

Case # BZA-12-24-00834

Charleston County BZA Meeting of April 7, 2025

Applicant:	Tyler Spears of Bessemer Road, LLC
Property Owners:	Nancy Lynn Martin (-007) Daniel A. Martin (-008) Priscilla Lynn Martin (-236)
Representative:	Bob Almirall of Reever Group
Property Location:	1572 and 1576 Joe Rouse Road and 3037 Julius Robertson Road – East Area
TMS#:	583-00-00-007, -008, and -236
Zoning District:	Special Management (S-3) Zoning District
Request:	Variance request to remove two (2) Grand Trees for a proposed subdivision.

Requirement:

The Charleston County Zoning and Land Development Regulations Ordinance (ZLDR), Chapter 9 Development Standards, Article 9.2 Tree Protection and Preservation, Sec. 9.2.5.B. Tree Removal states, "Grand Trees and Protected Trees that do not meet the above criteria may be removed only where approved by the Board of Zoning Appeals, and shall be replaced according to a schedule determined by the Board. The Zoning and Planning Director will make recommendations to the Board concerning the number, species, DBH or caliper, and placement of such Trees."



CHAPTER 9 | DEVELOPMENT STANDARDS

ARTICLE 9.2 TREE PROTECTION AND PRESERVATION

Sec. 9.2.5 Tree Removal

- A. Permits for Tree removal may be approved where one or more of the following conditions are deemed to exist by the Zoning and Planning Director:
 - 1. Trees are not required to be retained by the provisions of this Article.
 - 2. Trees are diseased, dead, or dying. Documentation may be submitted by a qualified tree care professional and approved by the Zoning and Planning Director;
 - 3. Trees pose an imminent safety hazard to nearby Buildings, pedestrian, or vehicular traffic (as determined by the Zoning and Planning Director or a qualified construction professional); or
 - 4. Removal of Required Trees has been approved by the Board of Zoning Appeals.
- **B.** Grand Trees and Protected Trees that do not meet the above criteria may be removed only where approved by the Board of Zoning Appeals, and shall be replaced according to a schedule determined by the Board. The Zoning and Planning Director will make recommendations to the Board concerning the number, species, DBH or caliper, and placement of such Trees.
- C. In the event that a Tree poses a serious and imminent threat to public safety due to death, disease, or damage resulting from emergencies including, but not limited to, fires, flooding, storms, and natural disasters, the Zoning and Planning Director may waive requirements of this Article. Documentation shall later be submitted for review outlining the threat to public safety which initiated the removal. Documentation must include any written findings by a qualified professional and photographs supporting the Tree Removal emergency.
- D. The Zoning and Planning Director may require replacement of Required Trees that are removed where it is determined that death or disease resulted from negligence.
- E. Violations and penalties are specified in CHAPTER 11, *Violations, Penalties, and Enforcement*, of this Ordinance.







Case # BZA-12-24-00834 BZA Meeting of April 7, 2025 Subject Property: 1572 & 1576 Joe Rouse Road & 3037 Julius Robertson Road — East Area

Proposal: Variance request to remove two (2) Grand Trees for a proposed subdivision.



14"/16" DBH Live Oak Tree Grade B



27" DBH Willow Oak Tree Grade A



Subject Properties





Subject Properties



Covington Subdivision Phase 2 Hopkins Lane





Staff Review:

The applicant, Tyler Spears of Bessemer Road LLC, represented by Bob Almirall of Reever Group, is requesting a variance to remove two (2) Grand Trees for a proposed subdivision at 1572 and 1576 Joe Rouse Road and 3037 Julius Robertson Road (TMS # 583-00-00-007, -008, and -236) in the East Area of Charleston County. TMS # -007 is owned by Nancy Lynn Martin, TMS # -008 is owned by Daniel A. Martin, and TMS # -236 is owned by Priscilla Lynn Martin. The combined acreage for the subject properties is 19.12 acres. The subject properties and properties to the southeast, south, and west are located in the Special Management (S-3) Zoning District. Properties located to the north and northeast are in the Town of Mount **Pleasant's jurisdiction.** The subject properties are located in the Philips Community, which was designated as a Historic District on the Charleston County Historic Designation List.

More specifically, the applicant is requesting to remove a 14/16" Diameter Breast Height (DBH) Grand Live Oak Tree (Grade B) near proposed Lot 15 and to remove a 27" DBH Grand Willow Oak Tree (Grade A) near proposed Lot 26. The applicant is currently in the subdivision process (SBDV-05-23-02428).

The applicant's letter of intent explains, "Bessemer Road, LLC is proposing to develop Phase 3 of the Covington Subdivision at the end of Hopkins Lane (Phase 2). This phase will consist of 40 single family residential lots and a community gathering area. To the extent possible, the site has been designed in compliance with the requirements set by Charleston County, SCDHEC, USACE, and SCDOT with the intent of providing a safe and functional residential community."

Applicable ZLDR requirement:

The Charleston County Zoning and Land Development Regulations Ordinance (ZLDR), Chapter 9 Development Standards, Article 9.2 Tree Protection and Preservation, Sec. 9.2.5.B. Tree Removal states, "Grand Trees and Protected Trees that do not meet the above criteria may be removed only where approved by the Board of Zoning Appeals, and shall be replaced according to a schedule determined by the Board. The Zoning and Planning Director will make recommendations to the Board concerning the number, species, DBH or caliper, and placement of such Trees."

Applicable ZLDR Chapter 12 Definitions, Article 12.1 Terms and Uses Defined:

Arborist, Certified A Person certified by the International Society of Arboriculture.

Diameter Breast Height (DBH) The total diameter, in inches, of a Tree trunk or trunks measured at a point four and one-half feet above existing Grade (at the base of the

Tree). In measuring DBH, the circumference of the Tree shall be measured with a standard diameter tape, and the circumference shall be divided by 3.14.

Grand Tree Any Tree with a diameter breast height of 24 inches or greater, with the exception of Pine Tree and Sweet Gum Tree (Liquidambar styraciflua) species.

Staff conducted site visits of the subject property on January 14, 2025 and on March 14, 2025. Please review the attachments for further information regarding this request.

