

2252 TOWER ROAD TREE REPORT

AUGUST 22, 2022

PREPARED FOR:

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PREPARED BY:

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INTRODUCTION

On May 2nd 2022, I was contacted by Morgan Borlase, a real estate agent with Whitfield Company, regarding a tree protection/mitigation plan for The City of Aurora for a property at 2252 Tower Road in Aurora, Colorado. Mr. Gadi Ogbogu, a client of hers had purchased the property and was developing for semi-truck parking. Ms. Borlase informed me the site plans were being worked on and her client, Mr. Gadi Ogbogu would be contacting me. On May 9th, Mr. Ogbogu informed me he would contact me when the site plans were complete and arrange for a site visit. On July 28th, the site plans were sent over, and the following day the pre-application notes were sent. Mr, Ogbogu contracted my services on that day and a site visit was scheduled for the following Friday, August 5th. A tree protection plan/ tree mitigation plan was requested.

ANALYSIS

On August 5th, I meet with Mr. Ogbogu at the site at 2252 Tower Road at assess, measure, and photograph the trees and begin developing a tree protection/mitigation plan. The ground was sparse of vegetation, not irrigated, had remnants of small livestock grazing, and had few trees.

Tree 1: The west central, southern portion of the site had a group of American Elm (*Ulmus americana*) trees on it. Only one tree was larger than four inches. The one tree measured five (5) inches in diameter at breast height (DBH) and was not in good condition. This grouping of trees including the five-inch diameter tree will be removed during construction. The leaves were sparse, tips and interior branches were dead, and a large wound extended most of the trunk length.



Tree 2: Another grouping of Siberian Elm (*Ulmus pumila*) trees was located in the northwest of the north portion of the property. This group consisted of 3 trees, two of which were dead. The partially live tree was 8.5 inches in diameter DBH, had a poor basal flare, and was mostly dead. This grouping of trees will be removed.



There were multiple groupings of trees along the north and east sides of the property, most of those trees were dead. The few live trees consisted of small volunteer Sumac sp. and Siberian Elm trees less than 4 inches DBH.



Tree 3: Another small grouping of Siberian Elm (*Ulmus pumila*) trees was located along the property line on the west north side of the property in the north portion of the lot. Several of the stems were dead and one stem measured larger than 4 inches DBH, that stem measured 7.75 inches DBH. There was a large wound extending the length of the trunk, with a poor basal flare and girdling roots. This grouping of trees will be removed.



Tree 4: A large three stemmed Cottonwood (*Populus deltoides*) tree was growing along the northwest southern portion of the property. One stem was dead. The other stems measured 30.25 and 29.5 inches DBH. The Cottonwood has significant dieback all throughout the canopy, there is a large decay pocket at the base where the three stems converge. The remaining two live stems are leaning significantly away from the decay pocket and towards the neighboring property. One of the stems has an old lightning strike with extensive decay and is hollowed out from animals and birds. Although this tree was originally planned to remain and does not need to be removed based on the site plan, the tree has significant structural, decay, and is in very poor condition and overall health and it is recommended to remove this tree to eliminate the current hazardous situation which will increase





Appraisal of Trees

The trees required to be appraised (greater than four-inch diameter) under the City of Aurora's Tree Protection Plan were appraised using the Trunk Formula Technique of the Guide for Plant Appraisal 10th edition by the Council of Tree and Landscape Appraisers (CTLA).

Condition ratings were based on canopy dieback, trunk wounds, structural and foliar impacts of insects and disease, defects in trunk/basal flare, lead size and density. The American Elm (tree 1) was the largest volunteer growing in small grove of volunteers, there was a large decay pocket in the trunk that extended for most of the trunk. There was dieback on the branches, significant interior deadwood, and foliage was sparse. This tree was given a condition rating of 30%. The Siberian Elm (tree 2) located in the upper portion of the property on the western side was more than half dead, poor structure, large wound on the trunk, poor basal flare, and in overall poor condition, additionally it is an invasive species, and given a rating of 20%. The Siberian Elm (tree 3) was growing along the property line in the Northwestern portion of the lot had significant deadwood, girdling roots on one side of the trunk, and a large wound on the trunk, it is an invasive species; this tree received a condition rating of 20%.

