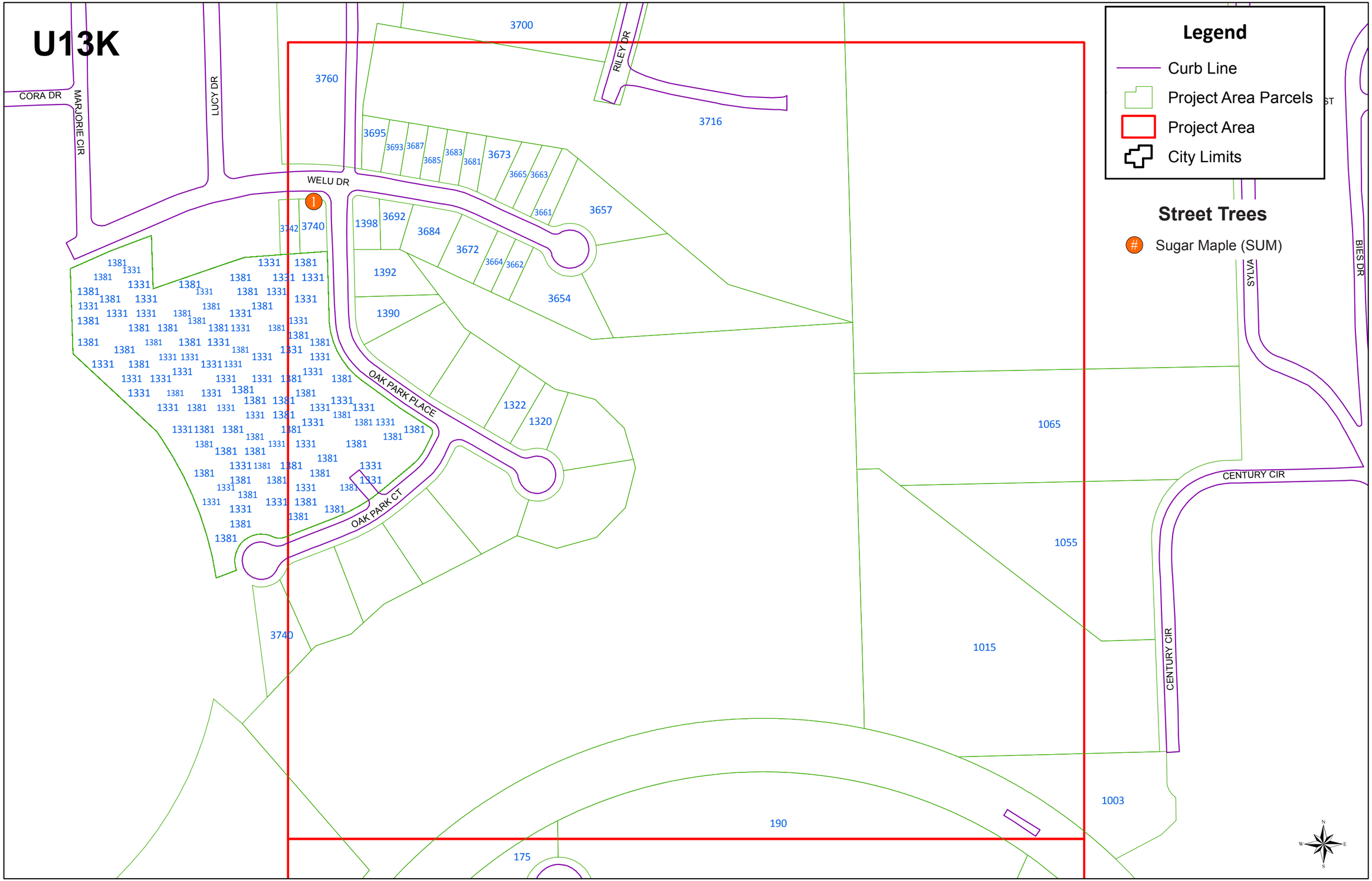
Legend

- Curb Line
- Project Area Parcels
- Project Area
- City Limits

Street Trees

- # Norway Maple (NM)
- # White Ash (WA)

U13K


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Sugar Maple (SUM)
CORA DR
MARJORIE CIR
LUCY DR
WELU DR
RILEY DR
OAK PARK PLACE
OAK PARK CT
CENTURY CIR
SYLVA
BIES DR
3700
3760
3716
3695
3693
3687
3685
3683
3681
3673
3665
3663
3661
3657
3742
3740
1398
3692
3684
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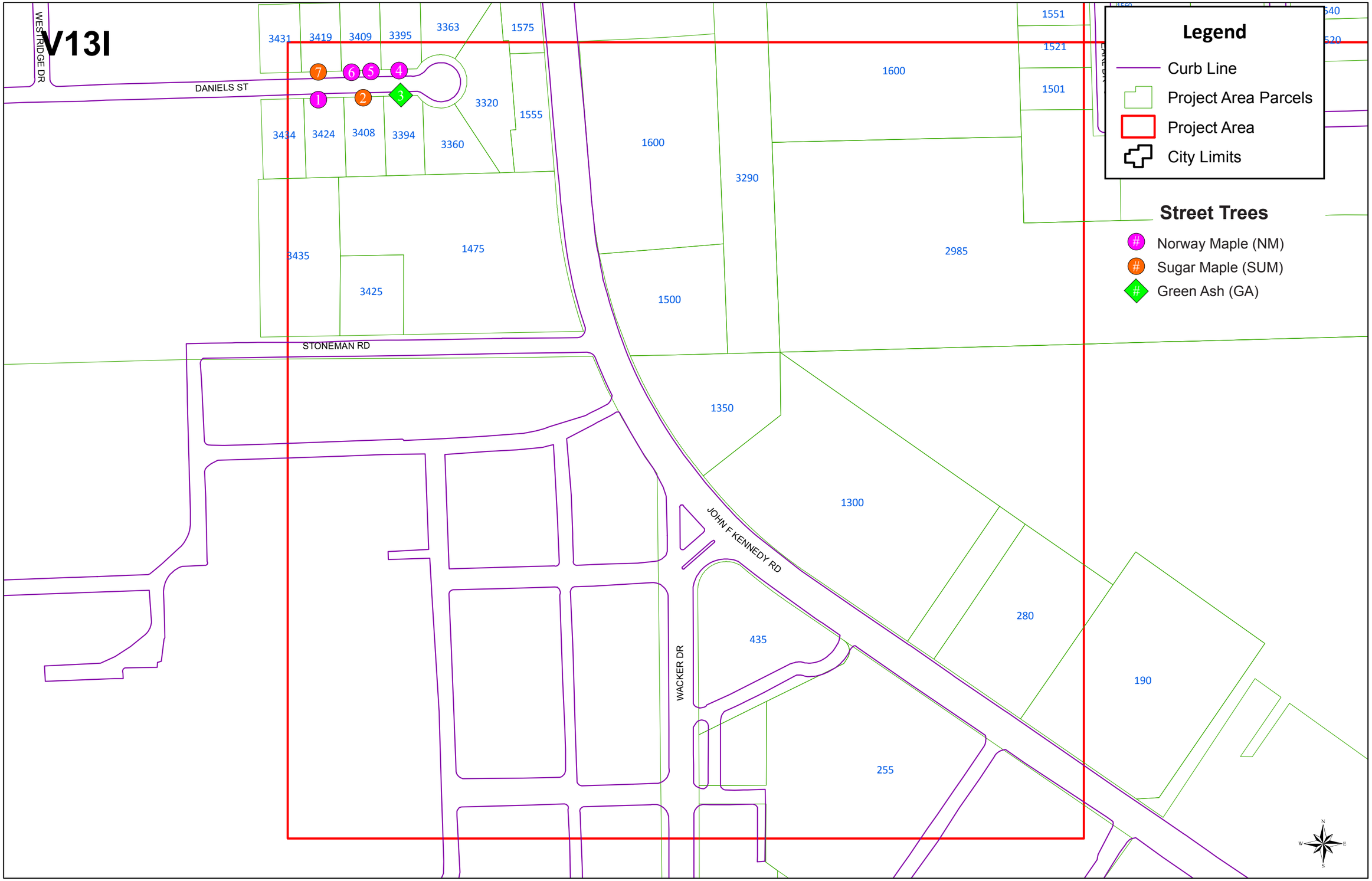
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DANIELS ST
STONEMAN RD
JOHN F KENNEDY RD
WACKER DR
3431
3419
3409
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1575
3320
1555
3434
3424
3408
3394
3360
1600
3290
1551
1521
1501
1600
3435
3425
1475
2985
1500
1350
1300
280
190
435
255
Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Sugar Maple (SUM)
Green Ash (GA)
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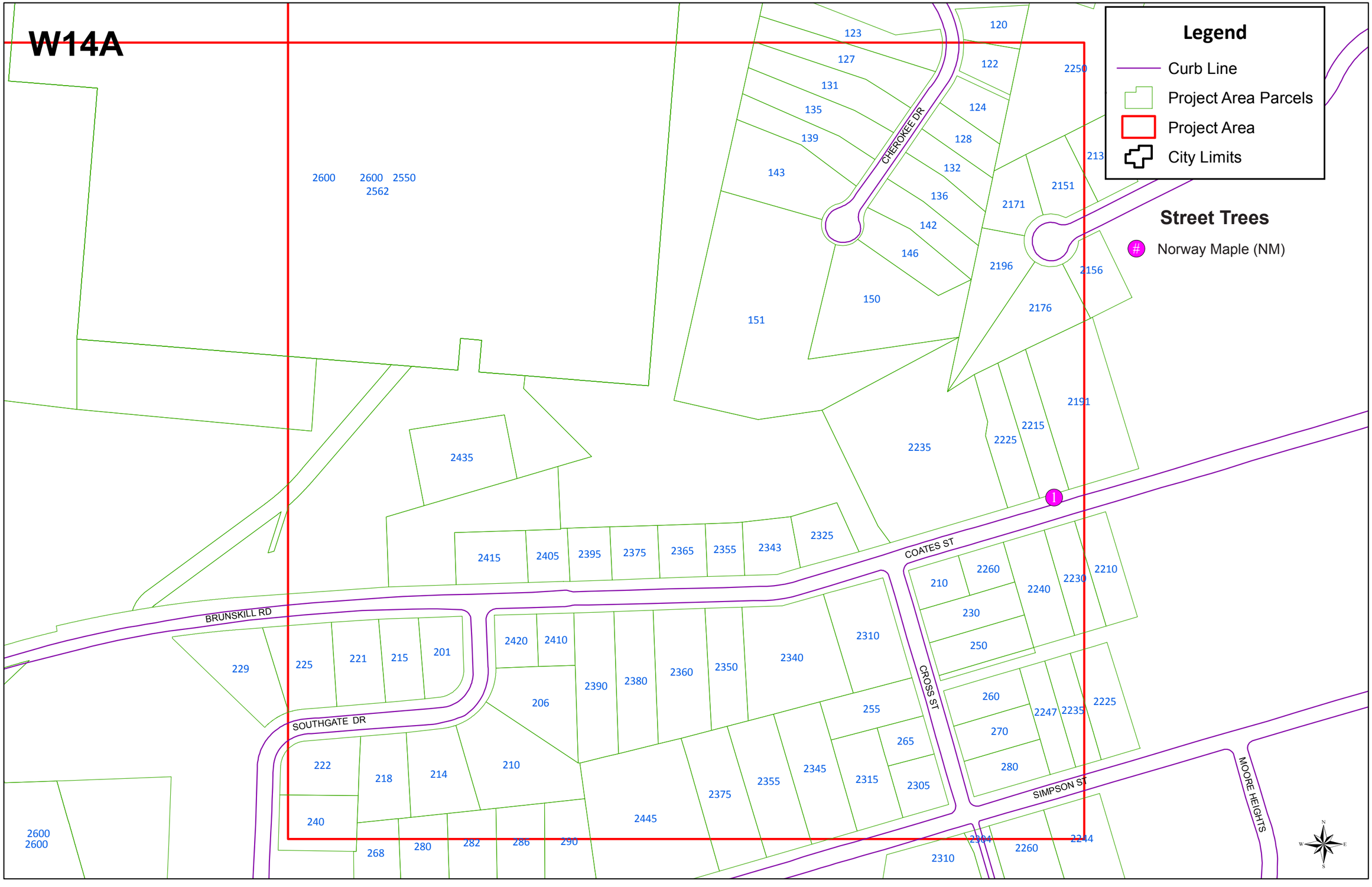
S

W14A


Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
CHEROKEE DR
COATES ST
BRUNSKILL RD
SOUTHGATE DR
CROSS ST
SIMPSON ST
MOORE HEIGHTS
2600
2600
2550
2562
123
127
131
135
139
143
120
122
124
128
132
136
142
146
150
151
2250
213
2151
2171
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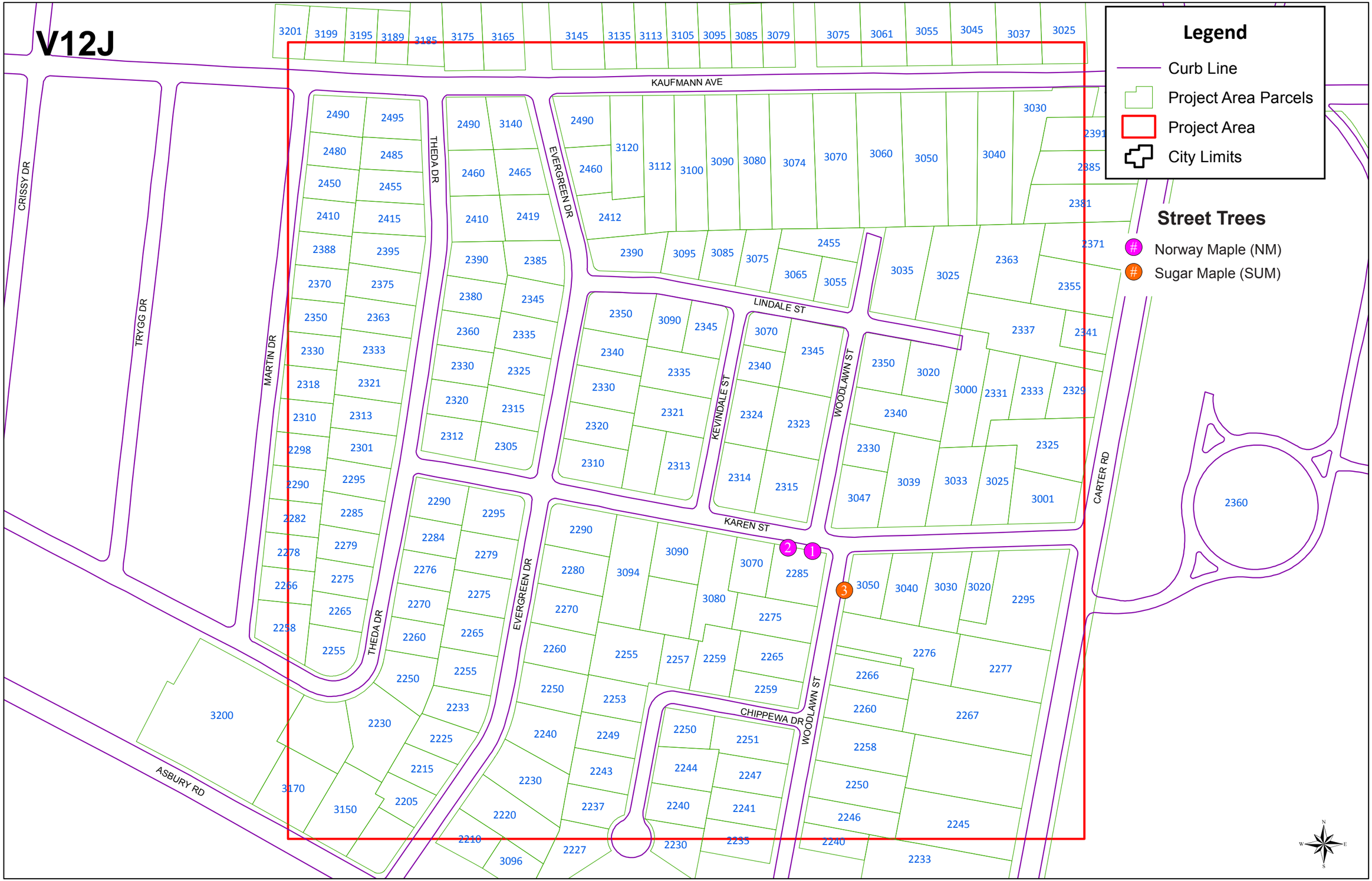
Legend
Curb Line
Project Area Parcels
Project Area
City Limits
Street Trees
Norway Maple (NM)
Sugar Maple (SUM)
KAUFMANN AVE
CRISSY DR
TRYGG DR
MARTIN DR
THEDA DR
EVERGREEN DR
LINDALE ST
KEVINDALE ST
WOODLAWN ST
CARTER RD
KAREN ST
CHIPPEWA DR
ASBURY RD
3201 3199 3195 3189 3185 3175 3165 3145 3135 3113 3105 3095 3085 3079 3075 3061 3055 3045 3037 3025
2490 2495 2480 2485 2450 2455 2410 2415 2388 2395 2370 2375 2350 2363 2330 2333 2318 2321 2310 2313 2298 2301 2290 2295 2282 2285 2278 2279 2266 2275 2258 2265 2255
2490 3140 2460 2465 2410 2419 2390 2385 2380 2345 2360 2335 2330 2325 2320 2315 2312 2305
2490 2460 3120 2412 3112 3100 3090 3080 3074 3070 3060 3050 3040 3030 2391 2385 2381 2371 2363 2355 2341 2337
2390 3095 3085 3075 2455 3065 3055 3035 3025
2350 3090 2345 2340 2335 2330 2321 2320 2313 2310
3070 2345 2340 2324 2323 2314 2315
2350 3020 3000 2331 2333 2329 2340 2330 3039 3033 3025 3001 3047 2325
2360
2290 2295 2284 2279 2276 2275 2270 2265 2260 2255 2250 2233 2230 2225 2215 2205 3200 3170 3150
2290 2280 3094 3090 2270 3070 2285 3080 2275 2260 2255 2257 2259 2265 2259 2250 2253 2240 2249 2243 2237 2230 2220 2210 2227 3096
2250 2251 2244 2247 2240 2241 2230 2235
3050 3040 3030 3020 2295 2276 2277 2266 2260 2267 2258 2250 2246 2245 2240 2233
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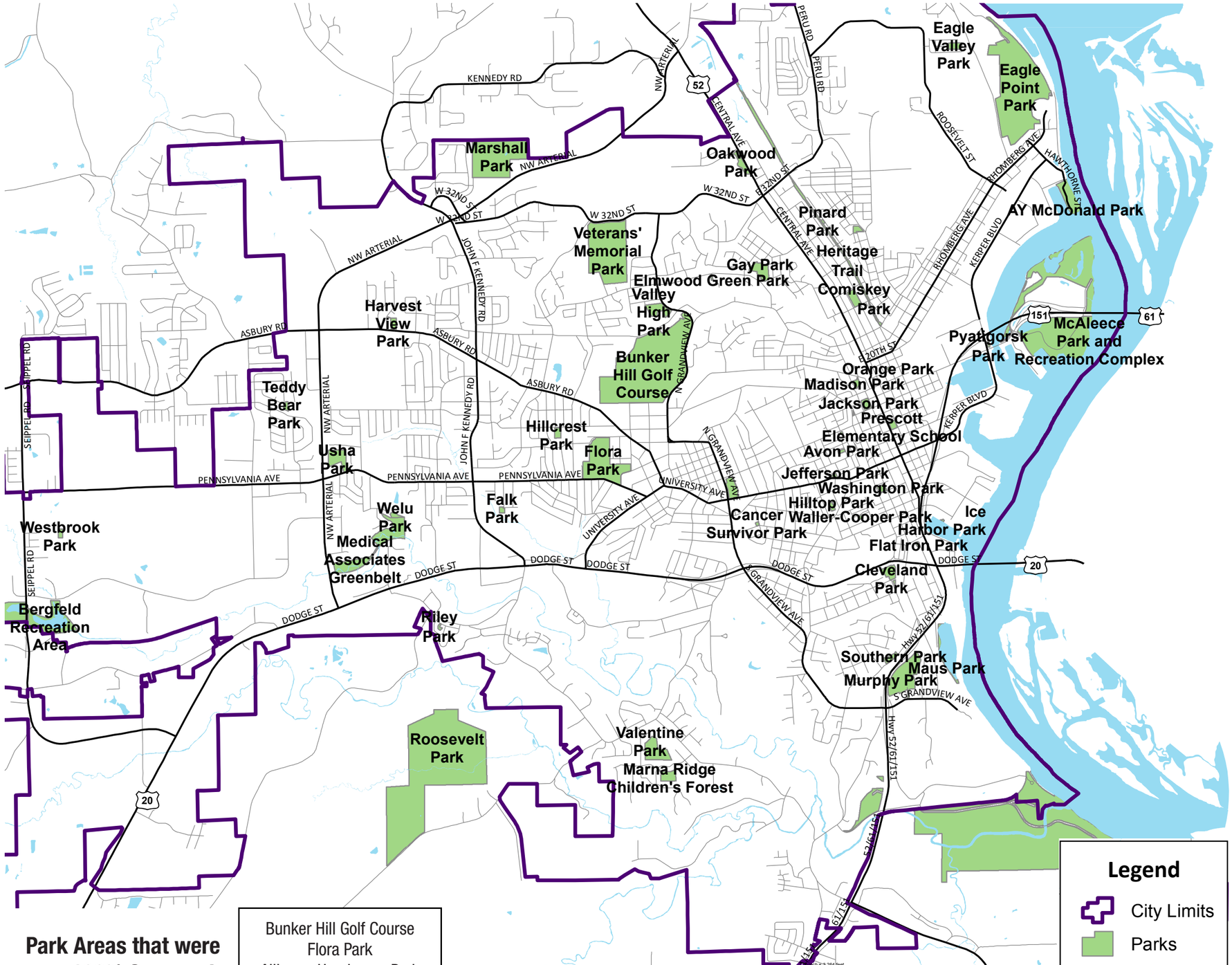
PARK TREE SURVEY
DUBUQUE, IOWA

This page identifies abbreviations used in the park tree field data section of this report.