Planning Director Review and Report regarding Approval Criteria of §3.10.6:

§3.10.6(1): There are extraordinary and exceptional conditions pertaining to the particular piece of property;

- There are no extraordinary conditions pertaining to the 19.12-acre subject Response: property. The property is not extraordinary in size or shape and Grand Trees are located throughout the area. However, there is an exceptional condition because the proposed subdivision is an extension of that existing subdivision, and that does not apply to other property in the vicinity. The applicant's letter of intent states, "The site is the third and final phase of the Covington Subdivision development. The existing properties surrounding the site are developed as single family residential with similar lot sizes as proposed under the S-3 Zoning (12,500 sf minimum lot size). Phases 1 and 2 are within the Town of Mt. Pleasant municipal boundary; however, Phase 3 will remain within unincorporated Charleston County. The narrow geometry of the subject property dictates the location of the public streets be located as shown on the site plan to provide double loaded lots and to properly save the cluster of grand trees in the proposed gathering area between lots 25 and 26." Therefore, the request may meet this criterion.
- §3.10.6(2): These conditions do not generally apply to other property in the vicinity;
- Response: These conditions may not generally apply to other properties in the vicinity. **The applicant's letter of intent states**, "These conditions do not apply to other properties in the vicinity and are unique to the property in that the surrounding properties have been previously subdivided and developed with single family residences. This property is unique in that the parcels are significantly larger than the surrounding properties which have already been cleared of significant trees and developed and is shaped in a long and narrow configuration which generally dictates the alignment of the **access roads."** Therefore, the request <u>may meet</u> this criterion.

BZA Meeting of April 7, 2025 Staff Review, Case # BZA-12-24-00834

- §3.10.6(3): Because of these conditions, the application of this Ordinance to the particular piece of property would effectively prohibit or unreasonably restrict the utilization of the property;
- Response: The application of this Ordinance, Chapter 9 Development Standards, Article 9.2 Tree Protection and Preservation, Sec. 9.2.5.B. Tree Removal to the subject properties may not unreasonably restrict the utilization of the property because the applicant can reduce the number of lots and reimagine the overall design to ultimately preserve the trees. Therefore, the request <u>may not meet</u> this criterion. However, t**he applicant's letter of intent** contends, "The application of this ordinance would unreasonably restrict the utilization of the property under the S-3 Zoning as the two (2) trees requested for removal are located within the limits of the road right-of-way. The road configuration has been carefully reviewed to minimize impacts to grand trees and save a significant cluster of trees for a community gathering area."
- §3.10.6(4): The authorization of a variance will not be of substantial detriment to adjacent property or to the public good, and the character of the zoning district will not be harmed by the granting of the variance;
- Response: Authorization of this variance request may not be of substantial detriment to adjacent properties or to the public good if the Grand Trees are mitigated. Therefore, the character of the Special Management (S-3) Zoning District may not be harmed. **The applicant's** letter of intent states, "Every effort has been made to save the grand trees on the property that have been evaluated and deemed to be in good condition. The removal of these trees will not be a detriment to adjacent properties as they are in the center of the property and not adjacent to the surrounding properties. The character of the zoning district will not be harmed as ten (10) grand trees will be protected and remain on-**site**." Therefore, the request <u>may meet</u> this criterion.
- §3.10.6(5): The Board of Zoning Appeals shall not grant a variance the effect of which would be to allow the establishment of a use not otherwise permitted in a zoning district, to extend physically a nonconforming use of land, or to change the zoning district boundaries shown on the official zoning map. The fact that property may be utilized more profitably, should a variance be granted, may not be considered grounds for a variance;
- Response: The variance does not allow a use that is not permitted in this zoning district, nor does it extend physically a nonconforming use of land or change the zoning district boundaries. **In addition, the applicant's letter of intent states,** "The use of this parcel will be Single Family Residential which is pursuant to

the existing zoning and within the character of the surrounding properties." Therefore, the request <u>meets</u> this criterion.

§3.10.6(6): The need for the variance is not the result of the applicant's own actions;

- Response: The need for the variance may be the result of the applicant's own actions because the applicant can reduce the number of lots and reimagine the overall design to ultimately preserve the trees. Therefore, the request may not meet this criterion. However, the applicant's letter of intent contends, "The need for this variance is a result of physical constraint of the site and desire to maintain the most significant cluster of existing grand trees."
- §3.10.6(7): Granting of the variance does not substantially conflict with the Comprehensive Plan or the purposes of the Ordinance;
- Response: Granting of the variance may not substantially conflict with the Comprehensive Plan or the purposes of the Ordinance if the Board finds that the strict application of the provisions of the Ordinance results in an unnecessary hardship and the Grand Trees are mitigated. Therefore, the request <u>may meet</u> this criterion.

Board of Zoning Appeals' Action:

According to Article 3.10 Zoning Variances, Section §3.10.6 Approval Criteria of the *Charleston County Zoning and Land Development Regulations Ordinance (ZLDR)*, (adopted July 18, 2006), The Board of Zoning Appeals has the authority to hear and decide appeals for a Zoning Variance when strict application of the provisions of this Ordinance would result in unnecessary hardship (§3.10.6A). A Zoning Variance may be granted in an individual case of unnecessary hardship if the Board of Zoning Appeals makes and explains in writing their findings (§3.10.6B Approval Criteria).

In granting a variance, the Board of Zoning Appeals may attach to it such conditions regarding the location, character, or other features of the proposed building or structure as the Board may consider advisable to protect established property values in the surrounding area or to promote the public health, safety, or general welfare (§3.10.6C).

The Board of Zoning Appeals may approve, approve with conditions or deny Case # BZA-12-24-00834 [Variance to remove two (2) Grand Trees for a proposed subdivision at 1572 and 1576 Joe Rouse Road and 3037 Julius Robertson Road (TMS # 583-00-00-007, -008, and -236) in the East Area of Charleston County] **based on the BZA's "Findings of Fact"**, unless additional information is deemed necessary to make an informed decision. In the event the BZA decides to approve the application, Staff recommends the following conditions:

- 1. The applicant shall mitigate the removal of the 57 DBH inches by either (a) submitting a mitigation plan for review and approval indicating the installation of canopy trees no smaller than two and one-half (2.5) inches in caliper equaling inch per inch replacement, (b) by depositing funds into the Charleston County Tree Fund as described in Sec. 9.2.6 of the ZLDR, or (c) a combination of both (a) and (b). The allotted mitigation shall be in place prior to its removal.
- Tree barricades constructed of chain link fencing shall be installed around all protected trees within 40' of disturbance prior to any construction, pursuant to Sec.
 9.2.4 of the Charleston County Zoning and Land Development Regulations.
- 3. The applicant shall retain a Certified Arborist to monitor and treat all Grand Trees within 40' of disturbance through the duration of construction. The applicant shall provide a copy of the Tree Preservation Plan to Zoning Staff for review and approval prior to Zoning Permit approval for construction.

