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Zelkova Appraisal

Prepared for:
Ms. Janet Smith
Out of Adjustment Company
P.O. Box 446
Boomtown, MA 02303

Prepared by:
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MCA #1468
BCMA # NE-0363B

May 11, 2011

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Summary

I was contracted to assess the significance of damages and the loss in value of a street tree that had been hit by a vehicle. I believe the injury will have little impact on the life expectancy of this tree. I have determined a loss in value of $673.00

Introduction

Background

On April 26,2011, I received an e-mail from Ms. Janet Smith of Out of Adjustment Co., Boomtown, MA. On 6/13/2010 a vehicle struck a tree in front of 125 Congress Ave. in Boomtown, MA. According to Janet, an initial inspection made on 10/18/2010 found the tree bark on the lower side was damaged, but the tree was still standing and in good condition. It was recommended that the tree be bark traced or preserved and left in place. The Town of Boomtown, thru Gutno Insurance, has made a financial demand for replacement of the tree. I was contracted to inspect the tree and comment on its' life expectancy, damages incurred, preservation costs, replacement cost, and loss in value.

Assignment

- Inspect tree damaged by insured
- Provide a written report commenting on:
  - Scope and significance of the damages
  - Life expectancy
  - Repair costs
  - Replacement cost and loss in value

Limitations

I arrived at the site almost 11 months after the incident. I cannot be sure if the wound and the trees reaction are consistent with how and when it was hit, or if there was previous wounding involved.

Purpose and Use

This report is provided for the client to help reach a fair settlement in an insurance claim involving this tree.

Observations

I arrived at the site at 125 Congress Ave. in Boomtown, MA on May 6,2011 at 10:00 am. The area is inner city urban made up of mostly multi-family dwellings. The Zelkova (*Zelkova serrata*) sits between #125 and #119 Congress Ave. (see site map pg.4, and photo #1, pg.5). The tree measures 12.5 inch dbh (diameter at breast height) with a height of 32 feet and an average crown spread of 23 feet.
The planting area is a small 3 foot by 3 foot opening in the sidewalk. Some areas of the trunk show no root flare[1] development near the surface. Small adventitious roots[2] were observed against the trunk.
The trunk appears sound. There is a wound on the northeast side extending from the soil to about 3 feet up the trunk, encompassing approximately one third of its' circumference. The bark is missing, and the woundwood[3] growth exhibited appears robust (see photo #2, pg.6).
The scaffold limbs[4] are rather typical of the species. A variety of defects including v-shaped crotches with included bark[5], crowded areas of branch attachment, and limbs too large in diameter in relation to the main trunk are all exhibited on this tree (see photo #3, pg.7). There is little evidence of any pruning other than a few lower limbs. The crown is free of decay and cavities. There is a minimal amount of dead wood, and wound closure is good. No signs of insect or disease are evident.
The vigor and size of the twigs appear normal. The canopy is fairly uniform, and the color and size of the foliage is good. There is a small area of dieback in the upper crown. Many utility lines run through the crown, and some limbs are beginning to intrude on the surrounding structures.

Discussion

There is no doubt this tree is an asset to the community. It is one of very few in the area. Aesthetics, cooling, wildlife habitat, attractive features, and screening are but a few of its' attributes.
The Zelkova has proven to be a good street tree, adaptable to poor soil conditions once it becomes established. It can reach 50 to 80 feet in height and spread.
As mentioned, the wound on the bottom of the trunk is showing impressive healing. I question whether that amount of woundwood growth is reasonable in the time since the accident, or if it has perhaps been wounded previously. Discussions with colleagues suggest that either is possible.
This aggressive woundwood response is a good indicator of vitality. It is my opinion that this wound will have little to no effect on longevity. I believe it is far more likely that the