The American Elm was given a 30% rating for Functional Limitations due to the species being poorly suited for the native soils and environment effecting their growth, genetic potential, and presence of disease and insect pressures which will limit their development. The Siberian elms were given a rating of 15% due to being invasive species as well as various insect and disease problems and being poorly adapted to the site and environment at this site.

All trees were given an External Limitations rating of 30% due to the lack of irrigation and poor soils on the site, none of the trees are suited for growing in such conditions. The Cottonwood is only surviving because the neighboring property has a leach field to the north of the trees, if the leach field were to be decommissioned, the tree would be expected to die from lack of water and nutrients. Another factor in the External Limitations is the industrial zoning and lack of development in the area.

The appraisals resulted in the following values (calculations below in table):

American Elm (tree 1):	\$449.63
Siberian Elm (tree 2):	\$420.30
Siberian Elm (tree 3):	\$418.73
Cottonwood (tree 4):	\$0.00
Total:	\$868.36

Species	American Elm	Species	Siberian Elm
<i>Ulmus americana</i>		<i>Ulmus pumila</i>	
Trunk Diameter	5	Trunk Diameter	8.5
Cross Sectional Area	19.64	Cross Sectional Area	56.75
Factors x		Factors x	
Condition	30%	Condition	20%
Functional Limitations	30%	Functional Limitations	15%
External Limitations	30%	External Limitations	30%
Replacement Plant Size (Dia.)	3	Replacement Plant Size (Dia.)	3
Cross Sectional Area	7.0686	Cross Sectional Area	7.0686
Replacement Tree Cost	\$ 515.00	Replacement Tree Cost	\$ 128.75
Unit Tree Cost	\$ 72.86	Unit Tree Cost	\$ 18.21
Basic Reproduction Cost	\$ 1,430.56	Basic Reproduction Cost	\$ 1,033.58
Depreciated Reproduction Cost	\$ 38.63	Depreciated Reproduction Cost	\$ 9.30
Total (Installed cost + DRC)	\$ 449.63	Total (Installed cost + DRC)	\$ 420.30
Species	Siberian Elm		
<i>Ulmus pumila</i>			
Trunk Diameter	7.75		
Cross Sectional Area	47.17		
Factors x			
Condition	20%		
Functional Limitations	15%		
External Limitations	30%		
Replacement Plant Size (Dia.)	3		
Cross Sectional Area	7.0686		
Replacement Tree Cost	\$ 128.75		
Unit Tree Cost	\$ 18.21		
Basic Reproduction Cost	\$ 859.23		
Depreciated Reproduction Cost	\$ 7.73		
Total (Installed cost + DRC)	\$ 418.73	\$	868.36

Tree Mitigation Plan Calculations

There are four live trees on the site that are larger than the four-inch requirement for protection/mitigation on the site. One tree, a Cottonwood was determined to be a hazard tree and therefore not included in the mitigation calculation nor does this tree warrant protection status as a hazard tree. The remaining three trees, one American Elm and two Siberian Elms, which meet or exceed the protection/mitigation plan requirement are 7.75", 8.5", and 5" which totals 21.25 inches. The tree protection/mitigation plan inches were adjusted based on the condition rating applied in the appraisals.

The mitigation inches are based on condition ratings:

American Elm: $5 \times .30 = 1.50$

Siberian Elm: $8.5 \times .20 = 1.7$

Siberian Elm: $7.75 \times .20 = 1.55$

The adjusted inches for mitigation are $1.50 + 1.7 + 1.55 = 4.75$ inches

If a tree mitigation plan is to be used additional trees will be required to be planted amounting to 4.75 combined diameter inches in addition to the trees required by City of Aurora within their landscape plan requirements.

If the trees are to be removed and a fee paid to the City of Aurora's Tree Planting Fund; the monetary amount is calculated to be \$868.36.