The park tree tally sheets contain raw data collected for each tree included in the survey. Each entry identifies the species, size, condition, and general comments about each tree. The raw data taken from this survey was used to help generate conclusions about the condition of the urban forest in the City of Dubuque.



Park Areas that were 100% Surveyed:

Bunker Hill Golf Course
Flora Park
Allison - Henderson Park
Washington Park

Legend
- City Limits
- Parks

PARK AREA LOCATOR MAP

PARK TREE SURVEY

ASSIGNMENT:

To inventory the existing trees in Bunker Hill Golf Course, Flora Park, Washington Park, and Allison-Henderson Park . The inventory gathered observations and identified each tree's species, size (diameter in inches at approximately 4.5 feet above grade) and condition. The collected data from this inventory was used to evaluate the composition of trees within Dubuque City parks, their sizes, and general condition. Other select parks were given a drive–through inspection closely examining only specimens of interest.

METHOD:

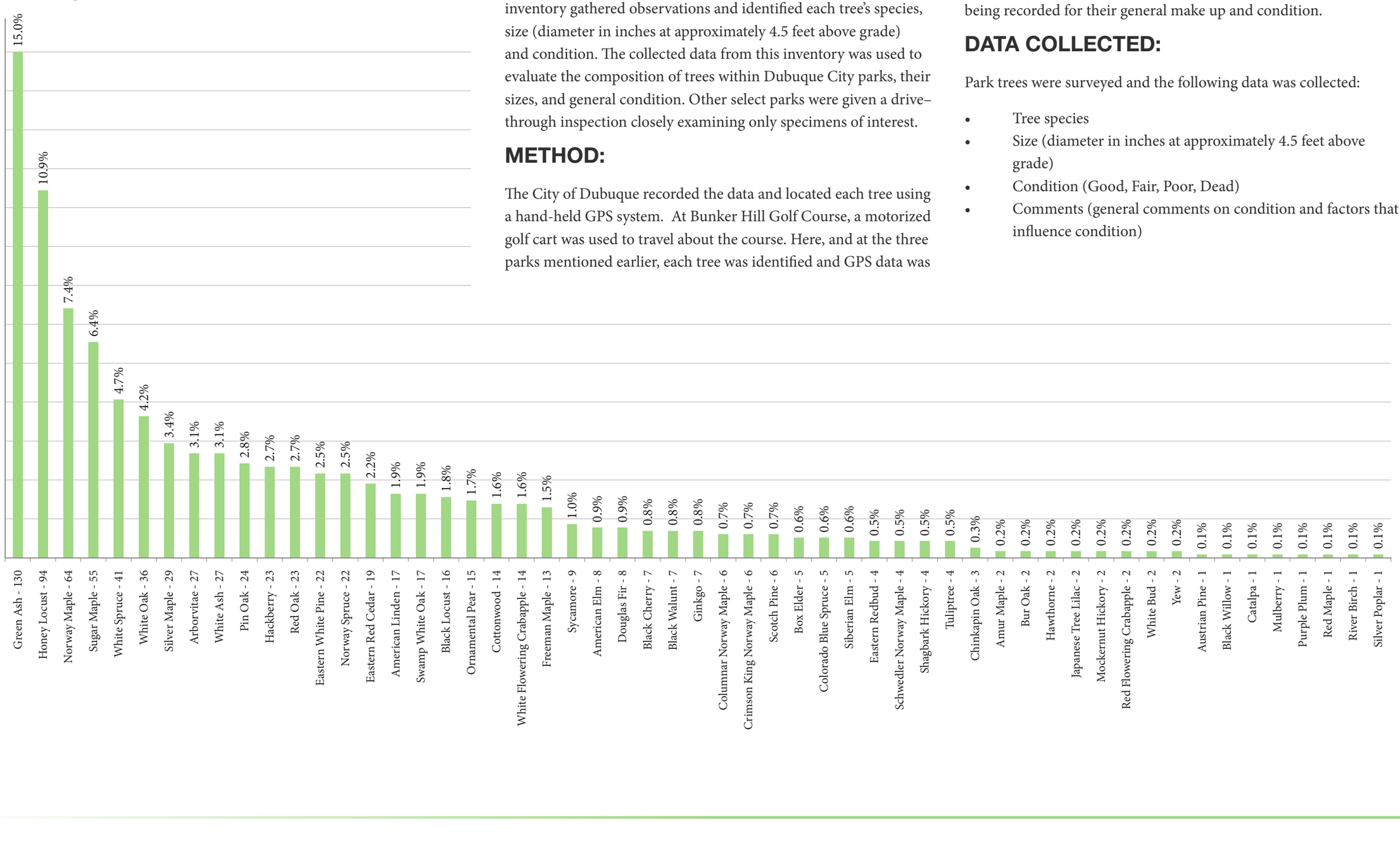
The City of Dubuque recorded the data and located each tree using a hand-held GPS system. At Bunker Hill Golf Course, a motorized golf cart was used to travel about the course. Here, and at the three parks mentioned earlier, each tree was identified and GPS data was recorded. Tally sheets noting species, size, condition, and specific comments were used while examining each specimen. Maps of the Bunker Hill Golf Course were used to determine the course boundaries and each tree within the area's limits was inspected, except for the natural wooded areas. In this location, as well as others, the trees were examined as a community, with observations being recorded for their general make up and condition.

DATA COLLECTED:

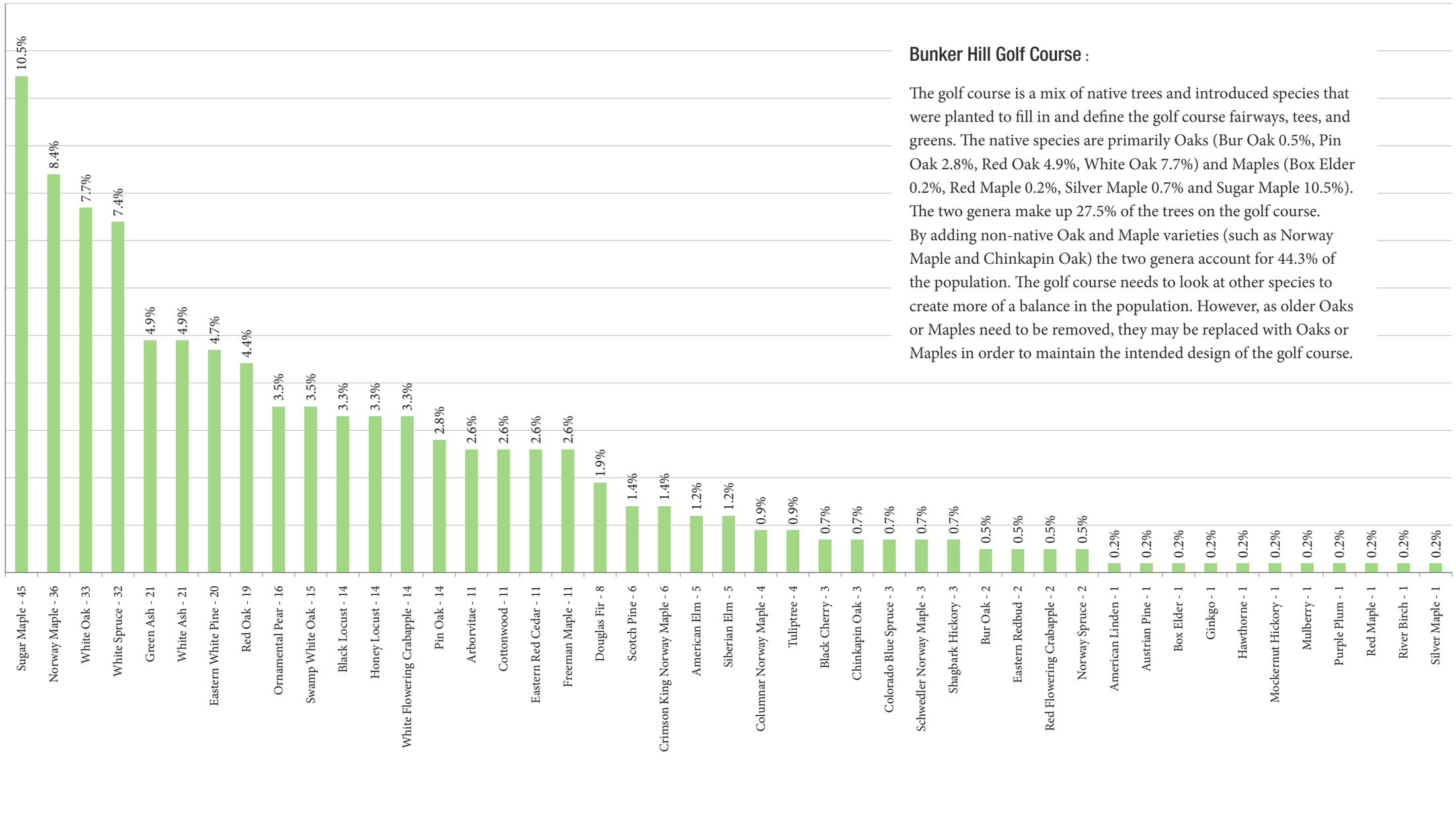
Park trees were surveyed and the following data was collected:

- Tree species
- Size (diameter in inches at approximately 4.5 feet above grade)
- Condition (Good, Fair, Poor, Dead)
- Comments (general comments on condition and factors that influence condition)

Park Trees - Total Population Diversity



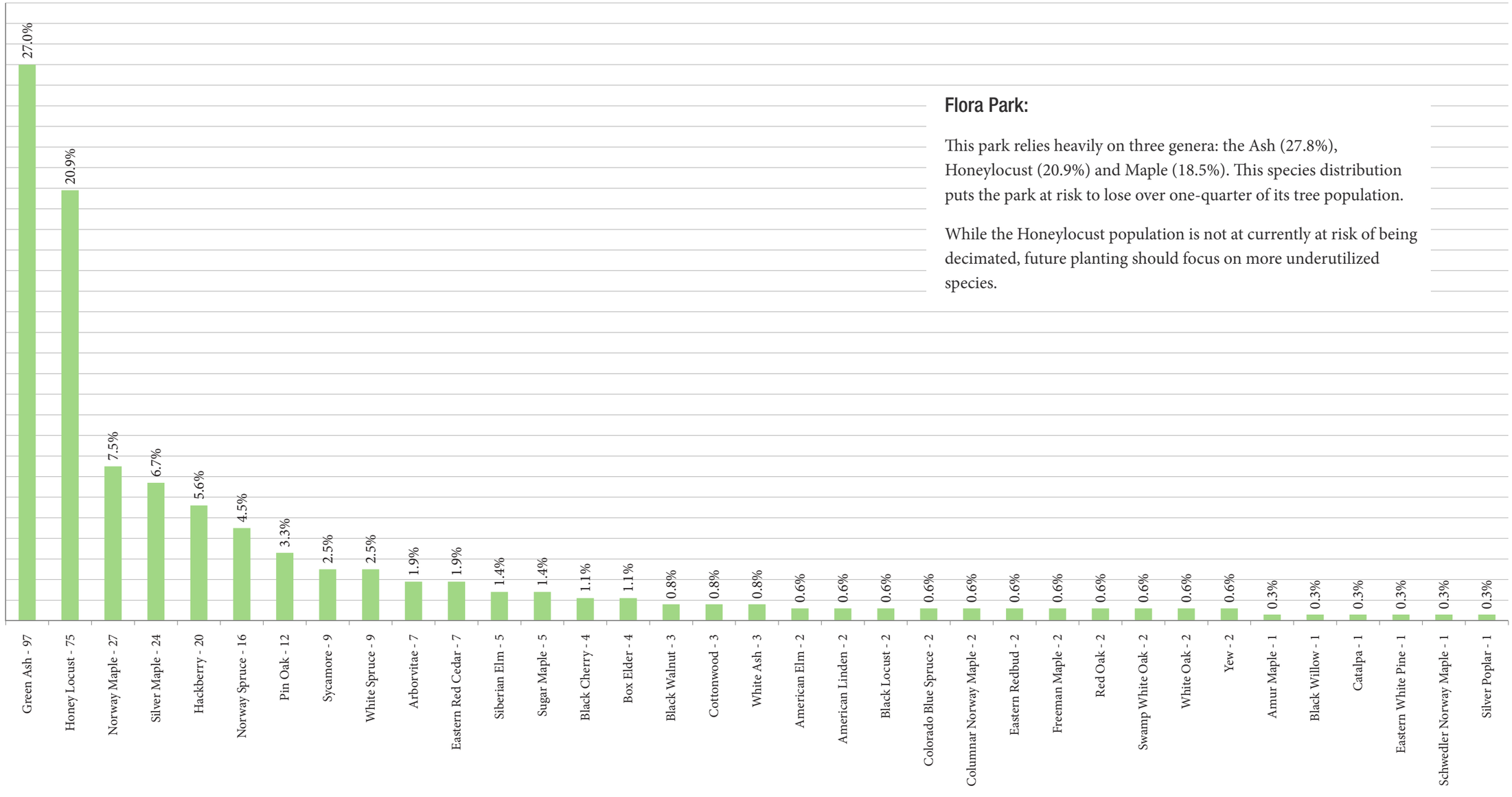
Bunker Hill Golf Course - Population Diversity Breakout



Bunker Hill Golf Course :

The golf course is a mix of native trees and introduced species that were planted to fill in and define the golf course fairways, tees, and greens. The native species are primarily Oaks (Bur Oak 0.5%, Pin Oak 2.8%, Red Oak 4.9%, White Oak 7.7%) and Maples (Box Elder 0.2%, Red Maple 0.2%, Silver Maple 0.7% and Sugar Maple 10.5%). The two genera make up 27.5% of the trees on the golf course. By adding non-native Oak and Maple varieties (such as Norway Maple and Chinkapin Oak) the two genera account for 44.3% of the population. The golf course needs to look at other species to create more of a balance in the population. However, as older Oaks or Maples need to be removed, they may be replaced with Oaks or Maples in order to maintain the intended design of the golf course.

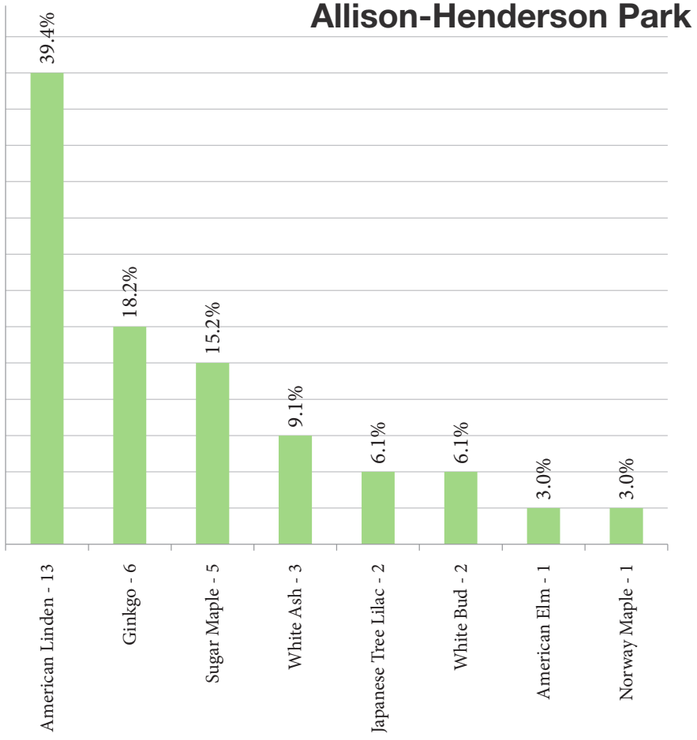
Flora Park - Population Diversity Breakout

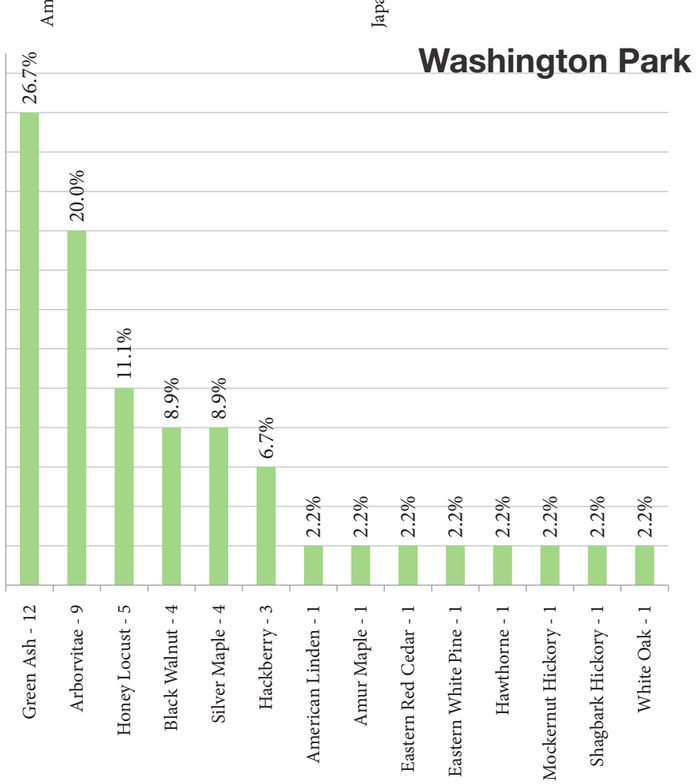


Flora Park:

This park relies heavily on three genera: the Ash (27.8%), Honeylocust (20.9%) and Maple (18.5%). This species distribution puts the park at risk to lose over one-quarter of its tree population.