ZONING VARIANCE APPLICATION Charleston County Board of Zoning Appeals (BZA)

Property Information			
Subject Property Address: TBD (C	Currently 3037 Julius F	Robertson Road)	
Tax Map Number(s): TMS# 583	-00-00-007, -008, and	1 -236	
Current Use of Property: Resider	ntial		
Proposed Use of Property: Single	Family Residential		
Zoning Variance Description:	oval of two (2) grand tre	es.	
Applicant Information (Require	ed)		
Applicant Name (please print): Ty	er Spears		
Name of Company (if applicable): B	essemer Road, LLC		
Mailing Address: 1510 N Hwy 1	7		
City: Charleston	A State: SC		Zip Code: 29464
Email Address: tyler.spears@c	freamfindershomes.co	om Phone	#: 703 328 9976
Applicant Signature:	Date: 06 / 21 / 24		
Representative Information (Complete only if applicable.	Attorney, Builder, Engine	eer, Surveyor etc.)
Print Representative Name and Nar	ne of Company: Bob Almi	rall (Reveer Group))
Mailing Address: 2971 W. Mon	tague Ave. Suite 101	fight set in the	
City: North Charleston	State: SC		Zip Code: 29418
Email Address: balmirall@reveergroup.com Phone #: 84			#: 843-297-4103
Designation of Agent (Complet	e only if the Applicant listed	above is not the Propert	y Owner.)
I hereby appoint the person named	as Applicant and/or Represe	ntative as my (our) agen	t to represent me (us) in this application.
Property Owner(s) Name(s) (please	print): (See Affidavit	of Ownership Docu	uments)
Name of Company (if applicable, LLC	Cetc.):		
Property Owner(s) Mailing Address:			
City:	State:	Zip Code:	Phone #:
Property Owner(s) Email Address:			
Property Owner(s) Signature:			Date:
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Zoning District: 5-3	lood Zone	Date Filed:	101=31=9 martin

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Description of Request

Please describe your proposal in detail. You may attach a separate sheet if necessary. Additionally, you may provide any supporting materials that are applicable to your request (photographs, letter of support, etc.)

Please see BZA Letter

Applicant's response to Article 3.10 Zoning Variances, §3.10.6 Approval Criteria

Zoning Variances may be approved only if the Board of Zoning Appeals finds that the proposed use meets all 7 of the approval criteria. In evaluating your request, the members of the board will review the answers below as a part of the case record. You may attach a separate sheet if necessary.

1. Are there extraordinary and exceptional conditions pertaining to the subject property? Explain:

Please see BZA Letter

2. Do these conditions generally apply to other property in the vicinity or are they unique to the subject property? Explain:

Please see BZA Letter

3. Because of these extraordinary and exceptional conditions, would the application of this Ordinance to the subject property effectively prohibit or unreasonably restrict the utilization of the property? Explain:

Please see BZA Letter

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4. Will the authorization of a variance be a substantial detriment to adjacent property or to the public good? Will the character of the zoning district be harmed if this variance is granted? Explain:

Please see BZA Letter

5. The BZA shall not grant a variance the effect of which would be to allow the establishment of a use not otherwise permitted in a zoning district, to extend physically a Nonconforming Use of land, or to change the zoning district boundaries shown on the Official Zoning Map. The fact that property may be utilized more profitably if a Zoning Variance is granted shall not be considered grounds for granting a Zoning Variance. Does the variance request meet this criterion?

Please see BZA Letter

6. Is the need for the variance the result of your own actions? Explain:

Please see BZA Letter

7. Does the variance substantially conflict with the Charleston County Comprehensive Plan or the purposes of the Ordinance? Explain

Please see BZA Letter

In granting a variance, the Board of Zoning Appeals may attach to it such conditions regarding the location, character, or other features of the proposed building or structure as the Board may consider advisable to protect established property values in the surrounding area or to promote the public health, safety, or general welfare.

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June 21, 2024

Board of Zoning Appeals Charleston County Zoning/Planning Department 4045 Bridge View Drive North Charleston, SC 29405

Re: Covington Phase 3 (TMS # 583-00-00-007, -008, and -236) BZA Variance Request

To the Charleston County Board of Zoning Appeals,

Bessemer Road, LLC is proposing to develop Phase 3 of the Covington Subdivision at the end of Hopkins Lane (Phase 2). This phase will consist of 40 single family residential lots and a community gathering area.

To the extent possible, the site has been designed in compliance with the requirements set by Charleston County, SCDHEC, USACE, and SCDOT with the intent of providing a safe and functional residential community. Bessemer Road, LLC is requesting the following variances from the Charleston County Board of Zoning Appeals:

A. Removal of two (2) grand trees (7.5/14/16" Live Oak and 27" Willow Oak) (ZLDR 9.2)

See below for our response to each of the variance criteria:

1. Are there extraordinary and exceptional conditions pertaining to the subject property? The site is the third and final phase of the Covington Subdivision development. The existing properties surrounding the site are developed as single family residential with similar lot sizes as proposed under the S-3 Zoning (12,500 sf minimum lot size). Phases 1 and 2 are within the Town of Mt. Pleasant municipal boundary; however, Phase 3 will remain withing unincorporated Charleston County. The narrow geometry of the subject property dictates the location of the public streets be located as shown on the site plan to provide double loaded lots and to properly save the cluster of grand trees in the proposed gathering area between lots 25 and 26. 2. Do these conditions generally apply to other properties in the vicinity or are they unique to the subject property?

These conditions do not apply to other properties in the vicinity and are unique to the property in that the surrounding properties have been previously subdivided and developed with single family residences. This property is unique in that the parcels are significantly larger than the surrounding properties which have already been cleared of significant trees and developed and is shaped in a long and narrow configuration which generally dictates the alignment of the access roads.

3. Because of these extraordinary and exceptional conditions, would the application of this Ordinance to the subject property effectively prohibit or unreasonably restrict the utilization of the property?

The application of this ordinance would unreasonably restrict the utilization of the property under the S-3 Zoning as the two (2) trees requested for removal are located within the limits of the road right-of-way. The road configuration has been carefully reviewed to minimize impacts to grand trees and save a significant cluster of trees for a community gathering area.

- 4. Will the authorization of a variance be a substantial detriment to adjacent property or to the public good? Will the character of the zoning district be harmed if this variance is granted? Every effort has been made to save the grand trees on the property that have been evaluated and deemed to be in good condition. The removal of these trees will not be a detriment to adjacent properties as they are in the center of the property and not adjacent to the surrounding properties. The character of the zoning district will not be harmed as ten (10) grand trees will be protected and remain on-site.
- 5. The BZA shall not grant a variance the effect of which would be to allow the establishment of a use not otherwise permitted in a zoning district, to extend physically a Nonconforming Use of land, or to change the zoning district boundaries shown on the Official Zoning Map. The fact that property may be utilized more profitably if a Zoning Variance is granted shall not be considered grounds for granting a Zoning Variance. Does the variance request meet this criterion?

The use of this parcel will be Single Family Residential which is pursuant to the existing zoning and within the character of the surrounding properties.