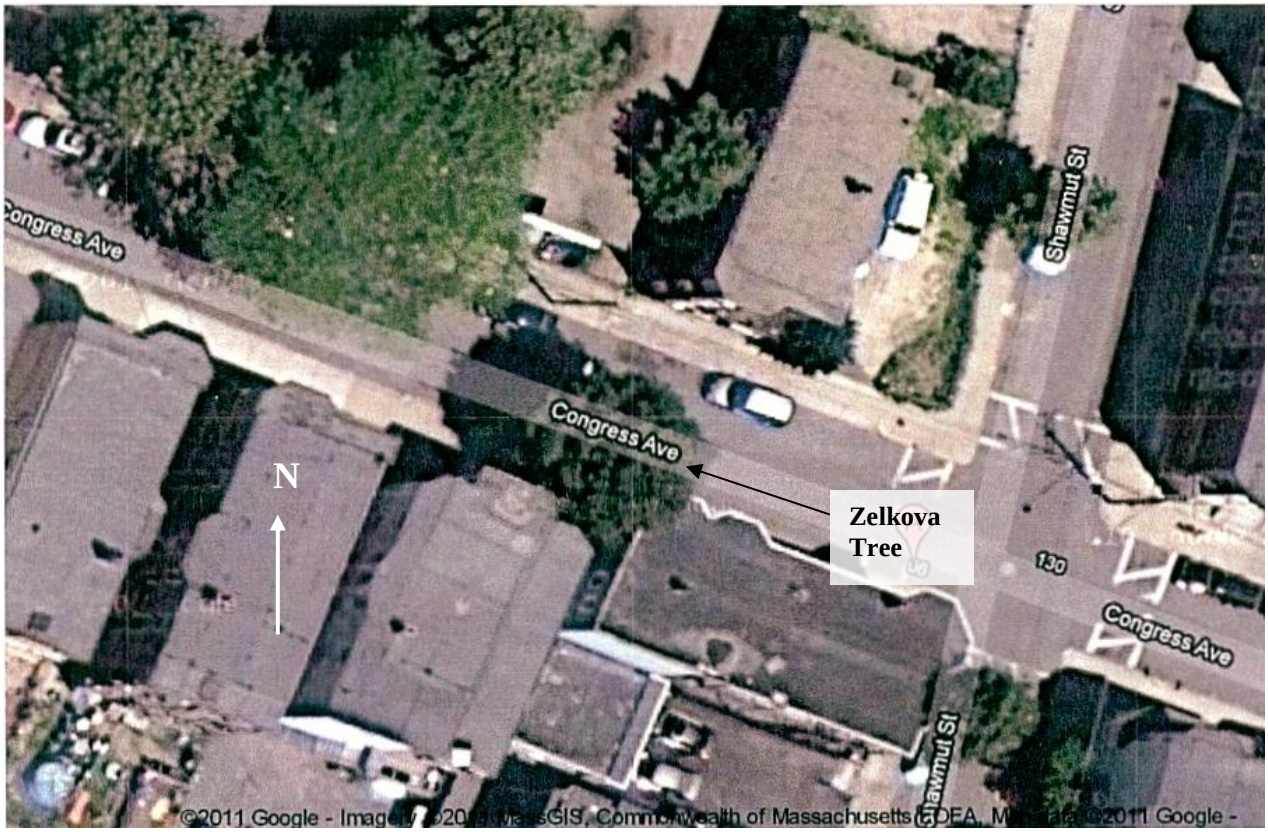
[1] Root flare - transition zone from trunk to roots where the trunk expands into structural roots
[2] Adventitious roots - roots arising from root stems with no connection to apical meristems
[3] Woundwood - differentiated tissue produced on woody plants as a response to wounding
[4] Scaffold limb - structural branches of a tree
[5] Included bark - bark that becomes embedded in a union between branch and trunk or codominant stems forming a weak structure

tree will outgrow its' environment. Issues with the sidewalk, utilities, and structures are sure to ensue. Defects in the branch attachments may eventually lead to limb failure, and the lack of an obvious root flare indicates potential root issues down the line.
The standard treatment for this type of injury would be to bark trace the wound and increase tree vigor by improving soil conditions and providing supplemental irrigation if needed. Since most of the bark was already gone when I arrived (I removed what little remained) and there is no soil area to speak of, this tree is best left alone.
While I believe this wound has had little impact on the longevity of this tree, it has certainly suffered a loss in the compromised condition of the trunk. I used the Trunk Formula Method (TFM) found in The Guide for Plant Appraisal, 9th Edition to establish a value for the tree both before and after the accident. TFM is used when a tree is too large to be replaced using conventional methods. TFM derives value based on the cost of the largest commonly available installed tree, which is then adjusted according to the subject trees' size, species, condition, and location.