While the Honeylocust population is not at currently at risk of being decimated, future planting should focus on more underutilized species.





Dubuque Parks:

The 2010 tree inventory of Bunker Hill Golf Course, Flora Park, Washington Park, and Allison-Henderson Park, and the drive-by inspections of other Dubuque parks, has consistently indicated a park tree population dominated by 4 genera: Maple, Ash, Oak and Honeylocust. The inventory (Figure 7) found 21.4% Maple, 18.2% Ash, 12.2% Oak, and 10.9% Honeylocust. The top two are the most troublesome, as they represent 39.6% of the trees, with nearly half of those in jeopardy due to Emerald Ash Borer (See Dubuque Forestry Policies (pgs.25-26) for recommended strategies regarding Emerald Ash Borer). The Oak and Honeylocust populations are tolerable. Dubuque is a bluff area where Oaks are prevalent and would be expected to be high in population. New plantings should restrict the use of Maples, and Ash, of course, should not be planted at all due to the impending threat of Emerald Ash Borer.

New tree planting plans should consider trees that are currently underutilized, that have also been found to be doing quite well in the Dubuque parks, such as:

Douglas Fir
Ginkgo
Hawthorne
Ornamental Pear
White Flowering Crabapple
Eastern White Pine
Hackberry
Japanese Lilac Tree
Red Flowering Crabapple
River Birch

OBSERVATION NOTES:

Bunker Hill Golf Course Natural Wooded Areas:

The surrounding areas to the north, east, and southeast of the golf course contain several acres of natural woodlands. These areas are made up of native, naturally growing trees that were most likely established before the golf course was built. The dominant tree species in these woodlands are Red Oak, White Oak, Black Cherry, Black Locust, and American Elm. Other popular species include: Cottonwood, Silver Maple, Box Elder, Green Ash and Mulberry. More recent invasive species such as Siberian Elm and Cedars were also identified.

These woodlands appeared to be in Fair to Good condition with only a handful of dead Elms (due to Dutch Elm Disease) and some dead Oaks (due to Oak Wilt). There are also quite a few trees with storm damage seen near the edges of the woodland. These trees have broken branches or, in a few cases, have been completely uprooted. Some Oaks along the edge were also affected by Anthracnose.

Miller Park Campground: (drive-through inspection)

This campground primarily consists of Silver Maple, Green Ash, and Cottonwood. The trees were in Fair condition with sizes ranging from 26” to 30” in diameter.

Jackson Park: (drive-through inspection)

The following trees were identified in Jackson Park: Sugar Maple, Black Walnut, White Flowering Crabapple, Green Ash, Hackberry, Hawthorne, Norway Maple, Red Oak, Norway Spruce, Silver Maple, Saucer Magnolia, and Arborvitae. The majority of these trees were in Good or Fair condition. Three Norway Maple trees had some dieback and, upon closer inspection, also had root issues. One had substantial storm damage. A Hackberry had also been cable braced.

Dodge Street Boulevard Plantings: (drive-through inspection near Grandview and Fremont ramps)

This area had substantial plantings of Honeylocust, Ginkgo, Hawthorn, Spruce, Cedar, and Juniper shrubs. For the most part the trees were in Good condition, however there were a few Honey Locust, particularly on the south side, that had a considerable amount of mower damage. There were also several Ginkgos planted outside of the established flower beds that were damaged by mowers and are in Poor condition. The Juniper shrubs close to Dodge Street have been damaged by salt spray. The Ginkgos planted within the flower beds are very healthy—most likely because they are well-mulched and receive water regularly.

AY McDonald Park: (drive-through inspection)

This park had a number of trees that were in Good condition. The park has Red Flowering Crabapple, Norway Maple, Japanese Lilac Trees, White Flowering Crabapple, River Birch, Freeman Maple and Eastern Redbud. These trees have been recently planted and only the Eastern Redbud appeared in Fair condition.

McAleece Sports Complex: (drive-through inspection)

This park has four main species: Honeylocust, Maple, Ash, and River Birch. Almost all of these trees appeared to be in Good condition. A couple of the Honey Locusts were struggling and a closer inspection revealed that they had sustained mower damage.

Eagle Point Park: (drive-through survey with closer inspection of specimens of interest)

This park has a variety of tree species, including: Shagbark Hickory, Black Locust, Sugar Maple, White Oak, Mulberry, Crimson King Norway Maple, Eastern Redbud, Box Elder, Catalpa, Green Ash, Norway Maple, Silver Maple, Colorado Blue Spruce, Silver Poplar, Eastern Red Cedar, Red Oak, Eastern White Pine, Black Cherry, Hackberry, American Elm, and Sycamore.

Many of the White Oaks and the Sycamores had Anthracnose problems. The Spruce trees near the entrance and Oaks along the road at the woodland edge have a substantial amount of deadwood. Some of this deadwood is overhanging the roadway. The natural woodland area contains a few dead Oaks (caused by Oak Wilt) and dead Elms (caused by Dutch Elm Disease).

The following are closely inspected trees at Eagle Point Park (GPS readings taken):

-24 inch White Oak - in a parking strip closely surrounded by asphalt - no root flare - large trunk scar (storm damage) with decay.

-34 inch Silver Maple - next to Terrace Room Bldg. - hollow and the weight is leaning out and over the bldg.

-Group of Red Oaks that have white painted dots - dead or dying - Oak Wilt.

-26 inch Black Cherry - white dots - storm damage scars with decay

-44 inch Silver Maple - deadwood over the road in poor condition - white dot

-7 inch Spruce - most of the branches are dead and it has a white dot

-Crimson King Norway Maple with two major stems -near the trail that leads to the log cabin - north stem is dead

-White Oak - North of the log cabin across the parking lot - with a substantial amount of deadwood overhanging the playground.

-32 inch Red Oak tree - next to the Dubuque water tower - dying - Oak Wilt

-42 inch Cottonwood near the shelter has a lightening scar but is in Good condition

-12 inch Silver Maple near picnic tables and a small playground - dead - white dot

-White Oak - large scar with decay

-Several trees that have a number of lightening scars, including a Norway Maple that has been hit by lightning very recently.

-25 inch Oak that is completely Dead but has a very large poison ivy vine attached - the leaves of the poison ivy hide the condition of the tree

-28 inch Sugar Maple in the fish pond area lost a major branch a few years ago and has extensive decay - this tree should be removed

-26 inch White Spruce - near East Annex Room - recent lightening strike

-40 inch Catalpa northwest of the Indian Room is in Good condition

-West of the 40 inch Catalpa is a Black Cherry where recent digging has changed the grade around this tree - jeopardizing the root system

-24 inch Dead White Oak with conks, east of the horse shoe pits.

-A number of Maples with extensive amounts of deadwood around the swing set north of the horse shoe pits

-32 inch Sugar Maple to the northeast of the swings with a girdling root and a splitting trunk that should be removed

-32 inch Sugar Maple with a tight v-crotch and decay northwest of the swing set - needs to be monitored

-26 inch White Oak - southeast of big shelter and northeast of a playground -with extensive amount of deadwood near the top

-Large Sugar Maple south of the Indian Room - root problems and dieback - removal recommended

-Sugar Maple north of the sprinkling wading pool has a sparse crown, structural problems with decay - needs to be monitored.

-South of the main entrance there is a small pocket of Dead Oaks - Oak Wilt

The park trees are generally in Good to Fair condition, however, there is a lot of dead wood in the trees. The removal of this deadwood (through pruning) would improve the quality of the trees and provide adequate safety for the park users.

Eagle Point Park Prairie Restoration: (recommendation)

The existing woodland is a result of a lack of maintenence to what was historically prairie. The woodland is not especially valuable, so a program of prairie restoration could take place. Restoration should occur in small phases, allowing for successful implementation in manageable portions. The city should consider how the prairie will be managed, and should encourage local stewardship and volunteerism.

Ham House: (drive-through survey with closer inspection of specimens of interest)

Specific trees at the Ham House that were closely inspected (GPS readings taken):

-20 inch Alder east of the parking area, just east of the new trail - has an old storm damage scar that is now decaying. The weight of this tree is towards the trail and if it fails it will reach the trail.

-36 inch Hackberry east of the Ham House in Good condition.

-Large Norway Spruce northeast of the house in Good condition.

-Large Hackberry at the southeast corner of the house with a seam forming in the trunk and should be monitored. May want to cable brace.

-28 inch Hackberry south of the house has a very active open split in the trunk and it hangs over the maintenance road.

-34 inch White Oak in Fair condition.

-Large White Oak at the southwest corner is in Good condition.

-22 inch Black Cherry west of the northwest corner of the house - needs to be removed - storm damage.

-The rest of the trees - Black Walnut, Green Ash, White Ash, Eastern Red Cedar are in Good to Fair condition.

Murphy Park: (walk-through inspection noting the general health of park trees and closer inspection of specimens of interest)

Native tree species identified: Cottonwood, Bur Oak, White Oak, Red Oak, Ash, Black Walnut, and Silver Maple with plantings of Austrian Pine, Honeylocust, Green Ash, American Linden, Eastern Red Cedar, Norway Spruce, Norway Maple and Sugar Maple.

Trees are generally in Good to Fair condition. Many trees have a considerable amount of deadwood that, if removed, could improve in quality and provide adequate safety for the park users. Oaks are being affected by Anthracnose. This park is primarily an even-aged stand with newer plantings along the edge and near open areas.

Specific trees at Murphy Park that were closely inspected (GPS readings taken):

-30 inch Silver Maple in Good condition

-26 inch Cottonwood in Good condition

-30 inch Cottonwood near picnic area - Fair/Good - deadwood

-23 inch 4 stem Black Walnut along the West fence should be removed - poor structure and decay

-Red Oak near playground and restrooms has a large hanger (broken branch in the crown)

-50 inch Bur Oak - center of the park has considerable amount of dieback - over mature and root issues - should be scheduled for removal

-2 Honeylocusts near the small playground - Fair/Good - deadwood

-32 inch White Oak - 20 yards north of horseshoe pits - basal scar with decay - monitor

-23 inch Honeylocust - mower damage

-16 inch Honeylocust - mower damage - roots damaged

-Black Walnut with a hanger west of small playground

-26 inch White Oak - surrounded by asphalt - dieback and sparse.

Dubuque Park Trees - **Totals**

Species	Good	Fair	Poor	Dead	**Total**
American Elm	7	1			8
American Linden	9	8			17
Amur Maple	2				2
Arborvitae	15	11	1		27
Austrian Pine	1				1
Black Cherry	1	4	1	1	7
Black Locust	4	11	1		16
Black Walnut	3	4			7
Black Willow		1			1
Box Elder	3	1	1		5
Bur Oak	2				2
Catalpa	1				1
Chinkapin Oak	2	1			3
Colorado Blue Spruce	2	2	1		5
Columnar Norway Maple	3	2	1		6
Cottonwood	8	6			14
Crimson King Norway Maple	3	2	1		6
Douglas Fir	3	5			8
Eastern Redbud		2	2		4
Eastern Red Cedar	10	8	1		19
Eastern White Pine	14	7	1		22
Freeman Maple	9	3	1		13
Ginkgo	7				7
Green Ash	28	90	12		130
Hackberry	21	1	1		23
Hawthorne	2				2
Honey Locust	66	27	1		94
Japanese Tree Lilac	2				2
Mockernut Hickory	2				2
Mulberry	1				1
Norway Maple	11	44	9		64
Norway Spruce	5	17			22
Ornamental Pear	8	7			15
Pin Oak	10	11	3		24
Purple Plum		1			1
Red Flowering Crabapple		1	1		2
Red Maple	1				1
Red Oak	10	11	2		23
River Birch	1				1
Schwedler Norway Maple	1	2	1		4
Scotch Pine		3	2	1	6
Shagbark Hickory	3	1			4
Siberian Elm		1	4		5
Silver Maple	7	21	1		29
Silver Poplar		1			1
Sugar Maple	23	30	2		55
Swamp White Oak	16	1			17
Sycamore	1	8			9
Tuliptree	1	3			4
White Ash	22	5			27
White Bud	2				2
White Flowering Crabapple	7	5	2		14
White Oak	18	17	1		36
White Spruce	33	7	1		41
Yew	2		0		2
Total	413	394	55	2	864

Figure 3: Park Tree Species by Condition

Dubuque Park Trees - **Bunker Hill Golf Course**

Species	Good	Fair	Poor	Dead	**Total**
American Elm	5				5
American Linden	1				1
Arborvitae	9	2			11
Austrian Pine	1				1
Black Cherry	1	1		1	3
Black Locust	3	10	1		14
Box Elder			1		1
Bur Oak	2				2
Chinkapin Oak	2	1			3
Colorado Blue Spruce	2	1			3
Columnar Norway Maple	1	2	1		4
Cottonwood	6	5			11
Crimson King Norway Maple	3	2	1		6
Douglas Fir	3	5			8
Eastern Redbud			2		2
Eastern Red Cedar	5	6			11
Eastern White Pine	13	6	1		20
Freeman Maple	7	3	1		11
Ginkgo	1				1
Green Ash	15	6			21
Honey Locust	10	4			14
Hawthorne	1				1
Mockernut Hickory	1				1
Mulberry	1				1
Norway Maple	3	26	7		36
Norway Spruce	2				2
Ornamental Pear	8	8			16
Pin Oak	6	5	3		14
Purple Plum		1			1
Red Flowering Crabapple		1	1		2
Red Maple	1				1
Red Oak	8	9	2		19
River Birch	1				1
Schwedler Norway Maple		2	1		3
Scotch Pine		3	2	1	6
Shagbark Hickory	2	1			3
Siberian Elm		1	4		5
Silver Maple	1				1
Sugar Maple	16	28		1	45
Swamp White Oak	14	1			15
Tuliptree	1	3			4
White Ash	18	3			21
White Flowering Crabapple	7	5	2		14
White Oak	18	14	1		33
White Spruce	27	4	1		32
Total	226	169	32	3	430

Figure 3: Bunker Hill Golf Course - Tree Species by Condition

Dubuque Park Trees - **Flora Park**

Species	Good	Fair	Poor	Dead	**Total**
American Elm	1	1			2
American Linden		2			2
Amur Maple	1				1
Arborvitae	6	1			7
Black Cherry		3	1		4
Black Locust	1	1			2
Black Walnut	1	2			3
Black Willow		1			1
Box Elder	3	1			4
Catalpa	1				1
Colorado Blue Spruce		1	1		2
Columnar Norway Maple	2				2
Cottonwood	2	1			3
Eastern Redbud		2			2
Eastern Red Cedar	5	2			7
Eastern White Pine	1				1
Freeman Maple	2				2
Green Ash	9	76	12		97
Hackberry	19	1			20
Honey Locust	54	20	1		75
Norway Maple	7	18	2		27
Norway Spruce	3	13			16
Pin Oak	4	8			12
Red Oak	2				2
Schwedler Norway Maple	1				1
Siberian Elm		4	1		5
Silver Maple	2	21	1		24
Silver Poplar		1			1
Sugar Maple	2	2	1		5
Swamp White Oak	2				2
Sycamore	1	8			9
White Ash	2	1			3
White Oak		2			2
White Spruce	6	3			9
Yew	2				2
Total	142	196	20		358

Figure 3: Flora

Dubuque Park Trees - **Allison-Henderson Park**

Species	Good	Fair	Poor	Dead	**Total**
American Linden	1				1
Amur Maple	1				1
Arborvitae		8	1		9
Black Walnut	2	2			4
Eastern Red Cedar			1		1
Eastern White Pine		1			1
Green Ash	4	8			12
Hackberry	2		1		3
Hawthorne	1				1
Honey Locust	2	3			5
Mockernut Hickory	1				1
Shagbark Hickory	1				1
Silver Maple	4				4
White Oak		1			1
Total	19	23	3		45

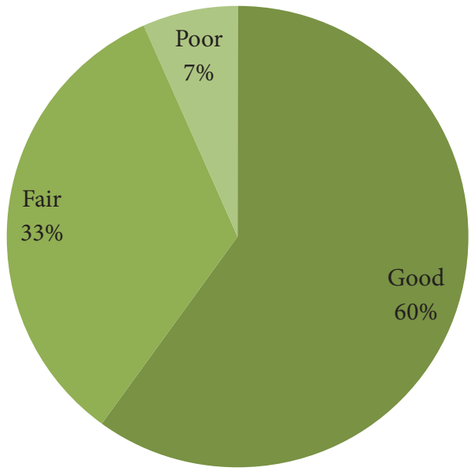
Figure 3: Allison-Henderson

Dubuque Park Trees - **Washington Park**

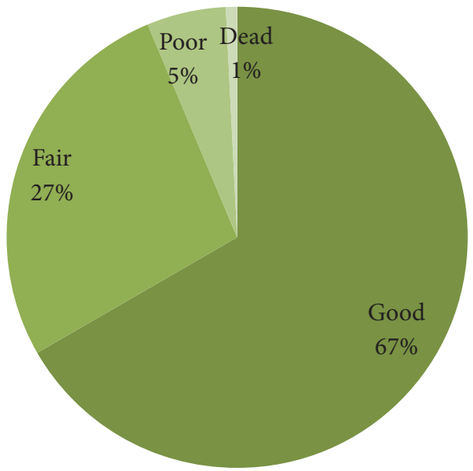
Species	Good	Fair	Poor	Dead	**Total**
American Elm	1				1
American Linden	7	6			13
Ginkgo	6				6
Japanese Tree Lilac	2				2
Norway Maple	1				1
Sugar Maple	5				5
White Ash	2	1			3
White Bud	2				2
Total	26	7			33

Figure 3: Washington

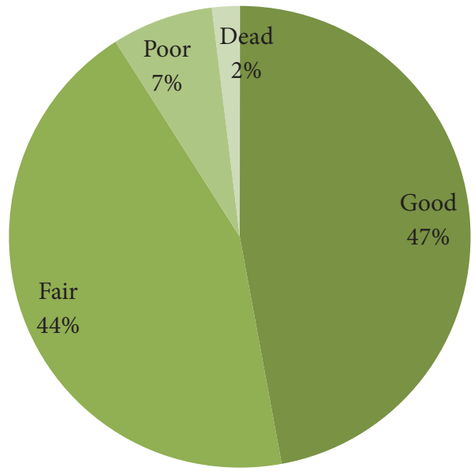
1" - 5"



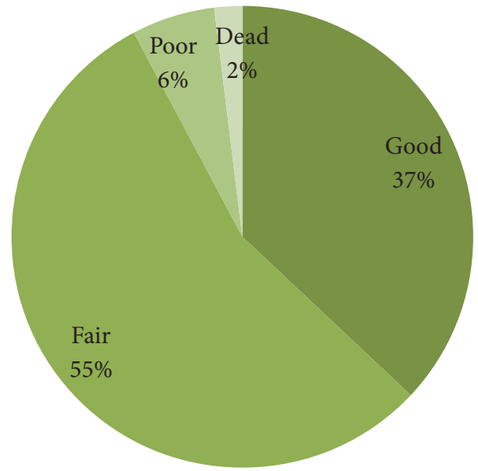
6" - 10"



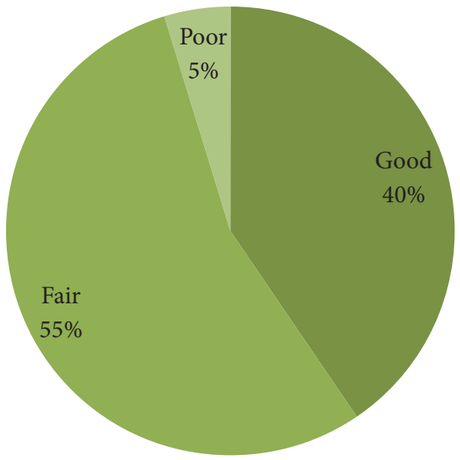
11" - 15"