6. Is the need for the variance the result of your own actions?

The need for this variance is a result of physical constraint of the site and desire to maintain the most significant cluster of existing grand trees.

7. Does the variance substantially conflict with the Charleston County Comprehensive Plan or the purposes of the Ordinance?

This variance does not substantially conflict with the Charleston County Comprehensive Plan or the purpose of the Ordinance.

Thank you in advance for your consideration of this request.

Sincerely, REVEER GROUP

Pobert almirall

Robert Almirall, P.E. Senior Project Manager



To Whom It May Concern:

Enclosed is a Tree Risk Assessment ordered by Ken Wroblewski of DFH Crescent LLC based on my independent field investigation of 60 (sixty) Grand trees located on the property at Covington, Phase 3. It has been prepared for the consideration of his desire to determine the size, health and safety of the trees and to meet the requirements outlined in the municipal ordinance for preservation and removal of Grand trees during land development. I have included my assessment of the trees' current condition and risk rating.

Prior to land clearing and development, it is recommended that construction plans be accompanied by a Tree Preservation Plan (TPP) written by a Certified Arborist to preserve trees selected to remain on the site that will otherwise be impacted by construction on the site.

Please feel free to contact me with any questions you may have about this report, or any other service we can provide.

Best regards,

Manhy Baby

E. Marshall Badeaux, RCA #742, BCMA SO-7159B Registered Consulting Arborist ISA Board Certified Master Arborist (843) 501-4297 marshall@charlestontreeexperts.com 2851 Maybank Hwy Johns Island, SC 29455





TREE CONDITION REPORT

www.charlestontreeexperts.com marshall@charlestontreeexperts.com (843) 952-8300

Report for:

Covington, Phase 3 TMS# 583-00-00-008 TMS# 583-00-00-236 TMS#583-00-00-119

Prepared for:

Ken Wroblewski DFH Crescent LLC

Prepared By:

Marshall Badeaux, RCA #742, BCMA SO-7159B ASCA, Registered Consulting Arborist International Society of Arboriculture Board Certified Master Arborist Member, American Society of Consulting Arborists TPAQ, Tree and Plant Appraisal Qualified TRAQ, Tree Risk Assessment Qualified CTSP, Certified Treecare Safety Professional #03122 EHAP, Electrical Hazards Awareness Program

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NARRATIVE

Summary

After Ken Wroblewski of DFH Crescent LLC became concerned with the condition of 60 (sixty) Grand trees located on the property, my firm was contacted to provide an independent, objective opinion regarding the health and structural stability of the trees located on the site. I performed a Level 2: Basic Tree Risk Assessment (BTRA).

Based on this level 2 evaluation, I have determined that the trees outlined in this report have accurate identification, size and grade.

Prior to land clearing and development, it is recommended that construction plans be accompanied by a Tree Preservation Plan (TPP) written by a Certified Arborist to preserve trees selected to remain on the site that will otherwise be impacted by construction on the site.

Background

In April 2024, Ken Wroblewski of DFH Crescent LLC contacted my firm and expressed concerns after observing multiple high-risk trees on his property. We discussed the terms of my engagement and upon approval of the Arborist Report line item, I was scheduled for a site inspection to perform a BTRA.

Assignment

<u>Prepared for:</u> Ken Wroblewski DFH Crescent LLC

Parcel location: Covington, Phase 3 TMS# 583-00-00-008 TMS# 583-00-00-236 TMS# 583-00-00-119

Prepared by: Marshall Badeaux, RCA #742, BCMA SO-7159B Charleston Tree Experts 2851 Maybank Hwy Johns Island, SC 29455

After discussing the terms of my engagement and the levels of assessment with Ken Wroblewski of DFH Crescent LLC, he agreed that I would conduct the following:

- 1. Identify the tree species.
- 2. Measure and determine the diameter at breast height (DBH).

- 3. Assess and provide a health grade and risk rating to the trees.
- 4. Provide recommendations for the trees outlined in this report.
- 5. Provide my findings in a booklet style report.

Limits of Assignment

My inspection was performed at ground level using visual observations, and my knowledge of the site history was limited to the past-history details provided by Ken Wroblewski. These were my only limitations in addition to the normal restrictions of a Level 2: BTRA.

Purpose and Use of Report

The purpose of this report is to provide an accurate depiction of defective or hazardous conditions of the Grand trees and site, and develop recommendations based on that data. This report is intended to be used by Ken Wroblewski for planning purposes. Upon submission, this report will become the property of Ken Wroblewski of DFH Crescent LLC and its use will be at his discretion. Reproduction or making of additional copies without explicit consent by the preparing Arborist is strictly prohibited.

OBSERVATIONS

Site

The trees reside on three connecting parcels of land as follows:

TMS# 583-00-00-008 approx. 8.88 acres. TMS# 583-00-00-236 approx. 6.05 acres. TMS# 583-00-00-119 approx. 0.74 acres.

Analysis

Many of the Grand trees located on this site have been impacted by property improvements, storms, and wetland fluctuations over the course of several decades.

Tree Condition and Inventory Table

Tree #	(DBH)	Species	Health	Risk Rating	Comments
1	30"	Black tupelo, Nyssa sylvatica	D	High	Decay, stump sprouts
2	46"	Black tupelo, Nyssa sylvatica	D	High	6.5/7.5/7.5/11/14, decay, decline.
3	26"	Laurel oak, Quercus laurifolia	F	Extreme	8/18, Forked, cavities, termites.
4	35"	American sweetgum, Liquidambar styraciflua	F	Extreme	15/20, included bark, cavities.
5	24"	Black tupelo, Nyssa sylvatica	D	High	8/16, stump sprouts
6	44"	Black tupelo, Nyssa sylvatica	D	High	7.5/10/10/16.5, stump sprouts, crook
7	25"	Black tupelo, Nyssa sylvatica	D	High	9/16, stump sprouts
8	20"	Black tupelo, Nyssa sylvatica	F	Extreme	6.5/6.5/7, decay, stump sprouts
9	27"	Chinese tallow, Sapium sebiferum	F	Extreme	11/16.5, invasive
10	28"	Live oak, Quercus virginiana	В	Low	
11	25"	Water oak, Quercus nigra	F	Extreme	Forked, decay, tannic acid, basal decay.
12	35"	Water oak, Quercus nigra	F	Extreme	14/21.5, diseased, cavities, decay
13	33"	Willow oak, Quercus phellos	D	High	Decay, forked
14	32"	Red oak, Quercus rubra	D	High	Diseased, cavities in trunk.