DISCUSSION

There are currently four trees on the site at 2252 Tower Road in Aurora, CO that required an appraisal based on size, however the Cottonwood was determined to be a hazard tree and therefore was not appraised as hazard trees are not appraised. The Cottonwood tree is recommended to be removed to eliminate the threat of damage to the neighboring property and livestock kept there as well as to any people or property on 2252 Tower Road during and post development. The Cottonwood has a large decay pocket at the base of three stems with included bark and poor stem attachment. One stem is completely dead and the other two stems are leaning at a significant angle and are in irreversible decline with dieback leading to large branch drop. The stems are leaning toward the neighboring property to the north where livestock are kept and a septic field is present, in addition to fencing. One of the stems has noticeable internal decay. Both live stems are dying back on almost all branches and dropping branches. This tree is currently a hazard tree and with future development adding additional targets within a potential failure zone, it will increase the hazard. This tree does not have a future path of recovery and is expected to decline further, again increasing hazardous conditions.

Three live trees (1-3) will be removed during the redevelopment plan as indicated by Mr. Ogbogu are one American Elm and two Siberian Elms, all are volunteer trees in poor condition. The Siberian Elms are an invasive species. The trees are in poor condition due to the lack of irrigation on the site, poor soils and have been affected by various environmental conditions, insects, and diseases. The three trees will be removed will be part of a mitigation tree plan and additional trees totaling 4.75 diameter inches will be planted to meet the requirements or a fee of \$868.36 will need to be paid the City of Aurora. Mr. Ogbogu indicated that potentially more trees will be planted than are required under the City of Aurora redevelopment plan. Of note, Ash trees cannot be planted as part of a mitigation tree plan, nor any invasive species.

There are other trees on the site along the eastern and northern portion of the site on the Northeastern section of the property however these trees with did not meet the four-inch mitigation requirement or the trees were dead.

CONCLUSIONS

There are three trees which meet the protection/mitigation tree plan requirements on this site, one American Elm and two Siberian Elms. The mitigated replacement inches total 4.75 inches, in which trees will have to planted equal to or greater than this amount in addition to City of Aurora tree planting requirements under the development plan. However, if the trees will be removed and not mitigated an appraised total of \$868.36 will be required to be paid to the City of Aurora's Tree Planting Fund. A combination of the two may be used as well.

The one large tree on the site is a Cottonwood tree, this tree is in irreversible decline and has significant structural issues and was deemed a hazardous tree and recommended for removal to protect the neighboring property as well as people and property on this site during development and post development as this tree is expected to further decline and increase in it's hazardous conditions. As a hazard tree this tree does not meet the requirement of The City of Aurora's Tree protection and mitigation plan.

ASSUMPTIONS AND LIMITING CONDITIONS

All information collected reflects the conditions on the dates, as indicated, that the data was collected.

Trees are living organisms and as such environmental factors may impact trees in variety of ways, including potential failure of parts or the whole tree. The overall condition of the tree may change due to factors beyond human control and timelines for change in trees may be delayed due to the slow metabolic rate and the seasonal growth of trees.

A Tree Risk Assessment was not performed unless otherwise stated, no guarantee or warranty is offered, implied or expressed, that the tree(s) or any of its parts will remain standing or in stable conditions. It is impossible to predict with absolute certainty failure of the whole tree or any part of the tree. No tree is "safe" as they are large woody organisms that defy gravity. Risk can only be eliminated by removing the tree.

Care has been taken to obtain all relevant information from reliable sources. This report does not guarantee, nor assume responsibility for the accuracy of information provided by others. All the information contained in this report was collected and compiled to accurately represent the field data.

The Consultant 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 as described in the fee schedule and contract of engagement.

Loss or alteration of any part of this report invalidates the entire report.

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

Neither all nor any part of the contents of this report, nor a copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales, or other media, without the prior expressed written or verbal consent of the consultant – particularly as to value conclusions, identity of the consultant, or any reference to any professional society or institute or to any initialed designation conferred upon the consultant as stated in his qualification.

This report is part of a compensation agreement based on the time of the consultant to provide an expert opinion on relevant issues within the scope of work and facts related to the subject matter described in this report and is not to be construed as a witness statement or similar; any future resulting legal work or litigation pertaining to this report will be billed per the appropriate hourly rates of the consultant as identified and agreed upon prior to any such work.