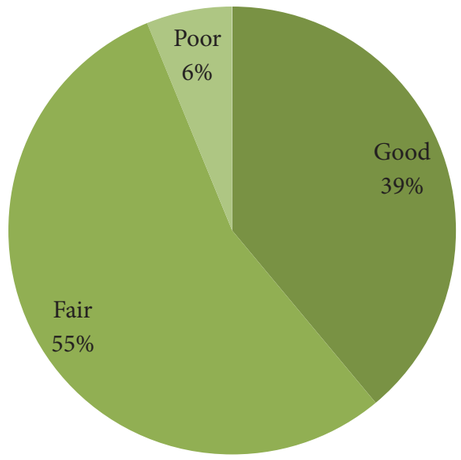
16" - 20"



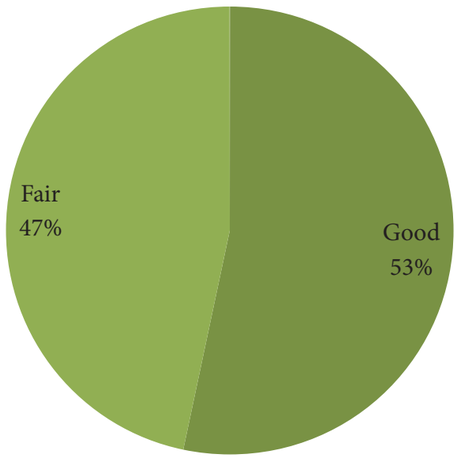
21" - 25"



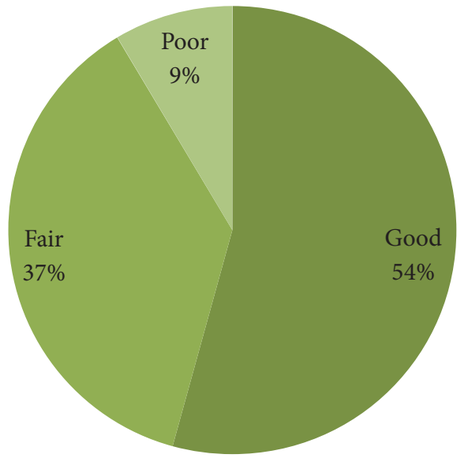
26" - 30"



31" - 35"



35" +



PARK TREE CONDITIONS - BY SIZE CLASS

Comment Abbreviations (TALLY SHEETS)

DW	Deadwood
NE	Northeast
NW	Northwest
N	North
SE	Southeast
SW	Southwest
S	South
E	East
W	West
LP	Lift Prune
RE	Remove

Tree Abbreviations (TALLY SHEETS)

Free M	Freemanii Maple
Blk M	Black Maple
NM	Norway Maple
RM	Red Maple
SM	Silver Maple
SUM	Sugar Maple
AM	Amur Maple
BE	Box Elder
OBE	Ohio Buckeye
HCN	Horse Chestnut
Blk A	Black Alder
PB	Paper Birch
RB	River Birch
BH	Bitternut Hickory
SH	Shagbark Hickory
CC	Chinese Chestnut
Cat	Catalpa
HB	Hackberry
ERB	Eastern Redbud
HT	Hawthorn
RusO	Russian Olive
AB	American Beech
EB	European Beech
WA	White Ash
GA	Green Ash
BA	Blue Ash
GK	Ginkgo
HL	Honeylocust
BN	Butternut
KC	Kentucky Coffeetree
BW	Black Walnut
GT	Goldenrain Tree
SG	Sweetgum
TT	Tulip Tree
SauM	Saucer Magnolia
WFC	White Flowering Crabapple
RFC	Red Flowering Crabapple
MBy	Mulberry
AC	Amur Corktree
LP	London Planetree
Syc	Sycamore
WP	White Poplar
CWd	Cottonwood
BAsp	Bigtooth Aspen
QA	Quaking Aspen
PP	Purpleleaf Plum
SgtC	Sargent Cherry
BCh	Black Cherry
CC	Chokecherry
OrnP	Ornamental Pear
SawO	Sawtooth Oak
WO	White Oak
SWO	Swamp White Oak
NPO	Northern Pin Oak
SHO	Shingle Oak
BO	Burr Oak
CHO	Chinkapin Oak
PO	Pin Oak
WO	Willow Oak
ChnO	Chestnut Oak
EO	English Oak
BlkO	Black Oak
BL	Black Locust
WW	Weeping Willow
AMA	American Mountain Ash
EMA	European Mountain Ash
JTL	Japanese Lilac Tree
AL	American Linden
LL	Littleleaf Linden
SL	Silver Linden
AE	American Elm
SE	Siberian Elm
RE	Red Elm
BF	Balsam Fir
WF	White Fir
ERC	Eastern Redcedar
EL	European Larch
Ala	American Larch
NSp	Norway Spruce
WSp	White Spruce
BHS	Black Hills Spruce
CBS	Colorado Blue Spruce
AuP	Austrian Pine
PonPe	Ponderosa Pine
RP	Red Pine
WhP	White Pine
SP	Scotts Pine
DF	Douglas Fir
Bcy	Baldcypress
CHem	Canadian Hemlock
S-NM	Schwedler Norway Maple
CK-NM	Crimson King – Norway Maple

Bunker Hill Golf Course

Park Field Data Sheet 2010

Entry	Species	Size	Condition	Comments
1	SUM	12"	F-P	Too deep - girdling root
2	SUM	22"	F-P	Girdling root - dieback
3	CKNM	3"	G	
4	NM	21"	G	
5	SUM	20"	F	Seam on trunk
6	NM	18"	F	Sparse - planted too deep - girdling root
7	NM	10"	P	Broken top - storm decay
8	SWO	5"	G	
9	SWO	4"	G	Name tag wire
10	NM	10"	P	Planted too deep - old mower scar
11	NM	18"	F	Scar on trunk
12	NM	17"	P	Basal scar - girdling root
13	SE	23"	P	Dieback - no root flare
14	NM	4"	F-P	Too deep - basal scar
15	NM	9"	F-P	Girdling root - planted too deep
16	NM	12"	P	Planted too deep
17	Grove - SE & W Spr.	22-24"	F	DW in top SE
18	RFC	18"	F-P	Basal problem
19	SUM	18"	F	Roots - dieback
20	SWO	4"	G	
21	NM	11"	P	Roots - basal scar - dieback
22	SUM	26"	F-G	
23	SUM	18"	G	
24	NM	21"	F-G	Girdling root
25	NM	12"	F-P	Too deep - basal scar
26	NM	18"	F-P	Girdling root
27	Grove - Pines (6) - Scotts and E. White	22-30"	F-G	
28	WFC	3"	P	Basal scar
29	RFC	20"	P	Trunk scar decay
30	RO	42"	P	Trunk decay - dieback - REMOVE
31	BL	26"	F-P	Decay in trunk - cable / braced
32	CW	42"	F-P	DW
33	OrnP	14"	G	
34	OrnP	9"	G	
35	WFC	4"	F	
36	OrnP	12"	G	
37	SUM	10"	G	
38	GA	12"	G	
39	WFC	2"	G	
40	WA	8"	G	
41	CW	42"	F	
42	OrnP	6"	F	Basal scar - mower
43	WFC	5"	G	
44	GA	9"	G	
45	GA	10"	G	
46	GA	7"	G	Girdling root
47	OrnP	4"	G	
48	SUM	22"	G	
49	NM	22"	P	Girdling root - dieback
50	SWO	1"	F	Guy wire - stakes
51	ERC	16"	G	
52	Free M	1"	G	
53	Free M	1.5"	G	
54	Free M	2"	G	
55	SNM	12"	P	Basal scar - old mower decay
56	GA	10"	G	
57	SWO	6"	G	
58	SWO	6"	G	
59	SWO	5"	G	Minor mower
60	CW	44"	F	Old lightning scar
61	GA	7"	G	Old mower damage
62	PO	3"	G-P	Chlorotic - old mower
63	Free M	1.5"	P	Trunk scar - dieback
64	RM	3"	G	
65	Woods - BC, BL, CW, SE, SM		F-G	

66	Woods - SE, RO, BE, BC, RO	18-24"	F-P	SE - dieback
67	RO	24"	F-P	Dieback
68	SWO	4"	G	Chlorotic
69	GA	8"	G	
70	CKNM	2"	P	Trunk scar
71	NM	4"	F	Basal scar
72	SWO	4"	G	Name tag too tight
73	WA	5"	G	
74	WA	5"	G	Name tag too tight
75	WO	40"	F	Minor dieback
76	WA	5"	G	
77	PO	30"	F-P	Crown misshape
78	WO	26"	F	Anthracnose
79	PO	40"	P	Scar - decay - REMOVE
80	W Spr	10"	G	
81	W Spr	8"	G	
82	W Spr	6"	G	
83	W Spr	4"	G	
84	WP	8"	G	
85	GK	4"	G	
86	GA	9"	G	
87	PO	8"	G	
88	WA	9"	G	Minor mower
89	ERC	18"	G	
90	ERC	18"	G	
91	NM	5"	F-P	Name tag too tight
92	OrnP	4"	F-P	Trunk scar
93	WA	3"	G	
94	WA	3"	F-P	Trunk scar
95	OrnP	10"	G	
96	WA	5"	G	Name tag problem
97	DF	12"	F-P	Basal scar - roots
98	SUM	18"	G	
99	WA	7"	G	
100	Tuliptree	12"	F	Too deep
101	SWO	4"	G-F	Anthracnose
102	WA	4"	G	Minor mower
103	Free M	1"	F	Water?
104	WA	3"	F	Scar trunk
105	HL	3"	G	
106	HL	8"	G	
107	NM	24"	F	Roots
108	BO	23"	G	DW
109	DF	20"	F-G	Sparse
110	HL	12"	G	
111	DF	22"	F	
112	WFC	8"	F-G	Broken branch - vandalism
113	WFC	6"	G	
114	WFC	6"	G	Name tag problem
115	GA	19"	F-P	No root flare
116	BL	34"	F-P	
117	GA	19"	F-P	Structure
118	NM	8"	G	
119	NM	26"	F-P	Roots - dieback
120	AE	48"	G	
121	AE	36"	G	
122	NM	14"	F	Dieback
123	NM	16"	F-G	Sparse
124	AE	34"	G	Minor dieback
125	NM	10"	F-P	Girdling root
126	CKNM	2"	F	
127	AL	4"	G	Deer - name tag
128	SE	18"	P	Basal problems - old mower
129	PO	9"	G	
130	SE	22"	P	Trunk scar - decay - REMOVE
131	Tuliptree	6"	G	
132	GA	10"	G	
133	PO	13"	G	
134	SUM	13"	F	Basal scars - old mower
135	DF	20"	G	
136	DF	19"	G	
137	SWO	4"	G	
138	SE	22"	F-P	Lean
139	Free M	5"	F	Deer scars
140	CKNM	3"	G	
141	GA	9"	G	
142	Austrian Pine	10"	G	
143	SUM	8"	G	

144	SE	28"	P	Roots - decay -REMOVE
145	Free M	1.5"	G	
146	DF	12"	Excellent	
147	PO	30"	P	
148	ERB	3"	P	Mower damage - old
149	EW Pines (5)	22-26"	G	
150	WFC	4"	F-G	Basal scar - mower
151	CKNM	12"	G	
152	WA	10"	G	Mower nick
153	Free M	2"	G	
154	CW	32"	G	
155	WO	7"	G	
156	Chinkapin Oak	1"	G	
157	Free M	2"	G	Mower nick
158	Chinkapin Oak	1"	G	Guy wire
159	SUM	18"	G	
160	WA	6"	G	
161	WA	10"	G	
162	WA	7"	G	
163	NM	20"	F-P	Girdling root - dieback
164	NM	17"	F	Girdling root - mower
165	NM	16"	F	Roots
166	NM	14"	P	Too deep - roots - dieback
167	SUM	11"	F-P	Too deep - roots
168	SUM	14"	F	Too deep
169	SUM	13"	G-F	Girdling root
170	SUM	13"	G	
171	WA	7"	G	
172	NM	14"	F-P	Too deep - girdling root
173	SUM	13"	F	
174	SUM	14"	F-G	
175	SUM	13"	G	
176	SUM	12"	F	Roots
177	SUM	8"	F	
178	W Spr	16"	Excellent	
179	W Spr	16"	Excellent	
180	W Spr	18"	Excellent	
181	CB Spr	20"	G	
182	EW P	7"	G	
183	W Spr	12"	G	
184	W Spr	16"	Excellent	
185	OrnP	9"	F	
186	GA	10"	F	
187	WFC	8"	P	Basal scar - old mower
188	ArborV	10"	F	
189	SNM	14"	F	
190	SNM	14"	F	
191	WA	3"	G	
192	PO	9"	F	
193	SWO	7"	G	
194	PO	10"	G	
195	BO	6"	G	
196	SWO	6"	G	
197	CW	56"	G	
198	WO	22"	G	
199	WO	30"	G	
200	AE	14"	G	
201	WO	32"	G	
202	WO - 2 stem	26"	G	
203	WO	14"	F	Lean
204	BC	14"	D	Stub - REMOVE - storm
205	WO	24"	G	
206	WO	28"	G	
207	WO - 2 stem	13"	F-P	Shaded
208	WO - 2 stem	20"	F-P	Shaded
209	WO - 2 stem	20"	F	Shaded
210	WO - 2 stem	20"	F-G	
211	WO - 2 stem	21"	G	
212	WO - 2 stem	16"	G	
213	WO - 2 stem	22"	F-P	
214	WO	26"	F-P	Basal scar - dieback
215	WO	18"	F	Anthracnose
216	WA	14"	G	
217	WA	18"	F	
218	Purple Plum	3"	F	
219	PO	10"	G	
220	Free M	1.5"	F	Deer
221	Chinkapin Oak	1"	F	Deer
222	CW	38"	F	
223	Mockernut Hick.	20"	G	
224	PO	20"	P	2 leader dieback - DW

225	CW	38"	F-P	Basal decay - old mower
226	GA	12"	F	Basal damage
227	CB Spr	12"	G	
228	OrnP	3"	F-P	Sparse - scar
229	SWO	8"	G	
230	EWP	21"	F	
231	W Spr	14"	G	
232	W Spr	12"	F	Loss top - storm
233	CB Spr	14"	F	
234	EW P	14"	G	
235	Grove - WO (24)	24-26"		Chlorotic and anthracnose
236	Tuliptree	8"	F-G	
237	WO Grove (15)	20-22"	F	Anthracnose - REMOVE 1 (basal decay)
238	WO	20"	D	Near #11 green cart path - REMOVE
239	Grove - oak and elm (24)			Oak wilt
240	HL	28"	F-G	DW
241	HL	16"	F	
242	HL - 2 stem	22"	F	DW
243	HL	22"	F	DW
244	Grove - BC, GA, Elm		F	
245	HL	26"	G	Thorns
246	HL	32"	G	Thorns
247	NM	14"	F	No root flare
248	SUM	14"	F-P	Roots
249	SUM	16"	G	Minor mower
250	NM	14"	F-P	Roots
251	NM	16"	G	
252	SUM	13"	F-P	No root flare
253	SUM	12"	F-P	Roots
254	NM	22"	F-G	
255	SUM	12"	D	REMOVE - old mower
256	SUM	12"	F-P	Roots
257	SUM	15"	F-P	Roots
258	RO	26"	F-G	
259	RO	28"	F	
260	SUM	13"	F	No root flare
261	SUM	13"	F	Roots
262	SUM	16"	G	
263	SUM	13"	F	Roots
264	SUM	14"	F	Roots
265	SUM	15"	F	Roots
266	ArborV	8"	F	Wire
267	SUM	19"	G	
268	SUM	14"	G	
269	SUM	16"	G	
270	SUM	16"	G	
271	SUM	16"	F-P	Root flare - DW
272	SUM - 2 stem	20"	F	No root flare - seam in trunk
273	SUM	16"	F	No root flare
274	SUM	15"	F-G	
275	SUM	16"	G	
276	E WP	16"	F	
277	S Pine	16"	F-P	
278	S Pine	16"	F-P	
279	S Pine	16"	F-P	
280	S Pine	7"	P	
281	EWP	18"	F-G	
282	RO	26"	F	
283	WO	26"	P	Basal scar - old mower decay
284	GA	8"	F-G	
285	Free M	2"	G	Wrap left on
286	GA	9"	G	
287	SM	3"	G	
288	GA	9"	G	
289	ERC	12"	G	
290	ERC	12"	F	
291	ERC	12"	G	
292	ArborV (5)	8"	G	
293	Woods - RO, BL, Ash		F	Some DW
294	W Spr	20"	G	
295	W Spr	21"	G	
296	BWP	10"	G	
297	W Spr	21"	G	
298	WFC	8"	G	
299	PO	34"	F	DW

300	NM	19"	F	Girdling - dieback
301	NM	21"	F	No flare, roots
302	Woods - Oak, Cedars, BL, BC		F	
303	Norway Spruce	16"	F	
304	FWC	3"	G	
305	ERC	14"	F	
306	W Spr	10"	G	
307	W Spr	9"	G	
308	W Spr	9"	G	
309	W Spr	9"	G	
310	CNM	12"	P	No root flare - leaf scorch
311	CNM	11"	F-P	Leaf scorch - near parking lot
312	CNM	12"	F	
313	CNM	12"	G-F	
314	RO	25"	F-P	Trunk - hollow
315	CKNM	1.5"	F	
316	WFC	3"	F	Deer rubbed
317	WO	26"	G	Anthracnose
318	RO	24'	F	DW
319	RO	28"	P	Large scar - REMOVE (near #5 tee box)
320	Woods - BC, Elm, Oak, BL		D	Elm, BC, and Oak D - REMOVE
321	ERC (4)	9-16"	F	DW
322	GA	9"	G	
323	GA	9"	G	
324	Shagbark Hick.	21"	G	
325	Shagbark Hick.	18"	F-G	
326	Shagbark Hick.	18"	G	
327	RO	36"	G	
328	RO	36"	G	
329	RO	36"	G	
330	RO	40"	G	
331	RO	36"	F	DW
332	RO	36"	G	
333	WO	30"	G	
334	RO	21"	F-G	Old scars mower
335	RO	40"	G	
336	Tuliptree	8"	F	
337	SWO	12"	G	
338	OrnP	1"	F	Basal damage
339	OrnP	4"	F-P	Mower
340	WFC	4"	G	
341	SUM - multistem	26"	F-P	Structure
342	OrnP	12"	G	
343	GA	10"	G	
344	PO	11"	G	Mower nick
345	BE	40"	P	Decay - REMOVE
346	EWP	4"	P	
347	EWP	12"	G	
348	EWP	10"	G	
349	EWP	9"	F	
350	SUM	18"	F	Root flare
351	W Spr	12"	G	
352	OrnP	8"	G	
353	W Spr	10"	G	
354	W Spr	12"	G	
355	NM	10"	F	Roots
356	W Spr	6"	F	
357	W Spr	10"	F	
358	GA	10"	F	
359	Norway Spruce	14"	F	
360	Norway Spruce	10"	G	
361	Norway Spruce	10"	F	
362	W Spr	12"	G	
363	Norway Spruce	9"	F	
364	Norway Spruce	10"	G	
365	W Spr	11"	G	
366	BL	20"	F	Some decay
367	BL	24"	G-F	
368	HL	24"	G	Thorns
369	BL	22"	F-G	
370	BL	22"	G	
371	ArborV (4)	5"	G	
372	EWP	12"	F	
373	BL	18"	G	
374	BL	16"	F	
375	BL	14"	G	
376	BL	14"	F-P	Decay