T					
15	19"	American sweetgum, <i>Liquidambar styraciflua</i>	D	High	Included bark
16	24"	Chinese tallow, Sapium sebiferum	F	Extreme	6/9/9, invasive
17	50"	American sweetgum, Liquidambar styraciflua	D	High	8/11/14/17.5, stump sprouts
18	32"	Black tupelo, Nyssa sylvatica	F	Extreme	17.5/15, included bark, basal decay.
19	28"	Black tupelo, Nyssa sylvatica	F	Extreme	8/8/12, decay, stump sprouts
20	15"	Chinese tallow, Sapium sebiferum	F	Extreme	7/8, invasive.
21	37"	Live oak, <i>Ouercus virginiana</i>	В	Low	7.5/14/16
22	32"	Chinese tallow, Sanium sehiferum	F	Extreme	9.5/11/11.5, invasive
23	52"	Willow oak, <i>Ouercus phellos</i>	D	High	15/18/19, stump sprouts, lean
24	33"	Black tupelo,	D	High	15/18, included bark, poor form
25	26"	American sweetgum, Liquidambar styraciflua	F	Extreme	Dead
26	25"	American sweetgum, Liquidambar styraciflua	D	High	decay, decline
27	31"	Water oak, Ouercus nigra	F	Extreme	Cavities, included bark, decay, decline
28	24"	Chestnut oak, Ouercus montana	С	Moderate	Forked
29	39"	Live oak, Ouercus virginiana	В	Low	
30	45"	Willow oak, Quercus phellos	С	Moderate	Lean
31	50"	Live oak, Quercus virginiana	В	Low	Forked
32	31"	Live oak, Quercus virginiana	С	Moderate	
33	44"	Live oak, Quercus virginiana	В	Low	
34	34"	Pecan, Carya illinoinensis	С	Moderate	Lean, poor form
35	25"	Pecan, Carya illinoinensis	D	High	
36	57"	Live oak, Quercus virginiana	В	Low	Lean
37	24"	Hickory sp., Carya sp.	F	Extreme	Diseased, hollow base, decline
38	34"	Willow oak,	F	Extreme	Hollow base, storm damage,

		Quercus phellos			decay, rot.
39	27"	American sycamore, Platanus occidentalis	С	Moderate	Included bark
40	44"	Live oak, Quercus virginiana	В	Low	
41	35"	Red oak, Quercus rubra	F	Extreme	Hollow, decay.
42	29"	Willow oak, Quercus phellos	F	Extreme	Diseased, decay, cavities
43	48"	Pecan, Carya illinoinensis	С	Moderate	Cavities, storm damaged
44	29"	Red oak, Quercus rubra	С	Moderate	
45	31"	Live oak, Quercus virginiana	В	Low	15.5/16
46	35"	Willow oak, <i>Quercus phellos</i>	С	Moderate	
47	26"	Willow oak, <i>Quercus phellos</i>	С	Moderate	V shaped crotch
48	27"	Willow oak, <i>Quercus phellos</i>	С	Moderate	Poor form
49	27"	American sweetgum, Liquidambar styraciflua	D	High	Decay.
50	29"	Live oak, Quercus virginiana	В	Low	Lean
51	68"	Willow oak, Quercus phellos	F	Extreme	33/35.5, V shaped crotch
52	35"	Live oak, Quercus virginiana	В	Low	
53	32"	American sweetgum, Liquidambar styraciflua	D	High	Crook, poor form.
54	28"	Red oak, Quercus rubra	С	Moderate	Poor form
55	28"	Willow oak, Quercus phellos	С	Moderate	
56	42"	Live oak, Quercus virginiana	В	Low	
57	32"	Willow oak, Quercus phellos	F	Extreme	Diseased, hollow, decay
58	24"	Willow oak, Quercus phellos	F	Extreme	Poor form
59	25"	Willow oak, Quercus phellos	F	Extreme	Basal cavity, storm damaged, included bark.
60	24"	Pecan, Carya illinoinensis	F	Extreme	Hollow, cavity, decay, rot.

Tree Grading System

A - Specimen tree exhibiting vigorous growth and showing little or no sign of damage.

B - Healthy tree, exhibiting vigorous growth, showing minimal signs of damage.

C - Semi-healthy tree, showing some signs of damage which are perhaps correctable (i.e., some insect infestations, some diseases, root compaction, etc.); still shows signs of growth, but suffered significant damage.

D - Tree in declining health; has suffered extensive damage; hazardous, tree may fail without notice or still live for many years but may not be successfully treated to again become a healthy, specimen tree.

F - Tree which is determined to be irreparably damaged, diseased or hazardous.

Discussion

Trees provide numerous benefits to the urban environment. These benefits increase as the age and size of the trees increase. However, as a tree becomes larger and more mature, it is likely to shed branches or develop decay or other conditions that can predispose it to failure. In assessing and managing trees, we strive to strike a balance between the risk that a tree poses and the benefits that individuals and communities derive from trees.

Tree risk assessment (TRA) is the systematic approach used to identify, analyze and evaluate tree risk. By identifying the tree risk, mitigation can be conducted to reduce risk while preserving the trees that meet acceptable levels of risk.

A primary goal of TRA is to provide the tree owner with resourceful information about the level of risk posed by a tree over a period of time. This is accomplished by conducting a qualitative analysis and determining the likelihood and consequences of a tree failure. If the risk rating defined for a tree exceeds the level of acceptable risk, mitigation is recommended.

Oozing tannic acid on a tree is a process that occurs when a tree is injured or wounded and has begun to degrade from the infection. Tannic acid is a natural compound that is found in the bark and wood of many trees, and it plays an important role in the tree's defense against pests and diseases. When a tree is injured or wounded, the bark and wood around the wound begin to produce tannic acid as a defense mechanism. Tannic acid has a bitter taste and is toxic to many insects and microorganisms, making it an effective deterrent against pests and diseases.

The appearance of oozing tannic acid on a tree can vary depending on the species of tree and the severity of the injury or wound. In some cases, the oozing may be a clear liquid, while in other cases it may be a thick, sticky substance. The color of the tannic acid can also vary, ranging from a pale yellow to a dark brown or black color. While

the oozing of tannic acid is a natural response to injury or wounds, it can also indicate a problem with the tree's health or structural stability. In some cases, the injury or wound may be a result of physical damage, such as from pruning or construction activities. In other cases, the oozing of tannic acid may be a sign of a more serious problem, such as decay or insect infestations. Detection of oozing tannic acid on a tree can be a useful tool for identifying problems with the tree's health or stability.

Included bark is a term used to describe bark that becomes trapped or embedded between two or more co-dominant stems originating from the root collar, trunk, limbs or branches of a tree.

Co-dominant stems are two or more stems that emerge from the same point on the trunk of a tree, and they are often of similar size and compete with each other for resources such as sunlight and water. When co-dominant stems originate from the root collar or trunk of a tree, they can be especially problematic because they are more likely to develop included bark. Included bark is weaker than the surrounding wood tissue, making it more susceptible to breakage, fracturing or splitting under stress and loads. This can create a hazard for people and property located near the tree, especially during storms or high winds.