CERTIFICATION OF PERFORMANCE

I, Robert Brudenell, certify:

That I have personally inspected the tree(s) and/or property referred to in this report and have stated my findings accurately. The extent of the evaluation and/or appraisal is stated in the attached report and the Assumptions and Limiting Conditions;

That I have no current or prospective interest in the vegetation or the property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved;

That the analysis, opinions and conclusions stated herein are my own, and are based on current scientific methods, procedures and facts;

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 of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events;

That my analysis, opinions, and conclusions were developed, and this report has been prepared according to commonly accepted arboricultural standards and practices;

That no one provided professional assistance to the consultant, except as indicated within the report.

I further certify that I am a Registered Consulting Arborist of the American Society of Consulting Arborists, and I am an International Society of Arboriculture Board Certified Master Arborist. I have a Degree from Purdue University in Forestry and have been involved in the practice of arboriculture and the care and study of trees for over 30 years.



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Tree Risk Assessment Qualified

Tree and Plant Appraisal Qualified

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APRIL 2021

EMPLOYMENT**THE NATURAL WAY, INC. "ENVIRONMENTALLY CONSCIOUS TREE, SHRUB & LAWN CARE"****(INCORPORATED APRIL, 1995)**

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EDUCATION**PURDUE UNIVERSITY**

B.S., Forestry - Specialization in Urban Forestry, 5/92

CERTIFICATIONS, LICENSES, AND AFFILIATIONS**ASCA REGISTERED CONSULTING ARBORIST #417 (2004- PRESENT)****ASCA TREE AND PLANT APPRAISAL QUALIFIED (2019-PRESENT)****ISA BOARD CERTIFIED MASTER ARBORIST RM-605B (2005 – PRESENT)****ISA TREE RISK ASSESSMENT QUALIFIED (2014-PRESENT)****ISA CERTIFIED ARBORIST RM-605A (1994 – 2005)****ROCKY MOUNTAIN CHAPTER BOARD OF DIRECTORS – ISA (2004 – 2008)****EDUCATION CHAIRPERSON (2004 – 2008)****"OUTSTANDING SERVICE" AWARD – 2004** International Society of Arboriculture (ISA)**INTERNATIONAL SOCIETY OF ARBORICULTURE – PLANT VALUATION APPRAISAL COMMITTEE (2017 – PRES)****ARBORICULTURAL ASSOCIATION - PROFESSIONAL MEMBER PR 8629 (2022-PRESENT)****COUNCIL OF TREE AND LANDSCAPE APPRAISERS – REPRESENTATIVE FOR ASCA (2005 – 2006)****GREENCO BOARD OF DIRECTORS – REPRESENTATIVE FOR ISA (2003-2004)****COMMERCIAL APPLICATOR ENDORSEMENT (1995 – PRESENT)**

Colorado Department of Agriculture - Qualified Supervisor License # 00721
Ornamental and Turf.

MEMBER ARBORIST/OWNER OF ACCREDITED TREE CARE COMPANY (2004 – PRESENT)**(1ST IN COLORADO, 3RD IN THE NATION)**

Tree Care Industry Association - formerly the National Arborist Association

FAA UAG (Unmanned Aircraft General) Pilot License - FTN C1457185**PUBLICATIONS**

GreenCO Tree Planting Recommendations (2012) Green Industries of Colorado. ISA/RMC Committee Member
Agrilus quercicola, the Gambel Oak Borer, as a Pest of *Quercus* spp. Southwestern Entomologist 37(2):1470150. 2012 co-author w/Sever and Cranshaw.

"Wire Basket Measurements and Calculations in Relation to Root Ball Surface Area of 3 Types of Wire Baskets." – Rocky Mountain Arborist – January 2012

Contributor, Tree Law Cases in the USA - Second Edition. 2007

"Accreditation helps dodge OSHA fines" – Tree Care Industry Magazine. (November 2004)

Weekly Columnist of "The Arborist" Grow Section of The Denver Post (2004-2007)

Weekly Columnist of "Ask the Arborist" Lawn & Garden Section, The Denver Post/Rocky Mountain News. (2003)

Contributing Author, The Denver Post (1996-2002)

Urban Forestry Management Plan and Arboricultural Specifications Manual, City of Aurora, IL. 12/93