377	BL	12"	F-P	Decay
378	BL	12"	F	
379	MB	13"	G	
380	BL	18"	F	DW
381	BL	20"	P	Scar - storm
382	Woods - BL, HL, NM, MB (15-20)		F	
383	NM	18"	F	
384	BL	24"	F-P	
385	HL	26"	G	
386	W Spr	14"	G	
387	EWP	20"	F	
388	W Spr	8"	P	Overshadowed
389	W Spr	13"	F-P	DW
390	EWP	15"	F	
391	DF	13"	F	Storm damage
392	SP	16"	D	Roots - storm
393	DF	11"	F-P	DW
394	W Spr	10"	Excellent	
395	W Spr	10"	G	
396	OrnP	8"	G	
397	W Spr	8"	G	
398	W Spr	9"	F	
399	WA	8"	G	
400	HL	18"	G	
401	EWP	9"	G	
402	W Spr	8"	G	
403	EWP	14"	G	
404	RO	26"	G	
405	RO	2"	G	
406	CW	28"	G	
407	WO	24"	G	
408	WO	12"	G	
409	AE	14"	G	
410	WO	14"	G	
411	Woods - GA, BC, yews, pines		F	
412	CW	48"	G	
413	R. Birch	13"	G	
414	HL	34"	G	Thorns
415	SUM	18"	F-P	No root flare - DW
416	WO	48"	G	
417	WO	25"	F	
418	WO	28"	G	
419	WO	22"	F	
420	RO	28"	F	
421	RO	30"	F	Minor decay
422	WO	30"	F-P	Minor defects
423	ERBud	4"	P	
424	OrnP	5"	F-G	
425	Woods - Oak, MB, AE		F	
426	WO	38"	G	
427	WO	48"	G	
428	HL	26"	G	Thorns
429	WA	12"	G	
430	CW	26"	G	
431	HT	20"	G	Mower nick
432	BC	25"	F-P	Basal scar - old mower - DW
433	CW	64"	G	
434	SP	10"	P	Shaded out
435	NM	4"	F	Trunk scar

Flora Park

Park Field Data Sheet 2010

Entry	Species	Size	Condition	Comments
1	BE	2"	G	
2	BE	2"	G	
3	BE	2"	G	
4	SM	13"	F	
5	SUM	14"	F	
6	Free M	3"	G	
7	Free M	3"	G	
8	GA	23"	F	
9	BL	26"	F-P	Trunk - defect
10	RO	24"	G	
11	ERC	9"	G	
12	EWP	15"	G	
13	HB	16"	G	
14	HB	13"	G	
15	HB	13"	G	
16	HB	14"	G	
17	HB	17"	G	
18	NM	26"	F	Dieback
19	NM	24"	F	Girdling root
20	HB	17"	G	
21	HB	14"	G	
22	HB	16"	G	
23	GA	26"	F	Roots - DW
24	GA	26"	F-G	
25	NM	24"	G	
26	GA	30"	F	
27	SM	26"	F	
28	GA	22"	F	
29	SM	28"	F-P	Roots - dieback
30	N Spr. (13)	14-28"	F	Shaded - DW
31	RO	26"	G	
32	CB Spr	14"	P	Shaded - DW
33	NM	14"	G	No flare
34	SM	28"	F-P	Root mowers - DW
35	Catalpa	36"	G	Structural
36	NM	18"	F-G	Girdling root
37	NM	12"	F-P	Shaded
38	SilverPop	28"	F	
39	CB Spr	20"	F	
40	SM	36"	F-P	Roots - structure
41	W Spr	16"	F	
42	NM	21"	F-G	
43	HL	34"	G	Mower
44	SM	38"	F	
45	SM	40"	F	
46	HL	34"	G	
47	SM	28"	G	
48	SE	22"	P	Basal decay - REMOVE
49	SM	27"	G	
50	GA	28"	F-P	DW
51	NM	11"	F	No root flare - mower
52	WA	8"	F	Trunk scars
53	NM	27"	F-P	Girdling root
54	NM	26"	F	Roots - DW
55	AL	30"	F	Minor structure
56	Syc	23"	F	Anthracnose
57	WO	14"	F	Anthracnose
58	WA	11"	G	
59	Syc	48"	F-G	Anthracnose
60	Syc	30"	F-G	Anthracnose
61	GA	11"	P	Roots
62	HL	26"	G	Mower scars
63	GA	19"	F	
64	SM	26"	F	
65	GA	26"	F	
66	HL	28"	G	
67	HL	19"	F-P	Scar - decay
68	HL	15"	F-P	Scar - decay
69	HL	26"	G	
70	Yew	18"	G	
71	Yew	10"	G	
72	SM	24"	F	
73	ArborV	1.5"	G	
74	ArborV	1.5"	G	
75	SM	14"	F	Storm
76	ArborV	1.5"	G	
77	SM	25"	G	Storm
78	SM	34"	F	Storm

79	GA	28"	F	Dieback
80	Syc	34"	F	Anthracnose
81	GA	26"	F	Utility trim
82	GA	26"	F	
83	GA	28"	G	
84	NM	10"	G	
85	NM	8"	G	
86	NM	12"	F	Roots
87	NM	13"	G	
88	NM	1.5"	F	Lean - guys wires
89	BL	12"	G	
90	GA	21"	F	DW
91	GA	20"	F	
92	GA	15"	F-P	Basal scars - DW
93	GA	16"	F	DW
94	GA	18"	F	DW
95	W Spr	8"	Excellent	
96	HL	16"	G	
97	W Spr	10"	G	
98	HL	22"	G	DW
99	W Spr	10"	G	
100	Syc	22"	G	Anthracnose
101	W Spr	10"	G	
102	NM	23"	F-P	Large scar - decay
103	HL	24"	F	
104	W Spr	10"	F	Shaded
105	HL	22"	G	
106	HL	21"	F-G	DW
107	HL	26"	G	
108	W Spr	10"	G	
109	HL	30"	G	
110	HL	14"	G	
111	HL	12"	G	
112	HL	14"	G	
113	W Spr	10"	G	
114	NM	21"	F-P	Decay - trunk
115	HL	15"	G	
116	GA	20"	P	Basal decay - mower - roofs
117	HL	23"	G	
118	HL	35"	G	
119	HL	26"	G-F	DW
120	SNM	16"	G	
121	HL	24"	F	Utility trim - wire
122	SM	24"	P	Storm - hollow
123	BW	28"	F	Storm
124	BW	16"	F	
125	SM	20"	F	
126	SM	32"	F	DW
127	HL	21"	G	
128	HL	23"	F	Structure
129	HL	20"	G-F	
130	HL	20"	G-F	
131	HL	20"	F	DW
132	HL	15"	G	
133	HL	28"	P	Decay
134	AL	6"	F	Basal scar - mower
135	NM	12"	F-P	Basal scar - mower
136	HL	16"	G	
137	HL	18"	G	
138	HL	24"	G	
139	CNM	4"	G	
140	SUM	22"	G-F	
141	NM	26"	F	Girdling root
142	HL	22"	G	
143	HL	24"	F-G	DW
144	HL	24"	G	
145	HL	16"	F	DW
146	HL	28"	F-G	DW
147	NM	17"	G	
148	GA	20"	P-D	Basal scar - mower
149	GA	24"	F	DW
150	GA	22"	F	DW
151	GA	16"	F	
152	HB	23"	G	
153	Black Willow	24"	F-P	DW
154	HB	8"	G	
155	HB	11"	G	
156	SUM	22"	P	Roots - dieback
157	NM	22"	F-P	Roots - dieback
158	ERC	6"	F-P	Shaded
159	NM	22"	F	Girdling root

160	BW	12"	G	
161	SM	28"	F	
162	HB	12"	G	
163	HB	10"	G	
164	ERB	16"	F	
165	GA	26"	F	
166	HB	14"	F	Seam on trunk
167	HB	12"	G-F	
168	GA	24"	F	Roots - DW
169	GA	21"	F	DW
170	GA	18"	F	No flare - DW
171	SM	22"	F	
172	HB	14"	G	
173	GA	21"	F-G	
174	GA	22"	F	
175	NM	4"	G	
176	GA	21'	F	
177	GA	24"	F-P	DW
178	GA	22"	F	Basal scar - mower
179	GA	24"	F-G	
180	GA	14"	P	No flare - DW
181	GA	28"	F	DW
182	HL	30"	F	
183	GA	30"	F-P	Drainage - dieback
184	Syc	24"	F	Anthracnose
185	GA	24"	F	DW
186	PO	26"	F	Shaded - DW
187	GA	22"	F	
188	PO	32"	F	DW
189	BC	21"	F	
190	GA	16"	F	No flare
191	GA	16"	P	No flare
192	PO	24"	F-P	
193	Syc	20"	F	
194	HL	23"	G	
195	GA	24"	G	
196	GA	25"	F	
197	HL	18"	G	
198	GA	8"	F	
199	GA	26"	P	Drainage
200	GA	22"	P	Compaction

201	BE	34"	F	
202	GA	14"	F-P	Compaction
203	GA	28"	F	
204	HL	24"	G	
205	GA	22"	F	
206	GA	16"	F	
207	GA	20"	F	
208	GA	20"	F	Girdling root
209	GA	24"	F	DW
210	GA	20"	G	
211	GA	22"	F-P	Roots - dieback
212	GA	24"	F	DW
213	GA	10"	G	
214	GA	10"	F	No root flare
215	HL	26"	F	
216	HL	26"	G	
217	HL	22"	F	DW
218	HL	23"	G	
219	HL	19"	G	
220	HL	22"	F	DW
221	ERC	14"	G	
222	HB	12"	G	
223	HB	12"	G	
224	HB	11"	G	
225	HB	12"	G	
226	BC	14"	P	Basal decay
227	ERBud	8"	F	
228	GA	10"	F-P	Roots
229	GA	12"	F-P	Roots
230	GA	14"	F-P	
231	GA	16"	F-P	
232	GA	12"	P	Basal scar - mower
233	GA	18"	F-P	
234	GA	16"	F-P	
235	GA	20"	F	
236	CW	54"	G	
237	GA	22"	F	
238	GA	18"	F	
239	GA	21"	G	
240	CW	44"	F	
241	GA	24"	G	

242	GA	26"	P	Decay
243	BC	24"	F	Lean
244	BC	22"	F-P	Decay
245	GA	22"	F	DW
246	GA	12"	F	
247	PO	28"	G	
248	SUM	22"	G	
249	GA	22"	G	
250	NM	14"	P	No flare - girdling root
251	PO	26"	F	
252	PO	22"	F	
253	GA	16"	F-P	DW
254	GA	21"	F-P	Dieback
255	GA	20"	F	
256	PO	24"	G	
257	PO	22"	F	Shaded
258	PO	30"	G	DW
259	GA	18"	F	
260	PO	26"	F-G	
261	PO	26"	F-G	
262	PO	26"	G	
263	HL	24"	G	
264	HL	18"	F-P	Shaded - DW
265	HL	28"	G	
266	HL	24"	G	
267	HL	16"	G	
268	HL	14"	G	
269	HL	9"	F	Shaded
270	GA	14"	F	
271	GA	18"	F-P	DW
272	HL	26"	G	
273	GA	26"	F-P	Decay
274	Syc	30"	F	Anthracnose
275	Syc	26"	F	Anthracnose
276	CW	36"	G	
277	GA	22"	F-P	
278	GA	20"	P	Basal scar
279	GA	24"	F-P	DW
280	GA	18"	P	No flare - dieback
281	HL	20"	G	
282	SE	24"	F	No flare
283	SE	12"	F	
284	AE	12"	F	
285	SE	16"	F-P	No flare
286	SE	20"	F-P	Mower damage - DW
287	HL	21"	G	
288	HL	20"	G	
289	HL	21"	G	
290	HL	20"	G	
291	HL	26"	G	
292	HL	20"	G	
293	AM	6"	G	
294	AE	15"	G	
295	SUM	14"	F	Too deep
296	NM	1.5"	P	Scars
297	WO	10"	F	
298	WA	15"	G	
299	N Spr	26"	G	
300	SM	24"	F	
301	NM	6"	F	Basal scar
302	ArborV	14"	G	
303	CNM	10"	G	
304	SM	28"	F	
305	ERC	5"	F	
306	GA	26"	G	
307	HL	18"	G	
308	ArborV	18'	G	
309	HL	16"	G	
310	SM	20"	F	DW
311	HL	21"	G	
312	ERC	10"	G	
313	ERC	14"	G	
314	NM	18"	F-P	Girdling root - too deep
315	HL	20"	G	
316	ERC	12"	G	
317	SM	24'	F	DW
318	HL	28"	G	
319	ArborV	8"	G	
320	HL	22"	F	Utility trim - wire
321	GA	14"	F	
322	GA	28"	F	

323	GA	12"	P	Roots - girdling roots - mower
324	GA	26"	F	
325	GA	18"	F	
326	ArborV	20"	F	
327	GA	21"	F-P	No root flare
328	GA	26"	G	
329	GA	28"	F	
330	GA	26"	F	Structure
331	GA	28"	F	
332	GA	28"	F-G	
333	GA	22"	F	
334	SWO	14"	G	
335	N Spr	24"	G	
336	W Spr	16"	F	
337	N Spr	16"	G	
338	HL	30"	G	
339	HL	22"	F	
340	HL	18"	G	
341	HL	21"	G	
342	HL	20"	F	
343	HL	21"	G	
344	SM	22"	F	
345	RFC	3"	G	
346	SWO	14"	G	

Allison - Henderson Park

Park Field Data Sheet 2010

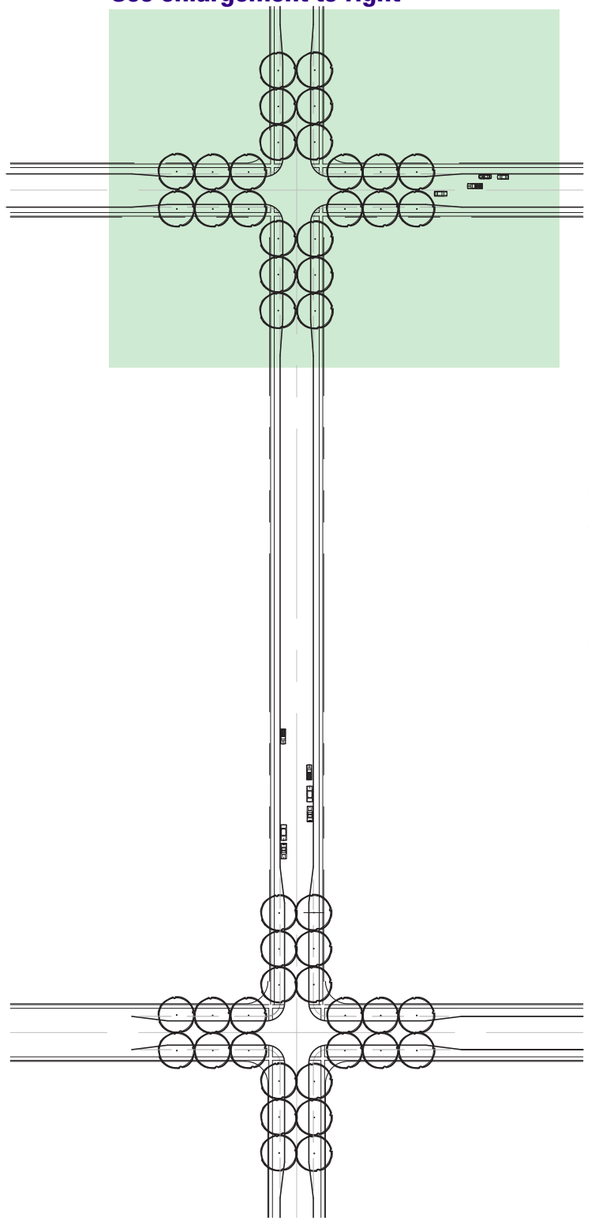
Entry	Species	Size	Condition	Comments
1	GA	18"	F-P	
2	GA	22"	F	DW
3	GA	19"	F	Anthracnose
4	GA	19"	F	Dieback
5	BW	32"	G	
6	HB - 4 stem	40"	HAZARD	REMOVE
7	ArborV (9)	2"	F-G	1 winter burn
8	BW	24"	F	
9	GA	20"	F	
10	BW	40"	F-G	
11	BW	24"	G	
12	HL	20"	F	DW
13	GA	22"	G	
14	GA	21"	F	DW
15	HL	21"	G	
16	HB	22"	G	
17	GA	22"	F-P	Scar on trunk
18	SM	26"	G	
19	SM	30"	G	
20	HL	22"	F-G	DW
21	GA	28"	F	Scar decay
22	HL	23"	F	Storm
23	WO	30"	F	
24	GA	28"	G	
25	AM	26"	G	
26	EWP	28"	F	
27	SM	26"	G	
28	Mockernut Hick.	40"	G	
29	AL	32"	G	
30	HL	20"	G	
31	ERC	8"	P	Shaded
32	GA	30"	G	
33	HT	3"	G	
34	Shagbark Hick.	24"	G	
35	HB	20"	G	
36	GA	30"	G	
37	SM	23"	G	