Additionally, included bark can create a "V"-shaped junction between the two codominant stems. This "V"-shaped junction can trap water, debris, and pests, creating a moist and nutrient-rich environment that can be conducive to the growth of fungi and other pathogens. Over time, these pathogens can cause decay and weaken the structural integrity of the tree, leading to potential hazards.

A severe state of decline in trees can be characterized by a variety of symptoms that indicate a significant reduction in the tree's health and vigor. Some common indicators of severe decline include extensive crown dieback, significant canopy thinning, excessive epicormic growth, and a lack of new shoot growth. Additionally, trees in a severe state of decline may exhibit signs of stress, such as yellowing or browning of leaves, premature leaf drop, and reduced vigor.

In severe cases, the tree may also display structural defects, such as large dead branches or extensive decay, which can further compromise its structural integrity and increase the risk of failure. It is important to note that severe decline can be caused by a wide range of factors, including environmental stressors, insect and disease infestations, root damage, and improper management practices.

Hollows in trees can take various forms, each with its unique characteristics and risks. Understanding the progression of decay within hollows is crucial. Decay is influenced by factors such as moisture, temperature, and the type of decay organisms present. Over time, decay advances through distinct stages, ultimately compromising the structural soundness of the tree. Heart rot hollows, often resulting from fungal infections, can weaken the central core of the tree. Basal rot hollows, found near the base of the trunk, can compromise the tree's stability. Cavity hollows, on the other hand, create voids within the trunk, affecting the tree's overall structural integrity. The anatomy of a hollow involves the formation of voids within the trunk and the role of included bark and cambium tissue. Fungi and other decay organisms play a pivotal role in the decay process, interacting with the tree's defense mechanisms. Compartmentalization, a tree's ability to limit the spread of decay, provides insights into how trees cope with hollows. When Compartmentalization fails, decay continues to spread, allowing the hollows to expand to critical mass. Identifying the presence of a hollow is paramount for early intervention prior to a tree failure.

A cavity in a tree is an opening or hollow space within the trunk, branches or roots of a tree. Cavities can be caused by a variety of factors, including fungal infections, insect infestations, physical damage or decay. They can vary in size and location within the tree and can have varying negative effects on the tree's health and structural stability.

Cavities weaken the structural integrity of a tree and make it more susceptible to failure or collapse. Cavities can form in several different ways. One of the most common causes is fungal infections, which can cause the wood to decay and soften, creating an opening or hollow space within the tree. Insects can also cause cavities by burrowing into the wood and creating hollow spaces. Physical damage, such as from storms, mechanical impact, or pruning, can also create cavities by removing or damaging the protective bark layer, allowing pathogens or insects to enter the tree. Once inside the tree, pests and diseases can cause additional damage and accelerate the decay process, further weakening the tree's structural integrity.

Cavities can be difficult to detect, especially in larger trees with complex branching structures. Signs of a cavity may include visible openings or holes in the trunk or branches, soft or spongy wood, or a hollow sound when the tree is struck with a mallet. However, not all cavities will be visible or audible.

Rot damage on a tree is a type of decay that affects the tree's structure and will have a severe impact on its health and stability. Rot can occur in the tree's root collar, trunk, or branches, and can be caused by a variety of factors, including physical damage, insect infestations, and environmental stress. Rot damage can take many forms and can vary in severity, depending on the location and extent of the decay. In some cases, rot may be limited to a small area of the tree, while in other cases it may affect a significant portion of the tree's structure. There are several different types of rot that can occur in trees, each with its own unique characteristics and patterns of decay. Some common types of rot include white rot, brown rot, and heart rot.

White rot is a type of decay that primarily affects the lignin in the tree's wood, causing it to become white and stringy in texture. This type of rot is typically caused by fungi that break down lignin, and it can affect both hardwood and softwood trees.

Brown rot is a type of decay that primarily affects the cellulose in the tree's wood, causing it to become brown and crumbly in texture. This type of rot is typically caused by fungi that break down cellulose, and it is more common in hardwood trees.

Heart rot is a type of decay that affects the core of the tree's trunk, causing the wood to become dark and spongy. This type of rot is typically caused by fungi that enter the tree through wounds or openings in the bark and can lead to significant structural damage.

Detection of rot damage can be challenging, as it often occurs internally and may not be visible from the outside. However, there are some signs that can indicate the presence of rot, such as soft or spongy wood, discoloration or cracking of the bark, and mushroom-like growths on the tree's surface or in proximity to its roots.

In conclusion, rot damage on a tree is a type of decay that affects the tree's structure and will have a severe impact on its health and stability. Rot can occur in any part of a tree and can be caused by a variety of factors, including physical damage, insect infestations, and environmental stress. While detection of rot can be challenging, monitoring for signs such as dead, wounded, soft or spongy wood, discoloration of the bark, oozing fluids, and mushroom-like growths can be useful in identifying severe concerns with the tree's health, structural stability and survivability.

Decay in trees is a process that occurs as a result of the breakdown of complex organic compounds, such as lignin and cellulose, within the tree's tissues. This breakdown is carried out by microorganisms, such as fungi and bacteria, that feed on the organic matter and convert it into simpler compounds that can be absorbed and digested by the attacking disease.

Fungi are the primary agents of decay in trees. They feed on dead and decaying organic matter, including dead wood and leaf litter, and can colonize living trees through wounds or openings in the bark. Fungal spores can also enter trees through natural openings such as stomata or through wounds caused by insects, pruning, or environmental stressors. Once inside the tree, fungi can spread throughout the tree's tissues, infecting and digesting the wood and causing it to decay. The decay process can weaken the tree's vigor and structural integrity and make it more susceptible to breaking, falling, and/or entering a severe state of decline.

In addition, decay can create openings for pests and secondary diseases to enter the tree, further compromising its health and structural stability. There are several factors that can contribute to the development of decay in trees. One of the most common factors is physical damage to the tree, such as from storms, pruning, or construction activities. This damage can create openings in the bark that allow fungal spores to enter the tree. Other factors that can contribute to decay include environmental stress, such as drought or flooding, and insect infestations that damage the tree's bark and create entry points for fungi and disease.

Included bark is a term used to describe bark that becomes trapped or embedded between two or more co-dominant stems originating from the root collar, trunk, limbs or branches of a tree.

Co-dominant stems are two or more stems that emerge from the same point on the trunk of a tree, and they are often of similar size and compete with each other for

resources such as sunlight and water. When co-dominant stems originate from the root collar or trunk of a tree, they can be especially problematic because they are more likely to develop included bark. Included bark is weaker than the surrounding wood tissue, making it more susceptible to breakage, fracturing or splitting under stress and loads. This can create a hazard for people and property located near the tree, especially during storms or high winds.