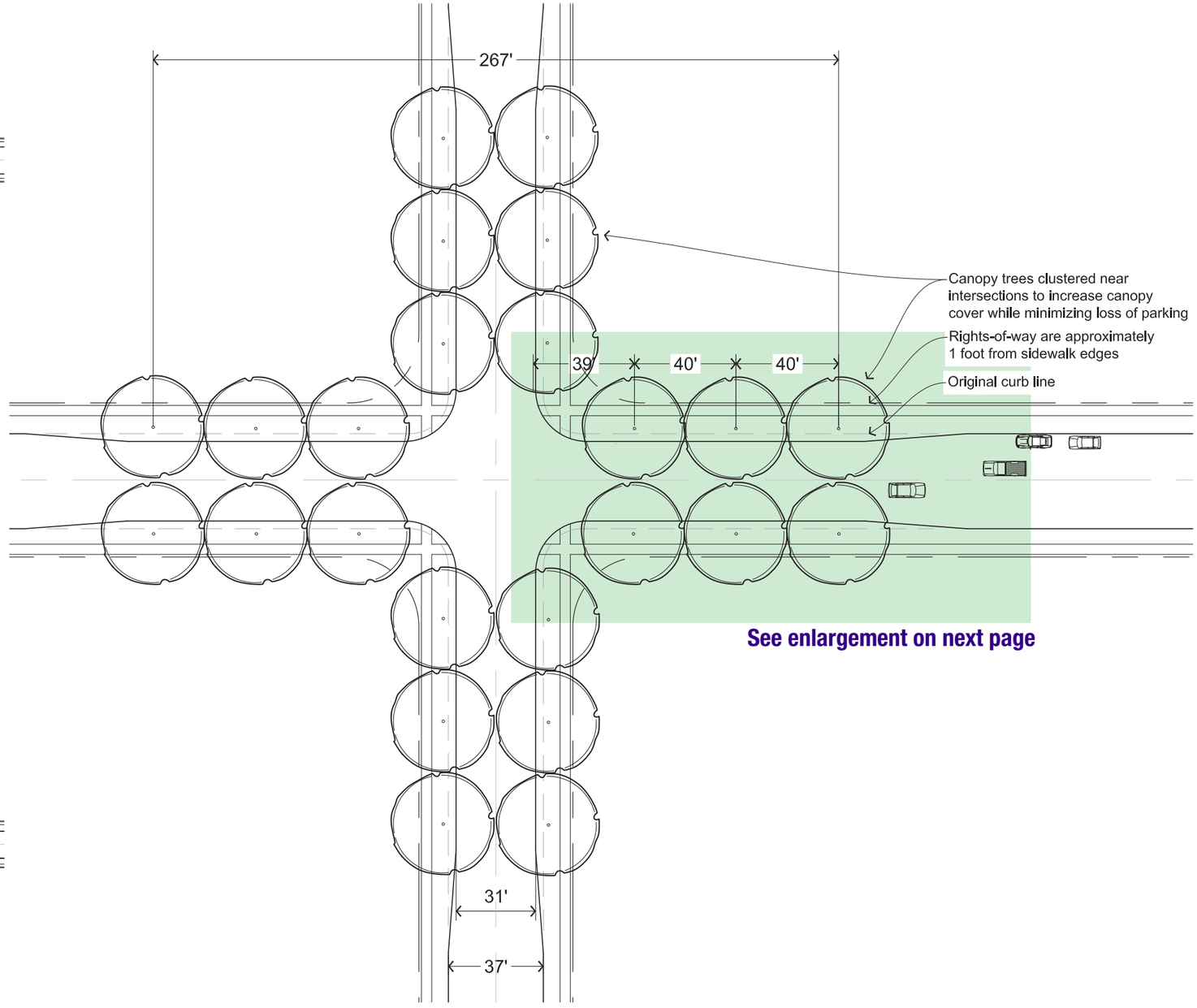
Washington Park

Park Field Data Sheet 2010

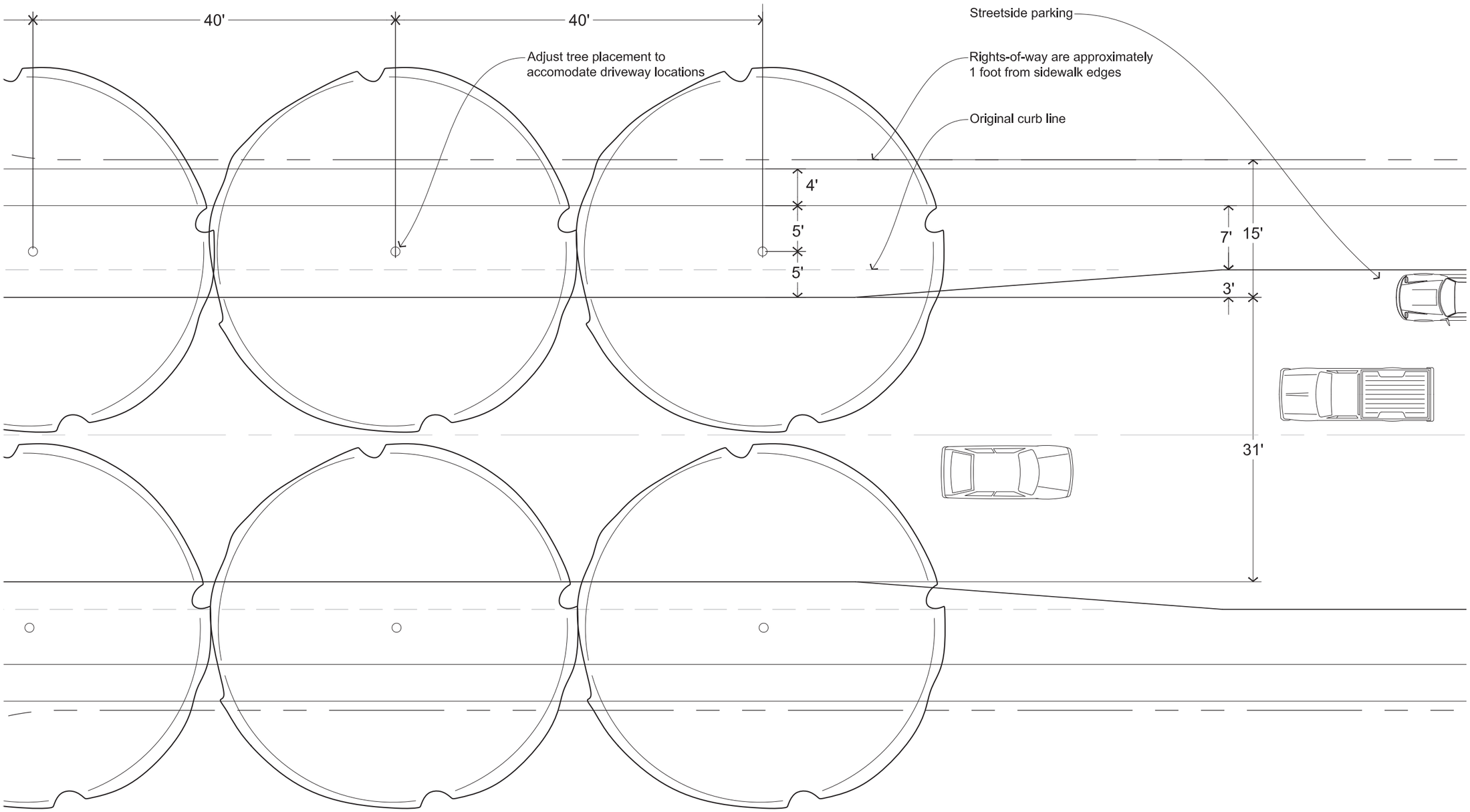
Entry	Species	Size	Condition	Comments
1	AL	24"	G	
2	AL	23"	G	
3	AL	24"	G	
4	AL	23"	G	
5	AL	21"	G	
6	AL	21"	G	
7	AL	24"	G	
8	White Bud	3"	G	
9	AE	22"	G	
10	AL	21"	F-P	Storm - DW
11	AL	21"	G	
12	AL	21"	G	
13	AL	22"	F	V crotch
14	AL	22"	G	
15	AL	23"	G	
16	AL	21"	F-P	Basal scars - mower - decay
17	AL	22"	F-P	Basal scars - mower
18	AL	21"	F-P	Basal scars - mower - DW
19	AL	24"	G	
20	AL	23"	F-P	Basal scar - mower - decay
21	NM	7"	G	
22	WA	4"	G	
23	WA	3"	F	Storm - scar
24	SUM	15"	G	
25	SUM	14"	G	Basal scar - mower
26	SUM	16"	G	
27	GK	21"	G	
28	GK	15"	G	
29	JTL	3"	G	
30	JTL	2"	G	
31	White Bud	3"	G	
32	WA	3"	G	
33	GK	24"	G	
34	GK	21"	G	
35	GK	24"	G	
36	SUM	14"	G	
37	SUM	20"	G	
38	GK	24"	G	

See enlargement to right

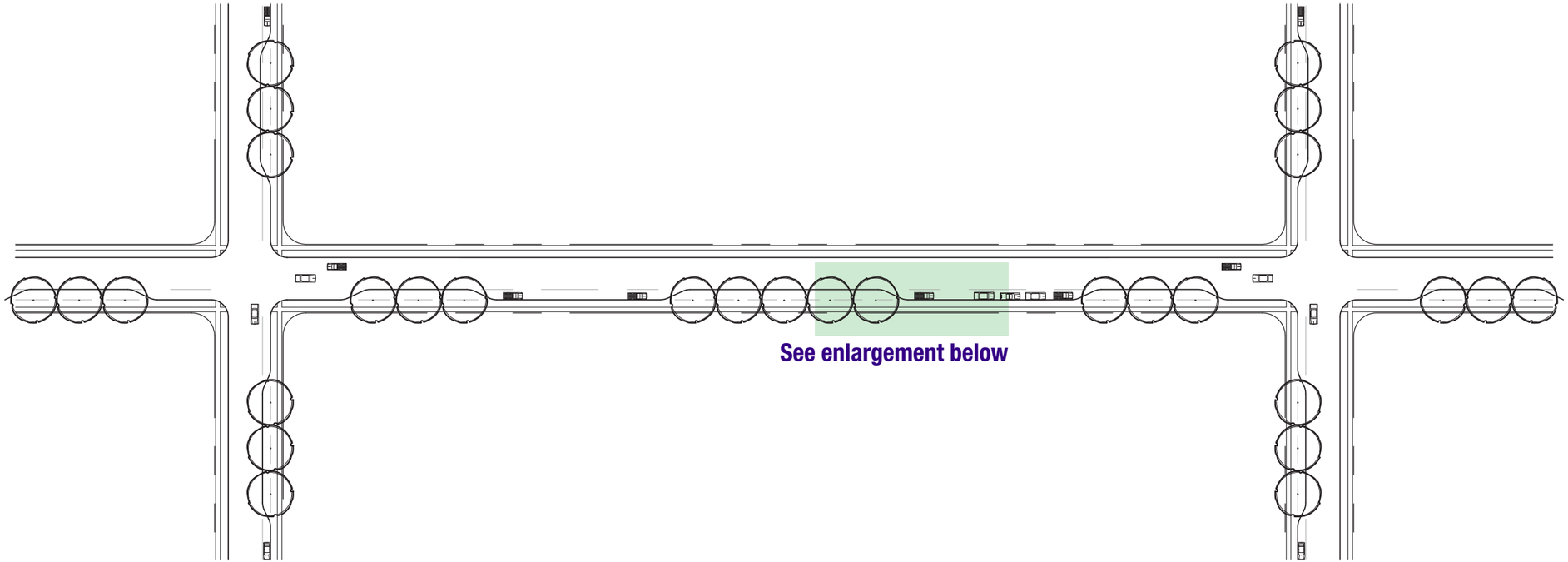




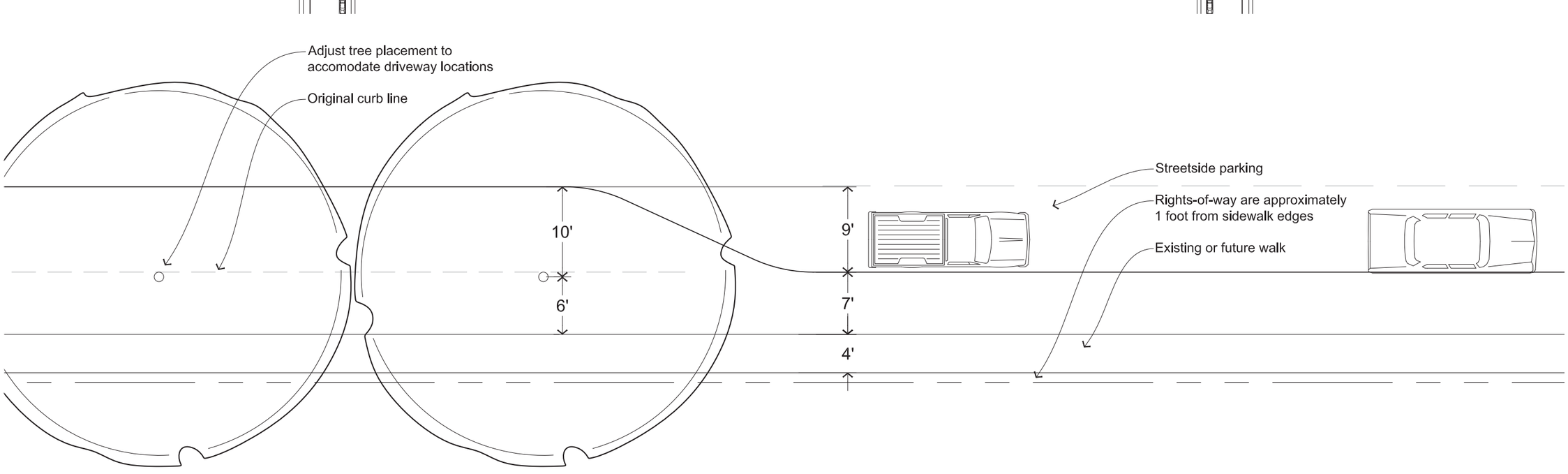
See enlargement on next page



tree lawn retrofits clustered at intersections - parking on both sides of street



See enlargement below



tree lawn retrofits along entire block - parking on one side of street

TREE ORDINANCE AND POLICIES OF THE CITY OF DUBUQUE, IOWA

Revised May 16, 2004

TREE ORDINANCE

6-8-1: TREES AND LANDSCAPING:

A. Planting And Removal; Permission Required: It shall be unlawful for any person, firm or corporation to plant or remove trees in the public right of way without the written permission of the city manager or the city manager's designee, and upon such terms and conditions as the city manager shall require. (2007 Code § 45-16)

B. Street Tree And Landscaping On Public Right Of Way Policy: The city manager shall develop, with the approval of the city council, a written street tree and landscaping on public right of way policy which shall govern the planting, maintenance and removal of trees and shrubs in the public right of way. (2007 Code § 45-17)

STREET TREE AND LANDSCAPING ON PUBLIC RIGHT-OF-WAY POLICY

This policy shall regulate the planting, maintenance, and removal of trees and shrubs in public rights-of-way.

I. Definitions

For the purpose of this policy the following terms, phrases, words and their derivations shall have the meaning given herein.

1. City is the City of Dubuque, Iowa.
2. Leisure Services Department is the designated department of the City under whose jurisdiction trees in public rights-of-way fall.
3. City Forester is the qualified designated official assigned to carry out this policy's enforcement.
4. Planting lawn is the area between the street (or back of curb) and sidewalk.
5. Street tree is a tree located in the planting lawn.
6. Small trees are designated as those attaining a height of fifteen (15) to thirty-five (35) feet.
7. Medium trees are designated as those attaining a height of thirty-five (35) to forty (40) feet.
8. Large trees are designated as those attaining a height of forty (40) to sixty (60) feet.
9. Undesirable trees are trees not suitable for use as street trees because of one or more of the following characteristics: thorn production, weak branching habit, messy fruit production, disease susceptibility, et cetera.
10. Landscaping is improving the planting lawn or other public right-of-way by planting trees and shrubs for functional and aesthetic purposes.
11. Immediate danger or threat is a tree condition that risks public safety and requires the immediate attention of the City Forester.

II. Street Tree Section

A. General Requirements

1. No trees are to be planted in any planting lawn, which is less than three (3) feet in width. In planting lawns that measure between three (3) and five (5) feet in width, both small and medium size trees may be planted; and in planting lawns with a minimum of five (5) feet in width, large trees may be planted.
2. Small trees shall be used where overhead lines or building setback present special problems, no matter what the size of the planting lawn.

3. Trees shall be planted at least fifty (50) feet from the edge of street intersections, traffic control lights and stop signs, and at least ten (10) feet from driveways and fifteen (15) feet for alleys. Exact location will be determined according to the type of tree to be planted.

4. No tree shall be planted closer than ten (10) feet from a street light, utility pole, water shut-off, sewer lateral, or other underground utility.

5. Spacing of trees shall be determined by the City Forester according to local conditions, the species, cultivars, or varieties used, and their mature height, spread, and form. Generally, all large trees shall be planted forty (40) to sixty (60) feet apart; all medium trees shall be planted a minimum of thirty-five (35) feet apart; and all small trees shall be planted a minimum of twenty-five (25) feet apart.

6. Only the Leisure Services Department or those contracted or approved by the Leisure Services Department shall plant, spray, fertilize, preserve, prune, remove, cut above ground, or otherwise disturb any tree located on a public right-of-way. All tree care practices shall conform to the standards approved by the National Arborist Association, the International Society of Arboriculture, and the American National Standard ANSI 2133.1 Safety Requirements.

7. If a property owner or tenant has planted an undesirable tree or after September 15, 1988, plants a tree that does not meet the specifications set forth in this policy, the Leisure Services Department shall notify the property owner or tenant of this policy and ask that the tree be removed. If the tree is not removed by the date established, the City will remove the tree at the City's expense.

8. a. A City street tree found to be causing or raising problems with sidewalks will be removed by the city, only when it meets predetermined criteria as determined by the City Forester. These criteria are set to prevent the indiscriminant removal of a valuable resource. City street trees will be removed only when one or more of the following criteria are met:

   - The tree is in a state of decline due to disease or insect pest for which there is no likelihood of a cure.
   - The tree poses a safety risk that cannot be corrected or where an unreasonable safety risk would be created by the construction process or root pruning.
   - Where work improvements required to be made around the tree will likely kill the tree or render it a hazard.
   - Where tree preservation is not cost effective compared to in value to the trees monetary value.
   - The tree poses an extreme public nuisance because of its species, size, location, fruit & seed drop, limb breakage or other objectionable condition.
   - The aesthetic value of the tree is extremely low or where the tree interferes with the growth and development of a more desirable tree.

   When a city street tree's roots or root has been found to be causing or raising problems with the sidewalk and the tree's removal is not an option, the sidewalk repair will be made using one of the approved replacement modifications which best corrects the sidewalk anomaly while minimizing harm to the tree.

   b. City street trees found to be causing cracking or raising problems for City curbs or streets or causing intersection site problems or non-sidewalk related public safety problems (such as dead or dying trees) shall be removed by the City when it is determined they cannot be saved or branches or roots cannot be pruned properly. The adjacent property owner shall be given a five working days notice by regular U.S. mail that the tree is to be removed and the reasons for such removal. The notice shall include a provision that the adjacent property owner may appeal such removal to the City Manager. Such appeal must be in writing to the City Manager within the five working day period. This notice and appeal does not apply to a tree posing an immediate danger or threat to public safety, requiring immediate removal.

9. When a tree is removed from a planting lawn, the City shall replace it, provided budget considerations and the specifications of this policy allow.

   If a property owner wishes a tree planted where one does not exist, the City shall provide 50 percent of the cost to plant the tree, provided budget consideration and the specifications of this policy allow.

   If the City is unable to fund the replacement, or share the cost of adding a tree, the property owner may finance the purchase of a tree and the Leisure Services Department will plant it. The property owner may plant this tree provided the City Forester has approved the tree type and its location.

10. When the tree removed is from a planting lawn less than three (3) feet in width, the City may provide and plant a tree beyond the sidewalk on private property (in the front yard) at the request of the property owner (based on site suitability as determined by the City Forester) and if budget considerations allow. Such tree then becomes the property and responsibility of the property owner.

11. When special conditions or circumstances arise which are not directly covered in this policy, the Leisure Services Department shall make a decision on the course of action to be taken, based upon an evaluation of the situation.

12. The selection of the type of street tree to be planted shall be made by the City Forester, after considering the wishes of the property owner.

B. Types of Trees Allowed

1. This policy contains a listing of small, medium and large trees prepared by the City Forester for planting as street trees. Undesirable trees shall not be recommended for general planting and their use, if any, shall be restricted to special locations where, because of certain characteristics of adaptability or for landscape effect, they can be used to advantage.

2. Only desirable, long-lived trees of good appearance, beauty, adaptability, and generally free from injurious insects or disease shall be planted as street trees. The City Forester shall review at least once every two (2) years the species, cultivars, and varieties included on the lists to determine if any should be removed for any reason.

C. Planting

1. Size

Unless otherwise specified by the City Forester, all small deciduous tree species, and their cultivars or varieties, shall be at least five (5) to six (6) feet or more in height, have six (6) or more branches, and shall be at least one (1) inch in diameter six (6) inches above ground level.

All medium and large deciduous tree species and their cultivars and varieties shall be at least one and one-fourth (1 1/4) to one and one-half (1 1/2) inches in diameter six (6) inches above ground level, and at least eight (8) to ten (10) feet in height when planted. The crown shall be in good balance with the trunk.

2. Grade

Unless otherwise allowed for specific reasons, all trees shall have comparatively straight trunks, well-developed leaders and tops, and roots characteristic of the species, cultivar or variety showing evidence of proper nursery pruning. All trees must be free of insects, disease, mechanical injury, and other objectionable features at the time of planting, and conform to standards set forth in American Standards for Nursery Stock.

3. Depth

All trees planted on City right-of-way shall be planted so that the trees' buttress root flare is at-grade.

D. Pruning and Removal

1. Pruning

Topping or dehorning of trees shall not be permitted, except by written permission of the Leisure Services Department.

Established trees shall be pruned over the tree's lifetime to allow free passage of pedestrian and vehicular traffic; over time to attain a desired branch height of ten (10) feet over sidewalks and fourteen (14) feet over streets and alleys. A tree's age, size, location, condition and natural form are factors, which will determine the extent of pruning.

2. Stump Removal

The stumps of trees removed shall be cut to at least six (6) inches below the ground, and soil shall be replaced and the area leveled. If the area where the tree is removed is to be paved, the tree shall be cut or stump removed at least eight (8) inches below the ground.

III. Landscaping on Public Right-of-Way Section

The above "Street Tree Section II" does not speak to, permit, or regulate, the planting of groups of trees and shrubs for landscaping purposes on public rights-of-way. This "Section III" shall govern the planting, maintaining and removal of groups of trees and shrubs on public rights-of-way for landscaping purposes.

1. Landscaping and/or screening required by the City's Zoning Ordinance shall not be placed on City right-of-way.

2. No trees and shrubs shall be planted in the planting lawn or other public right-of-way for landscaping purposes without first obtaining approval of the City Manager.

3. The approval of the City Manager will be in the form of a revocable permit to plant trees and shrubs for landscaping purposes in the public right-of-way. The applicant must agree to plant and maintain the trees and shrubs according to an approved site plan and further agree to be responsible for any and all liability arising from the planting of trees and shrubs on City property. The work must be done by a responsible and insured contractor approved by the City Engineering Division.

4. Requests for such approval shall be made to the City Manager in writing and include a site plan showing the varieties and placement of the trees and shrubs to be planted on City right-of-way and who is to do the work.

5. Trees and shrubs planted on City right-of-way without City approval will be removed by the property owner or tenant after receiving notification from the City. If the trees and shrubs are not removed by the date established, the City will do the removal at the City's expense.

IV. Street Construction Section

A. Purpose

The purpose of this section is to prevent or minimize damage to street trees as a result of street construction activities. This section provides for an administrative procedure to follow when street trees are encountered in street, sewer, water, or utility construction projects.

B. Policy

1. Administrative Procedures

Street and utility construction activities will, in many cases, cause varying degrees of damage to street trees. For this reason, the City Forester shall act to advise other City Departments and private contractors when street construction activities will be taking place within ten (10) feet of a street tree.

The outlined procedures will be followed by all City Departments and contractors working within the public right-of-way:

a. The City Forester shall be used as a technical resource in the design and construction specification writing phase of City construction projects to identify issues and potential problems relating to street trees, which could arise from the construction activities.

b. Prior to the construction of a City street or utility construction contract, a project representative will walk the project area with the City Forester to determine what specific procedures should be followed to protect adjacent street trees. These procedures will be incorporated into the project specifications.

c. The City Forester, or appropriate representative, shall be invited to the project pre-construction meeting with the contractor to emphasize the importance of protecting the trees while the work is progressing.

d. The City Forester will attend public meetings and hearings (as needed) on projects where potential damage to street trees has been identified by prior inspection and review. Trees intended for trimming will be identified in the specifications and the public involvement process.

e. The City Forester shall be available when called by the Engineering Division to monitor the progress of the contractor and to advise the City Departments or private contractor if the work is not proceeding according to the adopted specifications relating to tree protection, or if the specifications should be altered during the progress of the work.

f. The City Forester will be available to discuss in greater detail the anticipated effect on the tree, and to answer property owner's questions.

g. For privately contracted work, the contracting authority and the contractor shall be responsible for the protection of street trees pursuant to this policy.

2. Tree Removal

City Street trees found to be growing over existing curbs or located too close to the curb or utility being placed, upgraded or replaced such that reconstruction of the curb is not feasible without causing death of the tree, the tree will be removed by the Contractor. In such cases, the adjacent property owner shall be notified as outlined above.

Trees removed for construction projects will be replaced as part of the City construction contract at no cost to the property owners if the planting lawn is a minimum of three (3) feet wide and meets other established guidelines outlined in this policy. Replacement of removed trees shall be done during normal planting seasons after the construction work has been completed.

3. Construction Practices

The construction specifications will outline specific procedures to be followed by the contractor, along with tree damage liabilities, including penalties and costs of damage remediation.

Prior to the commencement of construction, City Forestry crew will prune street trees extending over the roadway, which could be damaged.

Contractors shall notify the City if damage is done beyond the level anticipated, and repairs to trees damaged during construction will be made by the contractor.

When trees are damaged or destroyed due to negligence or non-compliance, the contractor shall be required to pay for the necessary cost of repairs, removals, replacements and to reimburse the City for loss of value.

Loss of value will be determined by the City Forester, using the most recent edition of The Council of Tree & Landscape Appraisers, **Guide for Plant Appraisal**.

The following specific suggestions will best protect and preserve our street trees, and reduce the chance of liability in the event of their failure.

- All heavy equipment (other than hand tools) shall be kept off of the planting lawn when trees are on the street.

- The planting lawn will not, to the extent possible, be cut into or disturbed in any way. This includes creating setbacks for new curb and gutter, accommodating slip form pavers, reducing the height of the planting lawn or where an alternative exists, trenching or digging for utilities.

  Curb and gutter removal will be done in such a way as to minimize any damage to the tree's root system or above ground parts

- At no time shall the tracks or tires of the excavator/backhoe or pavement grinder, et cetera, be allowed to ride on the curb or planting lawn within a tree's drip line where it would case damage to the roots, buttress root flair, trunk or crown of the tree, without protective measures in place to protect the tree and avoid soil compaction.

- At no time shall construction equipment or materials, including gravel, sand or soil, be stored on the surface of any unpaved area within a protected tree's drip line.

- At no time shall chemicals, rinsates or petroleum products be deposited within the drip line of city street trees.

- Exposed tree roots shall be protected from direct sunlight and air with wet burlap following curb and gutter removal if backfilling isn't completed by the end of the same workday. Prior to backfilling, all lime stone base and

construction materials shall be removed from behind the newly poured curb and gutter. Backfilling should be completed with hand tools to avoid compaction.

Only a friable clay loam soil shall be used as a backfill soil. Backfill soil shall be free of rock and other construction debris.

- Where possible and specified by the City Forester, orange plastic barrier fencing or snow fence will be erected to protect trees and their root zones. The fencing shall be installed prior to construction and not removed until after final clean up of the construction site.

- To preserve viable root systems and maintain structural stability of a tree, it is required that all underground utility placement or replacement, to the extent possible, be done by boring or tunneling beneath the root systems of the tree with open cut excavating done only outside of the tree's drip line.

  "Trenching/Tunneling Near Trees" by Dr. James R. Fazio shall be used as a guide by qualified utility workers.

- If a root must be cut and removed or a damaged root pruned, a clean cut shall be made with a sharp cutting tool. The following sequence shall be used:

  1. expose the root by hand using hand tools such as shovel, trowel;
  2. make a clean cut with a sharp tool such as a hand pruner or hand saw and in the event of larger roots, a chain saw; (root grinding is not an option);
  3. remove root;
  4. protect exposed root or backfill.

- Curb and gutter replacement adjacent to street trees can be made with a slip form paver **only** if the paver can be accommodated without any additional alterations to the existing planting lawn. Where insufficient room does not exist, the area will be poured using hand set steel forms. Expansion joint or masonite may be necessary for forming around the base of trees where conventional forms will not fit. Non-linier paving (bump outs), skip overs and narrower streets are all options to consider for avoiding root injury.

- Where sidewalk replacement is necessary, care should be taken to avoid injury to the tree's root system. Sidewalk repairs should be made using one of the approved replacement modifications, which best corrects the sidewalk anomaly while minimizing harm to the tree. Surface roots less than two (2) inches in diameter may be cut when necessary, making clean pruning cuts to a maximum depth just below the finished grade of the new walk. The root system should be cut no further than five (5) inches away from the edge of the proposed new walk to accommodate its forms.

- At no time shall the planting lawn grade be changed by removing soil or through the addition of soil within the tree's drip line.

- When a situation should arise with the potential to cause harm to the tree, which is clearly not addressed by this policy guideline, the Engineering Department and City Forester shall be consulted to determine the best course of action.

4. Soil Quality

Soil to be used as backfill within the right-of-way shall be a friable topsoil. It shall not contain admixtures of subsoil and shall be free of lumps larger than two (2) inches in diameter, stones, plants or their roots and construction matter or debris.

Adopted: October 3, 1988

Revised: February 21, 1994

Revised: January 11, 1999

Revised: April 12, 2000

Revised: July 9, 2001

Revised: May 16, 2004

TREE ORDINANCE OF THE CITY OF DAVENPORT, IOWA

(http://clerkshq.com/default.ashx?clientsite=davenport-ia)

IV. TREE ORDINANCE

IV. TREE ORDINANCE

8.14.190 Short title.

This article shall be known and may be cited as the "Tree Ordinance of the City of Davenport, Iowa." (Ord. 2002-31 § 3 (part): Ord. 76-442 § 1 (part): Ord. 74-117 § 1: prior code § 39-32).

8.14.200 Definitions.

For the purpose of this article the following terms, phrases, words and their derivations shall have the meaning given in this section. When not inconsistent with the context, words used in the present tense include the future, words in the plural include the singular and words in the singular number include the plural number. The word "shall" is mandatory and not merely directory.

A. "City" means the City of Davenport, Iowa.

B. "City arborist" means the city arborist or designee of the city.

C. "Person" means any person, firm, partnership, association, corporation, company or organization of any kind.

D. "Principal thoroughfare" means any street upon which trucks are not prohibited.

E. "Property owner" means the contract purchaser if there is one of record; otherwise the record holder of legal title.

F. "Street" or "highway" means the entire width between property lines of every way or place of whatever nature, when any part thereof is open to the use of the public as a matter of right for purposes of vehicular traffic, within the city limits, including alleys.

G. "Treelawn" means that part of a street or highway, not covered by sidewalk or other paving, lying between the property line and that portion of the street or highway usually used for traffic.

H. "Trees" shall include that woody vegetation, usually growing with a single stem and a height over ten feet.

I. "Shrubs" shall include that woody vegetation, usually growing with multiple stems and a height under ten feet.

J. "Right-of-way" shall include that area which is designated public land along streets, alleys, and waterways.

K. "Permanent fence" shall include such structures that enclose an area. This includes shrubbery and fences made from such materials as wood, stone, iron or steel.

L. "Park" shall include all public parks having individual names and maintained by the city of Davenport.

M. "Removal" is the actual removal or causing the effective removal through damaging, poisoning or other direct or indirect actions resulting in the death of a tree. (Ord. 2002-31 § 3 (part): New: Ord. 76-442 § 1 (part): Ord. 74-117 § 2: prior code § 39-33).

SAMPLE

8.14.210 City arborist - Office created - Enforcement duty.

A. There is created the office of city arborist. The city administrator shall appoint a qualified individual as the city arborist. The city arborist shall be under the direction and control of the director of parks and recreation.

B. The city arborist shall have charge of the enforcement of the provisions of this article and, in conjunction with the city attorney, shall have charge of prosecutions for the violation thereof. (Ord. 2002-31 § 3 (part): New: Ord. 76-442 § (part): Ord. 74-117 § 3 (1a): prior code § 39-34 (part)).

8.14.220 Reserved.*

8.14.230 City arborist - Authority specified.

A. Generally. The city arborist shall have the authority and jurisdiction to superintend and regulate the spraying, treating, planting, maintenance, pruning and removal of trees and shrubs on streets and on other publicly owned property, and where indicated on private property, to insure health or safety or to preserve the symmetry of public places. It shall be his duty to encourage the planting, culture and preservation of shade trees in the city.

B. Care of Trees and Shrubs on Streets. The city arborist shall supervise the necessary removal, cutting and pruning of trees and shrubs located outside of private property lines and inside curb lines or in or on streets within the city.

C. Supervision. The city arborist shall have the authority and it shall be his duty to supervise or inspect all work done under a permit issued in accordance with the terms of this article.

D. Condition of Permit. The city arborist shall have the authority to affix reasonable conditions to the grant of a permit in accordance with the terms of this article.

E. Master Street Tree Plan. The city arborist shall have the authority to formulate a master street tree plan. The master street tree plan shall specify the species of tree or shrub to be planted on each of the streets or other public places of the city. From and after the effective date of the master street tree plan, or any amendment thereof, all planting shall conform thereto.

1. The city arborist shall consider all existing and future environmental factors when recommending a specific species for each of the streets or other public places of the city.

2. Amend. The city arborist shall have the authority to amend or add to the master street tree plan at any time that circumstances make it advisable.

F. Arboricultural Specifications and Standards of Practice. The city arborist shall have the authority to promulgate arboricultural specifications and standards of practice governing the planting, preservation, pruning, removal, fertilization and bracing of trees and shrubs on the streets or other public places in the city.

1. The city arborist shall promulgate such arboricultural specifications and standards of practice, following approved principles supported by good judgment and on the basis of existing local conditions.

2. Amend. The city arborist shall have the authority to modify, amend or extend the arboricultural specifications and standards of practice at any time that experience indicates improved methods or whenever circumstances make it advisable. (Ord. 2002-31 § 3 (part): New; Ord. 76-442 § 1 (part): Ord. 74-117 § 3 (2-6): prior code § 39-34 (part)).

8.14.240 Removing, damaging, spraying, etc. - Permits required.

No person shall injure, damage, destroy, spray, remove, cut above or below ground, or otherwise interfere with any tree or shrub, except weeds, on any street or city owned property without first making application and procuring a permit from the city arborist. No person shall spray or apply any pesticide, herbicide or other noxious spray or powder on any property within the city, whether or not owned by the city, unless the property is owned by that person, without first making application to and procuring a permit from the city arborist. The person receiving the permit shall abide by the arboricultural specifications and standards of practice adopted by the city arborist. No person shall prune a tree on city property without first making application and procuring a permit from the city arborist, except for pruning which is required by abutting property owners in Section 8.14.280. (Ord. 2002-31 § 3 (part): Ord. 97-113 § 1: New: Ord. 76-442 § 1 (part): Ord. 74-117 § 4 (1) (part): prior code § 39-35 (part)).

8.14.250 Permits - Contents of application.

The applicant shall state the number and species of trees to be treated, sprayed, preserved, pruned, removed, cut or otherwise disturbed; the kind of treatment to be administered; the composition of the spray material to be applied; and such other information as the city arborist shall find reasonably necessary to a fair determination of whether a permit should be issued. (Ord. 2002-31 § 3 (part): New: Ord. 76-442 § 1 (part): Ord. 74-117 § 4 (1a): prior code § 39-35 (part)).

8.14.260 Permits - Standards of issuance.

The city arborist shall issue the permit provided for in Section 8.14.240 if in his judgment the proposed work is desirable and the proposed method and workmanship thereof are of a satisfactory nature. Any permit granted shall contain a definite date of expiration. Any permit shall be void if its terms are violated. (Ord. 2002-31 § 3 (part): Ord. 76-442 § 1 (part): Ord. 74-117 § 4 (1b): prior code § 39-35 (part)).

8.14.270 Permits - Regulations for planting in a public place.

Work done under a permit issued under this **chapter** shall be performed in strict accordance with the terms thereof and with the arboricultural specifications and standards of practice and master street tree plan, if any, then in effect.

A. No tree or shrub shall be planted on public property, including parks, and rights-of-way, ex-

cept where a special permit is obtained from the city arborist with such information as the location, the species to be planted, and the method of planting. The city arborist will then either issue or deny the permit in strict accordance with the arboricultural specifications and standards of practice.

B. Trees and shrubs planted on public areas without a permit or are found growing not in accordance with the arboricultural specifications and standards of practice are subject to removal by the city arborist following the appropriate notices. (Ord. 2002-31 § 3 (part): New: Ord. 76-442 § 1 (part): Ord. 74-117 § 4: prior code § 39-35 (part)).

8.14.280 Obstructions - Duty of owner to prune and remove.

A. It shall be the duty of any property owner bordering on any street upon which property there may be trees or shrubs, to prune such trees or shrubs in such manner that they will not obstruct or shade the street lights, or obstruct the passage of pedestrians or vehicles on such sidewalks or streets, or obstruct vision of traffic signs, or obstruct view of any street intersection.

B. Such owner shall remove from such trees all dead, decayed or broken limbs or branches that overhang any public highway, street, alley, or public place and such owner shall, when any of such trees are dead, remove the same so that the same cannot fall on the sidewalk, street, alley or other public highway.

C. It shall be the duty of any property owner having property abutting rights-of-way upon which there are shrubs, to prune such shrubs in such a manner that they will not obstruct or shade the street lights, or obstruct the passage of pedestrians or vehicles on such sidewalks or streets, or obstruct vision of traffic signs, or obstruct view of any street intersections.

D. Public trees grown within a permanent fence enclosure shall be the responsibility of the abutting property owner to maintain according to the tree ordinance and the arboricultural standards set by the city arborist.

E. Abutting property owners shall be responsible for pruning trees growing on the city right-of-way in such a manner that they will not obstruct the passage of pedestrians on such sidewalks, obstruct vision of traffic signs, or obstruct the view of any street intersection. (Ord. 2002-31 § 3 (part): Ord. 97-113 § 2: New: Ord. 76-442 § 1 (part): Ord. 74-117 § 5 (part): prior code § 39-36 (part)).

8.14.290 Obstructions - Notice to prune - Service - Failure to comply.

A. Should any person or persons owning real property bordering on any street fail to prune trees or shrubs as provided in Section 8.14.280, the city arborist shall order such person or persons, by written notice in accordance with the procedures as specified in Section 8.14.350, to prune such tree or shrubs.

B. The order required in subsection A of this section shall be served by mailing a copy of the order to the last known address of the property owner by certified mail.

C. When a person to whom an order is directed fails to comply within the specified time, it is lawful for the city to prune such trees or shrubs, and the exact cost thereof shall be assessed against the premises as provided by law. (Ord. 2002-31 § 3 (part): New: Ord. 76-442 § 1 (part): Ord. 74-117 § 5 (1, 2, 3): prior code § 39-36 (part)).

8.14.300 Abuse or mutilation of public trees.

A. Unless specifically authorized by the city arborist, no person shall intentionally damage, cut, carve, transplant or remove any tree or shrub; attach any rope, wire, nails, or other contrivance to any tree or shrub; allow any gaseous, liquid or solid substance which is harmful to such trees or shrubs or vegetation on public property to come in contact with them, or to impede the free entrance of water or air to the roots; or set fire or permit any fire to burn when such fire or the heat thereof will injure any portion of any tree or shrub on public property.

B. No spurs or climbers which injure the bark of a tree on public property shall be used as an aid to climbing such tree except when such tree is to be removed. (Ord. 2002-31 § 3 (part): Ord. 76-442 § 1 (part): Ord. 74-117 § 6: prior code § 39-37).

8.14.310 Reserved.*

8.14.320 Interference with city arborist.

No person shall hinder, prevent, delay or interfere with the city arborist or any of his assistants while engaged in carrying out the execution or enforcement of this article; provided however, that nothing in this article shall be construed as an attempt to prohibit the pursuit of any remedy legal or equitable in any court of competent jurisdiction for the protection of property rights by the owner of any property within the city. (Ord. 2002-31 § 3 (part): Ord. 76-442 § 1 (part): Ord. 74-117 § 8: prior code § 39-39).

8.14.330 Protection and replacement of trees, shrubs and vegetation - Parking lots.

A. Protection.

1. All trees or shrubs on any street or other publicly-owned property near any excavation or construction or adjacent property shall be protected from damages or disturbances to the tree including the root system. Parameters for any physical protection or precautions which may be required during construction or excavation will be determined by the city arborist.

2. No person shall excavate any ditches, tunnels, or trenches, or lay any drive within a radius of twenty feet from any public tree without first obtaining a written permit from the city arborist.

B. Replacement. Any person injuring, damaging or destroying vegetation in violation of this article shall in addition to any other penalty imposed by this article be required to repair or replace the vegetation damaged as and to the extent deemed necessary by the city arborist.