Additionally, included bark can create a "V"-shaped junction between the two codominant stems. This "V"-shaped junction can trap water, debris, and pests, creating a moist and nutrient-rich environment that can be conducive to the growth of fungi and other pathogens. Over time, these pathogens can cause decay and weaken the structural integrity of the tree, leading to potential hazards.

Termites are known for their ability to cause severe damage to trees and wooden structures. Termites that infest trees are typically subterranean termites, which live in the soil and build mud tubes to access trees above the ground. These termites feed on the cellulose and other organic matter found in the tree, causing severe damage over time. Termites can cause several types of damage to trees, including:

Wood loss: Termites consume the wood in the tree, which can lead to a loss of structural integrity. This can cause the tree to become weak and unstable, increasing the risk of falling.

Girdling: Termites can create galleries around the trunk of the tree, which can girdle or constrict the flow of nutrients and water to the leaves and branches. This can cause the tree to become weakened, and the affected branches may die.

Soil erosion: Termites can cause soil erosion by tunneling through the soil around the base of the tree. This can cause the soil to become unstable, which can lead to the tree becoming tilted or even falling.

Secondary infections: Termites can create openings in the tree, which can allow for the entry of other pests or pathogens. This can lead to secondary infections, which can further weaken the tree.

The damage caused by termites can be difficult to detect, as the infestation may be hidden within the tree or underground. However, some signs that termites may be infesting a tree include the presence of mud tubes on the trunk, sawdust-like frass around the base of the tree, and the appearance of swarming termites in the area.

A termite infestation can cause a tree trunk to swell due to the production of mud tubes and digestion activity by the termites contained in the tree. Mud tubes are made of soil, saliva, and fecal matter and are used by subterranean termites to travel from the soil to above-ground structures, including trees. As termites construct these tubes in the trunk of the tree, they can cause the bark to become damaged, which can trigger a response from the tree. The tree may produce extra cells, including cambium cells, to repair the damage caused by the termites. This can cause the trunk to become swollen or bulbous in the area where the termites are active. The swelling is a
response by the tree to try to strengthen and protect itself from the termite infestation. However, the damage caused by the termites can be extensive, and the tree will ultimately become weakened and structurally unsound.

CONCLUSION

Prior to land clearing and development, it is recommended that construction plans be accompanied by a Tree Preservation Plan (TPP) written by a Certified Arborist to preserve trees selected to remain on the site that will otherwise be impacted by construction on the site.

GLOSSARY

acceptable risk--the degree or amount of risk that the owner, manager, or controlling authority is willing to accept.

acid--having a pH less than 7.0. Contrast with alkaline.

analysis--detailed examination of the elements or structure of something.

ANSI--American National Standards Institute, a private, nonprofit organization that oversees the development of voluntary consensus standards by accredited representatives of government agencies industry, and other stakeholders.

ANSI A300--in the United States, industry-developed, national consensus standards of practice for tree care.

arborist--professional who possesses the technical competence, through experience and related training, to provide for or supervise the management of trees and other woody plants in residential, commercial, and public landscapes.

bark--protective outer covering of branches and stems that arises from cork cambium.

booklet style report--booklet reports present information in an abbreviated book form. Booklet reports are probably the most commonly used and readily recognizable report format.

dbh--diameter at breast height [U.S., 4.5 feet above ground] measured in inches.

decay--(1) (noun) an area of wood that is undergoing decomposition. (2) (verb) decomposition of organic tissues by fungi or bacteria.

diameter--the length of a straight line through the center of a circle.

failure--breakage of a stem, branch, or roots, or loss of mechanical support in the root system.

hazard--situation or condition that is likely to lead to a loss, personal injury, property damage, or disruption of activities; a likely source of harm. Tree part identified as likely source of harm.

height--tree height either visually estimated or measured. If measured, the tool used for measurement should be noted in Tools used.

high--(risk rating) defined by its placement in the risk rating matrix; consequences are significant and likelihood is very likely or likely, or consequences are severe and likelihood is likely.

imminent--(likelihood of failure) failure has started or is most likely to occur in the near future, even if there is no significant wind or increased load. The imminent category overrides any stated time frame.

included bark--bark that becomes embedded in a crotch (union) between branch and trunk or between co-dominant stems. Causes a weak structure.

inspection--a procedure to inspect a tree or trees. Variables used to describe a tree include position (if not

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already plotted on a topographical survey), species identity, maturity, various dimensions (main stem diameter, height, crown radius etc.), aspects of form, vigor, condition, incidence of pests, diseases, damage and defects, evidence of past management etc. Site factors, position in the landscape and site usage may also be relevant, usually including its position, species identity, dimensions, age class, condition, conservation value etc. as appropriate, and to identify and evaluate defects. It is also common to make management recommendations. Tree inspection is a fundamental of tree management and advisory practice in arboriculture.

mitigation--in tree risk assessment, the process for reducing risk.

species--taxonomic group of organisms composed of individuals of the same genus that can reproduce among themselves and have similar offspring.

tannic acid--(tannin) organic substance produced by trees. Believed to be involved in a tree's chemical defense processes.

Appendix A - Tree Map





APPENDIX B – TREES

#1 BLACK TUPELO, NYSSA SYLVATICA



Figure 1: Decay, stump sprouts.

#2 BLACK TUPELO, NYSSA SYLVATICA



Figure 2: 6.5/7.5/7.5/11/14, decay, decline.

#3 LAUREL OAK, QUERCUS LAURIFOLIA



Figure 3: 8/18, Forked, cavities, termites.



Figure 4: 8/18, Forked, cavities, termites.



Figure 5: 8/18, Forked, cavities, termites.

#4 AMERICAN SWEETGUM, LIQUIDAMBAR STYRACIFLUA



Figure 6: 15/20, included bark, cavities.

#5 BLACK TUPELO, NYSSA SYLVATICA



Figure 7: 8/16, stump sprouts

#6 BLACK TUPELO, *NYSSA SYLVATICA*



Figure 8: 7.5/10/10/16.5, stump sprouts, crook

#7 BLACK TUPELO, *NYSSA SYLVATICA*



Figure 9: 9/16, stump sprouts.

#9 Chinese tallow, *Sapium sebiferum*



Figure 10: 11/16.5, invasive.

#10 LIVE OAK, QUERCUS VIRGINIANA



#11 WATER OAK, QUERCUS NIGRA



Figure 11: Forked, decay, tannic acid, basal decay.



Figure 12: Forked, decay, tannic acid, basal decay.

#12 WATER OAK, QUERCUS NIGRA



Figure 13: 14/21.5, diseased, cavities, decay.