C. Parking Lots. No person hereafter developing a tract of land within the city will remove trees therefrom for the purpose of paving for parking purposes an area of more than twenty thousand square feet without making provision for and effecting replacement of such trees by means of landscaping such parking area, and no parking lot constructed on such an area shall have paving extending for more than two hundred fifty feet in any direction without relief in the nature of landscaping,

or be more than ninety-five percent in area paved without such relief. (Ord. 2002-31 § 3 (part): New: Ord. 76-442 § 1 (part): Ord. 74-117 § 9: prior code § 39-40).

8.14.340 Placing materials on public property.

No person shall deposit, place, store, or maintain upon any public area of the city, any stone, brick, sand, concrete or other materials which may impede the free passage of water, air and fertilizer to the roots of any tree or shrub growing therein, except by written permit of the city arborist. (Ord. 2002-31 § 3 (part): Ord. 76-442 § 1 (part): Ord. 74-117 § 10: prior code § 39-41).

8.14.350 Nuisances - Abatement.

A. Any vegetation which is so diseased or infested as to threaten the growth or health of shrubs, trees, plants or flowers of nearby proprietors or on public lands. Trees, shrubbery and vegetation which are so located as to obstruct the vision of intersections of streets, including alleys, or which are so weakened because of death, disease, windstorm or other damage, or by any other cause as to constitute a hazard to persons or property are declared to be a nuisance.

B. Upon the advice of the city arborist, it shall be the duty of the department of parks and recreation to cause all such nuisances to be abated by the procedure specified in **Chapter 8**.12 of the code. (Ord. 2002-31 § 3 (part): New: Ord. 76-442 § 1 (part): Ord. 74-117 § 11: prior code § 39-42).

8.14.360 Violation - Penalty.

Any person, firm or corporation violating or failing to comply with any of the provisions of this article shall be guilty of a simple misdemeanor or municipal infraction and, upon conviction thereof, shall be fined a sum no less than fifty dollars, nor more than one hundred dollars for a first offense, and the appropriate penalty for any subsequent offense. A separate and distinct offense shall be regarded as committed each day on which such person continues such violation. (Ord. 2002-31 § 3 (part): New: Ord. 76-442 § 1 (part): Ord. 74-117 § 12: prior code § 39-43).

SAMPLE

EAB Readiness Plan:

The Iowa Forest Insect & Disease Management Council has developed the following Emerald Ash Borer Readiness Plan which should be followed.

I. General Readiness

A. Dubuque partners with the Insect and Disease Management Council

1. As part of the "Technical Team" – the Council monitors, confirms and establishes quarantine and containment efforts.

2. As part of the "Communication Team" the Council communicates accurate information, quickly and broadly in a manner that supports the "Technical Team".

B. Administrative Readiness – Dubuque enacts a policy that supports the "Iowa Emerald Ash Borer Readiness Plan".

1. Dubuque should review Tree Policies and Codes making changes as needed.

2. Identify resources and needs.

a. Evaluate staffing

b. Investigate and eliminate out of area firewood movement into Dubuque

c. Seek federal and state resources of funding for readiness activities

d. Assess human and technical resources (tree climbers – staff and private contractors).

3. Take proactive steps to speed administrative processes.

a. Expand and maintain tree inventories to determine the number and location of ash trees

b. Communicate EAB status to Iowa Homeland Security and Emergency Management

4. Educate the media to assure accuracy of information.

a. Issue a public release on the EAB Response Plan

b. Coordinate Public Information Officers with the "Communication Team"

c. Identify key sources of current information

d. Develop/distribute current EAB information to primary public and private campgrounds

5. Determine locations of infested tree dump sites and explore wood waste utilization with DNR Waste Management Bureau.

C. Technical Readiness – work with the "Technical Team" to assure that policy decisions, actions and education initiatives are guided by the best and most current science.

1. Participate in annual and /or regional forest pest meetings

2. Transfer technology to field foresters, arborists, landscape architect, and nurserymen.

II. Reduce Risk of Infestation

A. Assess the Risk. It is estimated that 20% of Dubuque's urban forest is ash trees.

1. Identify possible sources of EAB importation and entry way into Dubuque.

2. Plot out areas that may be at high risk with high populations of ash and close proximity to entry routes of EAB.

3. Use GPS system to identify areas of high risk and onitor for EAB infestation.

4. Track spread of any nearby EAB discoveries and distribute with the "Communication Team".

B. Reduce the Risk.

1. Raise public awareness on firewood importation

a. Install educational posters at parks and campgrounds

b. Utilize various media sources to spread the word about the risk of EAB infestations with the spread of firewood

2. Educate local industries about risk of ash importation.

a. Educate garden centers to no longer offer ash trees for sale.

b. Educate firewood dealers about EAB risk.

3. Assure planting selections contribute to a diverse and sustainable urban forest.

a. Plan diversity in all planting programs.

b. Plant the right tree in the right place.

III. Ongoing Monitoring

A. Cooperate with the "Technical Team" to survey and monitor ash populations to determine the presence of EAB.

1. Participate with monitoring and reporting.

2. Communicate the survey results with stakeholders and media.

B. Educate the public and professionals to provide stakeholders with current and accurate information in a targeted manner to aid in rapid identification of symptoms of an infestation.

1. Offer training and outreach to local volunteers, Master Gardeners and the green industry to assess as health and accurately identify EAB.

2. Educate the general public about EAB.

a) Secure/develop educational materials for the general public

b) Pursue opportunities for speaking, educating and exhibiting educational materials about EAB

c) Broadly distribute public education materials

3. Recruit and enable volunteer scouting (looking for EAB).

a. Use the local media to appeal for help in scouting

b. Acquire or prepare kits to support volunteer scouting

C. Guide possible sightings

1. Suspected EAB finding – contact IDALS (515) 725-1470 or USDA-PPQ (515) 251-4083

IV. In the event of an infestation, contain and manage the EAB population:

A. Cooperate with the "Technical Team" that will lead in planning and implementing actions.

1. Meet with the "Technical Team" to discuss the preliminary plan of action.

a. Schedule an emergency meeting with Dubuque governmental officers

b. Release verified, accurate information to the press.

2. Organize, initiate and conduct a delimiting survey to determine the outer boundary of the infestation.

3. Cooperate and support the IDALS' EAB State Interior Quarantine.

4. Initiate regulatory controls as necessary.

a. Remove and dispose of all infested public and private ash trees as determined feasible.

b. Develop and adopt compliance agreements with stakeholders in cooperation of quarantines.

B. Communicate and coordinate actions, information and response with the "communication Team".

1. Provide accurate information and updates to the media.

2. Provide accurate information to affected residents.

3. Provide accurate information to the green industry professionals.

C. Dispose of wood debris in cooperation with the DNR Waste Management Bureau.

1. Establish processing facilities within the quarantine zones.

2. Market reclaimed wood products

D. Develop a reforestation plan

V. In the event that the EAB cannot be contained:

A. Coordinate with the "Communication Team"

1. Develop and distribute factual information for homeowners.

2. Conduct training for green industries of effective containment/management efforts for EAB.

B. Seek legislative support to cover the costs associated with **EAB.**

Underutilized Street Trees

Hackberry *(Celtis occidentalis)*
Ginkgo *(Ginkgo biloba)*
Princeton Sentry Ginkgo *(Ginkgo biloba 'Princeton Sentry')*
Skyline Honeylocust *(Gleditsia triacanthos intermis 'Skyline')*
Espresso Kentucky Coffeetree *(Gymnocladus dioica 'Espresso')*
Tuliptree *(Liriodendron tulipifera)*
Amur Maackia *(Maackia amurensis)*
Crabapple *(Malus species)*
Hophornbeam *(Ostrya virginiana)*
Sycamore *(Plantanus occidentalis)*
London Planetree *(Platanus x acerifolia)*
White Oak *(Quercus alba)*
Swamp White Oak *(Quercus bicolor)*
Red Oak *(Quercus rubra)*
Japanese Lilac *(Syringa reticulate)*
Littleleaf Linden *(Tilia cordata)*
Silver Linden *(Tilia tomentosa 'Sterling Silver')*
Princeton Elm *(Ulmus Americana 'Princeton')*
Chinese Elm *(Ulmus parvifolia 'Allee')*
Green Vase Japanese Zelkova *(Zelkova serrata 'Green Vase')*

Underutilized Park Trees

Serviceberry *(Amelanchier x grandiflora or Amelanchier laevis)*
River Birch *(Betula nigra)*
American Hornbeam *(Carpinus caroliniana)*
Shagbark Hickory *(Carya ovata)*
Hackberry *(Celtis occidentalis)*
Yellowwood *(Clandrastis kentukea)*
Hawthorne *(Crataegus crusgalli var. 'inermis')*
Ginkgo *(Ginkgo biloba)*
Honeylocust *(Gleditsia triacanthos var. inermis)*
Espresso Kentucky Coffeetree *(Gymnocladus dioica 'Espresso')*
Tuliptree *(Liriodendron tulipifera)*
Crabapple *(Malus species)*
Hophornbeam *(Ostrya virginiana)*
Macho Amur Cork Tree *(Phellodendron amurense 'Macho')*
Sycamore *(Plantanus occidentalis)*
White Oak *(Quercus alba)*
Swamp White Oak *(Quercus bicolor)*
Scarlet Oak *(Quercus coccinea)*
Shingle Oak *(Quercus imbricaria)*
Bur Oak *(Quercus macrocarpa)*
Pin Oak *(Quercus palustris)*
English Oak *(Quercus robur)*
Red Oak *(Quercus rubra)*
Japanese Lilac *(Syringa reticulate)*
Linden *(Tilia cordata)*
Silver Linden *(Tilia tomentosa 'Sterling Silver')*
Princeton Elm *(Ulmus Americana 'Princeton')*
Chinese Elm *(Ulmus parvifolia 'Allee')*
Green Vase Japanese Zelkova *(Zelkova serrata 'Green Vase')*


Excellent Condition


Good Condition

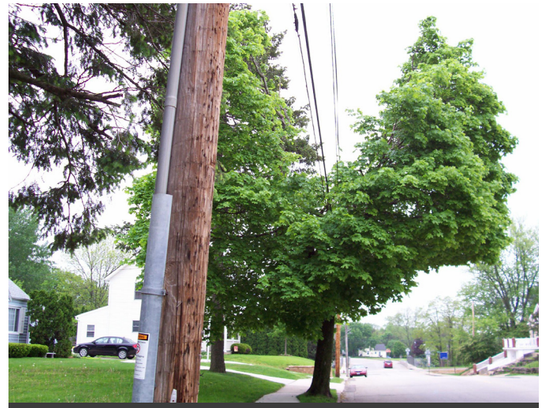

Dead


Structure


Fair/Good Condition


Fair Condition


Broken Sidewalk; Girdling Root; No Root Flare


Poor/Fair Condition; Utility Trimming


Fair/Poor Condition

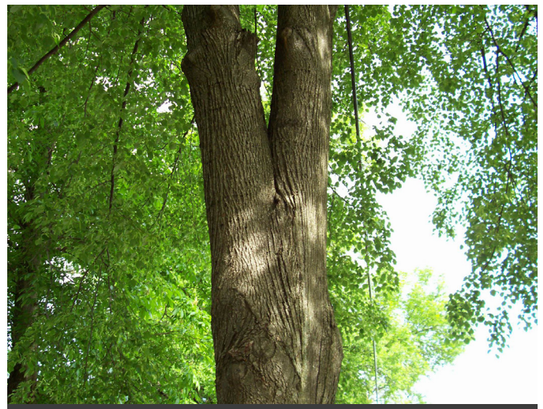

Poor Condition


Root Decay

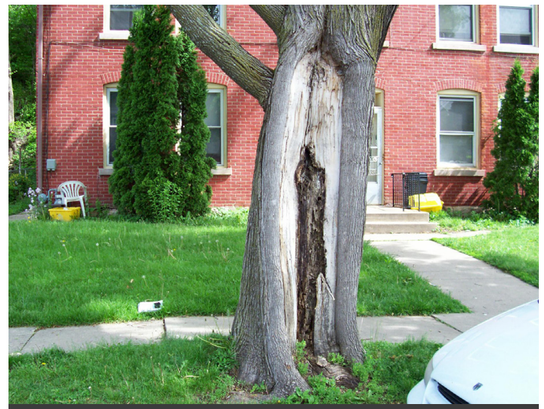

Stake; No Root Flare

Deadwood

Dieback



V-Crotch



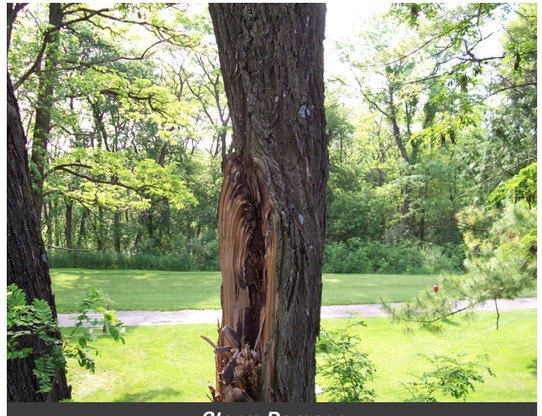
Trunk Scar; Decay

Vehicle Damage

Decay

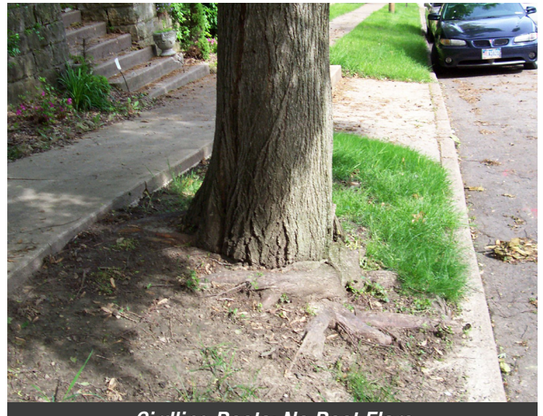
Girdling Roots

Narrow Tree Lawn; Root Decay

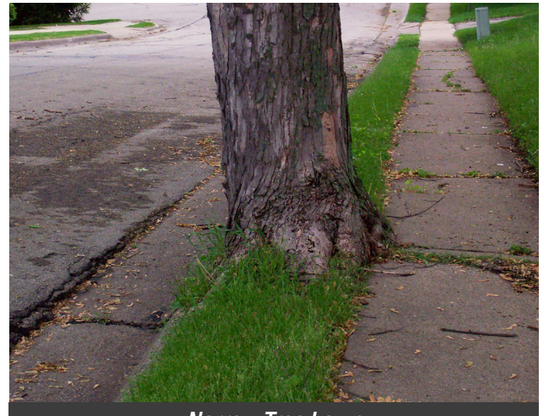


Storm Damage

Conk



Girdling Roots; No Root Flare



Narrow Tree Lawn

Anthracnose—Normally not a serious pest but may be an indication that the site is not suitable for a particular species. The spring of 2010 prior to this survey was very wet and cool leading to a higher number of cases.

Cable bracing—Used to maintain the structural integrity of the tree. Trees with cable bracing identified for this survey were not a problem but they should be periodically monitored and checked for any need of adjustments every 3 - 5 years.

Chlorosis—An iron deficiency. In some cases iron supplementation may be needed to sustain the tree.

Compaction—Soils that have been compacted by vehicular or pedestrian traffic. A problem usually associated with new construction sites. Aerating the soil can improve this condition.

Conks and hollowness—A conk is the visible fruiting body of a wood-destroying fungus, usually indicating rot in the underlying wood. Once discovered on or in a tree little can be done to remedy the problem. The location and type of conk should be investigated. In most cases when conks are located on the trunk, the tree should be scheduled for removal. When a tree is hollow, it indicates substantial decay has taken place and should be thoroughly inspected to determine the extent of the damage. If the decay is causing any structural instability, the tree should be monitored closely or removed.

Deadwood—As trees grow they shade out interior and lower branches. Shaded branches may die, eventually decay and fall. This dead wood can be large enough to cause concern for traffic and property under the tree. Following the recommended pruning cycle can alleviate this problem.

Deer damage—Caused by male deer scraping their antlers on a tree trunk to sharpen their antlers. Young trees can become severely damaged. Bucks prefer species with thin slick bark such as Maple, Linden, and Pine. Scented soaps and barber floor hair waste has been found to be an effective deterrent.

Dieback—Upper tree branches that are dying or dead. This condition was closely associated with rooting issues in this survey.

Girdling roots—Roots that grow in a tight circle around the base of the tree resulting in strangulation of the trunk or other roots. Girdling roots can occur if nursery stock is damaged while being dug, is left in containers and/or other restrictive growing environments for too long, or is improperly planted. When identified early, girdling roots can be carefully removed without any adverse affect. If not removed, the tree will steadily decline in health and may fail as the restrictive root strangles and weakens the base of the tree.

Guy wires and stakes—Placed to stabilize a newly planted tree. These should be removed after the first growing season.

Leaning—Seen primarily as a result of extensive cutting to the root system during sidewalk or curb replacement. Trees planted in very narrow tree lawns (under 4 feet) do not have enough space for root growth. The expansion of the buttress roots causes walks to tip and curbs to be pushed out. During the repair of walks and curbs, roots are often severed leading to tree instability. Leaning trees should be monitored closely and those with severe leans should be scheduled for removal.

Memorial name tags—too tight – Wires used to hold memorial name tags can become too tight around a tree branch. They should be periodically checked and loosened if necessary.

Mower scars—Basal scars and surface root scars caused by contact with mower decks or mowing blades. When mower damage occurs on a young tree the effects can be devastating, and may quickly lead to the loss of the tree. Often, the damage is not seen as a problem until several years later, when the tree is noticeably dying. On older trees, the accumulation of mower wounds can build up over time eventually causing the buttress to decay to a point where the tree becomes unstable.

Planted too deep—Normally identified when the tree base does not show any sign of a root flare. Probing or digging may discover that the roots are buried too deep. Sometimes this will also hide a girdling root. In either situation, the restriction of soil or girdling root must be removed for the tree to grow properly. Occasionally the lack of root flare is a result of the installation or repair of underground utilities that are so close to the tree that the roots or buttress roots become severely damaged.

Root issues—Primarily seen where tree lawns were 4 feet wide or less. The roots do not have adequate space to fully develop without creating problems for nearby sidewalks or curbs. When trees grow in very limited spaces, the walks and curbs become damaged. The repairs usually result in extensive damage to or severing of the root systems and ultimately lead to unstable trees. Proper design and placement of trees will alleviate this problem.

Sparse crowns—Sparse crowns or leaves that are not fully expanded indicate that a tree is under stress. It can also be a sign of a disease or pest infestation; in this survey it was always associated with rooting issues.

Storm damage—Tree damage as a result of storms leaving stubs and torn branches. Proper pruning and repair should take place to minimize further damage.

Structural defects—Most trees develop natural structural defects such as tight V crotches or rubbing branches. This can be corrected by proper pruning.

Thorns—Honey Locusts may develop thorns which become safety hazards in high traffic areas. Thorns may be removed manually from the lower portions of the tree if necessary.

Trunk wounds—Wounds likely having a number of different origins, including vehicle accidents, vandalism, construction (accidental contact with heavy equipment) or storm related events like high winds or lightning. The wounds discovered in this survey were quite large and are unlikely to seal properly leaving the trees prone to internal decay. Decay eventually causes a weakened tree trunk. Trees with large trunk wounds should be monitored closely.

Utility trimming—Trimming done by utility companies for trees directly under utility lines. This has caused the removal of the middle portion of some trees causing sunscald damage, loss of structural integrity and function, leading to decline.

Vehicle damage—Damage that occurs as result of a driver losing control on icy winter roads and scraping a road-side tree. This is a problem often associated with a very narrow tree lawn. Such accidents leave large scars that cannot be completely repaired by the tree's callus tissue. The resulting decay can lead to structural instability.