Figure 14: 14/21.5, diseased, cavities, decay.



#13 WILLOW OAK, QUERCUS PHELLOS



Figure 16: Decay, forked.



Figure 17: Decay, forked.





Figure 19: Diseased, cavities in trunk.



Figure 20: Diseased, cavities in trunk.

#15 AMERICAN SWEETGUM, *LIQUIDAMBAR STYRACIFLUA*



Figure 21: Included bark.

#16 CHINESE TALLOW, SAPIUM SEBIFERUM



Figure 22: 6/9/9, invasive.

#17 AMERICAN SWEETGUM, *LIQUIDAMBAR STYRACIFLUA*



Figure 23: 8/11/14/17.5, stump sprouts.

#18 BLACK TUPELO, NYSSA SYLVATICA



Figure 24: 17.5/15, included bark, basal decay.

#19 BLACK TUPELO, NYSSA SYLVATICA



Figure 25: 8/8/12, decay, stump sprouts.

#21 LIVE OAK, QUERCUS VIRGINIANA



Figure 26: 7.5/14/16.

#22 CHINESE TALLOW, SAPIUM SEBIFERUM



Figure 27: 9.5/11/11.5, invasive.

#23 WILLOW OAK, QUERCUS PHELLOS



Figure 28: 15/18/19, stump sprouts, lean.

#24 BLACK TUPELO, NYSSA SYLVATICA



Figure 29: 15/18, included bark, poor form.



Figure 30: 15/18, included bark, poor form.

#25 AMERICAN SWEETGUM, *LIQUIDAMBAR STYRACIFLUA*



Figure 31: Dead.
#26 AMERICAN SWEETGUM, *LIQUIDAMBAR STYRACIFLUA*



Figure 32: decay, decline.

#27 WATER OAK, QUERCUS NIGRA



Figure 33: Cavities, included bark, decay, decline.



Figure 34: Cavities, included bark, decay, decline.



Figure 35: Cavities, included bark, decay, decline.

#28 CHESTNUT OAK, QUERCUS MONTANA



Figure 36: Forked.

#29 LIVE OAK, QUERCUS VIRGINIANA



#30 WILLOW OAK, QUERCUS PHELLOS



Figure 37: Lean.

#31 LIVE OAK, QUERCUS VIRGINIANA



Figure 38: Forked.

#32 LIVE OAK, QUERCUS VIRGINIANA





#33 LIVE OAK, QUERCUS VIRGINIANA





#34 PECAN, CARYA ILLINOINENSIS



Figure 39: Lean, poor form.

#35 PECAN, CARYA ILLINOINENSIS



#36 LIVE OAK, QUERCUS VIRGINIANA



Figure 40: Lean.

#37 HICKORY SP., CARYA SP.



Figure 41: Diseased, hollow base, decline.



#38 WILLOW OAK, QUERCUS PHELLOS



Figure 43: Hollow base, storm damage, decay, rot.



Figure 44: Hollow base, storm damage, decay, rot.

#39 AMERICAN SYCAMORE, *PLATANUS OCCIDENTALIS*



Figure 45: Included bark.

#40 LIVE OAK, QUERCUS VIRGINIANA



#41 RED OAK, QUERCUS RUBRA



Figure 46: Hollow, decay.



Figure 47: Hollow, decay.



#42 WILLOW OAK, QUERCUS PHELLOS



Figure 49: Diseased, decay, cavities.



Figure 50: Diseased, decay, cavities.

#43 PECAN, CARYA ILLINOINENSIS



Figure 51: Cavities, storm damaged.



Figure 52: Cavities, storm damaged.

#44 RED OAK, QUERCUS RUBRA



#45 LIVE OAK, QUERCUS VIRGINIANA



Figure 53: 15.5/16.

#46 WILLOW OAK, *QUERCUS PHELLOS*



#47 WILLOW OAK, QUERCUS PHELLOS



Figure 54: V shaped crotch.

#48 WILLOW OAK, QUERCUS PHELLOS



Figure 55: Poor form.

#49 AMERICAN SWEETGUM, LIQUIDAMBAR STYRACIFLUA



Figure 56: Decay.

#50 LIVE OAK, QUERCUS VIRGINIANA



Figure 57: Lean.

#51 WILLOW OAK, QUERCUS PHELLOS



Figure 58: 33/35.5, V shaped crotch.


Figure 59: 33/35.5, V shaped crotch.

#52 LIVE OAK, QUERCUS VIRGINIANA



#54 RED OAK, QUERCUS RUBRA



Figure 60: Poor form.

#55 WILLOW OAK, QUERCUS PHELLOS



#56 LIVE OAK, QUERCUS VIRGINIANA



#57 WILLOW OAK, QUERCUS PHELLOS



Figure 61: Diseased, hollow, decay.



Figure 62: Diseased, hollow, decay.

#58 WILLOW OAK, QUERCUS PHELLOS



Figure 63: Poor form.



Figure 64: Poor form.

#59 WILLOW OAK, *QUERCUS PHELLOS*



Figure 65: Basal cavity, storm damaged, included bark.

#60 PECAN, CARYA ILLINOINENSIS



Figure 66: Hollow, cavity, decay, rot.



Figure 67: Hollow, cavity, decay, rot.

APPENDIX C – ASSUMPTIONS AND LIMITING CONDITIONS

1. Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable.

2. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible for the accuracy of information provided by others.

3. The consultant/appraiser shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services described in the fee schedule and contract of engagement.

4. Loss or alteration of any report invalidates the entire report.

5. Possession of this report of a copy thereof does not imply right of publication or use for any purpose by any person other than to whom it is addressed, without the prior expressed written consent of the consultant/appraiser.

6. This report and values expressed herein represent the opinion of the consultant/appraiser, and the consultant's/appraiser's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.

7. Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports.

8. Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees or property in question may not arise in the future.

APPENDIX D - CERTIFICATION OF PERFORMANCE

I, Marshall Badeaux, certify:

1. That I have personally inspected the trees referred to in the report, and have stated my findings accurately. The extent of the evaluation is stated in the attached report;

2. That I have no bias with respect to the parties involved;

3. That the analysis, opinion and conclusions stated herein is my own and is based on current scientific procedures and facts;

4. That my analysis, opinion and conclusions were developed, and this report has been prepared according to commonly accepted Arboriculture practices;

5. That no one provided significant professional assistance to me, except as indicated within the report;

6. That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party nor upon the results if the assignment of stipulated results, or the occurrence of any subsequent events.

I furthermore certify that I am a member in good standing of the American Society of Arboriculture and the International Society of Arboriculture. I have been involved in the practice of Arboriculture and the care of trees for over 20 years.

Signed: Muchel Berty

Date: April 23, 2024





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