Conclusion

This tree is well on the way to recovering from the wound. Site and environmental factors are far more likely to become future issues that will affect longevity. There is nothing to be done to enhance its' recovery, so the cost of repair would be $0.00
Using the Trunk Formula Method, I have arrived at an appraised value of $8,749.00 before the wounding (see worksheet, pg.8) and $8,076.00 after (see worksheet, pg.9). This results in a net loss of $673.00.

Site Map



Sight map from Google maps

Photo # 1

This Zelkova appears to be in good health and is a handsome asset to the neighborhood

Photo #2

The tree exhibits impressive healing by the amount of woundwood (orange colored tissue) being formed. It is well on the way to recovery

Photo #3

The scaffold branches on this tree show poor form. The limb coming off the left side is too large in relation to the main trunk, has included bark, and will be especially prone to failure in the future.

Trunk Formula Method Worksheet #1 - pre injury

Trunk Formula Method Worksheet

Case # _____ Property 125 CONGRESS AVE Date 5/6/2011

Appraiser HOWARD GAFFIN

Field Observations

1. **Species** ZELKOVA
2. **Condition** 78 % (PRE-INJURY)
3. **Trunk Circumference** _____ in./cm **Diameter** 12.5 in./cm
4. **Location** % = [**Site** 65 % + **Contribution** 100 % + **Placement** 80 %] ÷ 3 = 82 %

Regional Plant Appraisal Committee and/or Appraiser-Developed or -Modified Information

5. **Species** rating 80 %
6. **Replacement Tree Size** (diameter) 3 in./cm
   (Trunk Area) 7 in^2/cm^2 TA_R
7. **Replacement Tree Cost** $ 325.00
   (see Regional Information to use **Cost** selected)
8. **Installation Cost** $ 650.00
9. **Installed Tree Cost** (#7 + #8) $ 975.00
10. **Unit Tree Cost** $ 139.00 per in^2/cm^2
    (see Regional Information to use **Cost** selected)

Calculations by Appraiser using Field and Regional Information

11. **Appraised Trunk Area:**
    (TA_A or ATA_A; use Tables 4.4–4.7)
    or c^2 (#3) _____ × 0.08
    or d^2 (#3) 12.5 × 0.785
    = 123 in^2/cm^2
12. **Appraised Tree Trunk Increase** (TA_{INCR}) =
    TA_A or ATA_A 123 in^2/cm^2 (#11) – TA_R 7 in^2/cm^2 (#6) = 116 in^2/cm^2
13. **Basic Tree Cost** = TA_{INCR} (#12) 116 in^2/cm^2 × **Unit Tree Cost** (#10) $ 139.00 per in^2/cm^2 + **Installed Tree Cost** (#9) $ 975.00 = $ 17,099.00
14. **Appraised Value** = **Basic Tree Cost** (#13) $ 17,099.00 × **Species** rating (#5) 80 % × **Condition** (#2) 78 % × **Location** (#4) 82 % = $ 8,749.00
15. If the **Appraised Value** is $5,000 or more, round it to the nearest $100; if it is less, round to the nearest $10.
16. **Appraised Value** = (#14) $ 8,749.00 (PRE INJURY)

Items 5 through 10 are determined by the Regional Plant Appraisal Committee. The **Wholesale Replacement Tree Cost**, the **Retail Replacement Tree Cost**, or the **Installed Tree Cost** (#9) divided by the **Replacement Tree Size** (#6) can be used for the **Unit Tree Cost** (#10), or it can be set by the Regional Plant Appraisal Committee.

Trunk Formula Method Worksheet #2 - post injury

Trunk Formula Method Worksheet

Case # _____ Property 125 CONGRESS AVE Date 5/6/2011

Appraiser HOWARD GAFFIN

Field Observations

1. **Species** ZELKOVA
2. **Condition** 72 % (POST INJURY)
3. **Trunk Circumference** _____ in./cm **Diameter** 12.5 in./cm
4. **Location** % = [**Site** 65 % + **Contribution** 100 % + **Placement** 80 %] ÷ 3 = 82 %

Regional Plant Appraisal Committee and/or Appraiser-Developed or -Modified Information

5. **Species** rating 80 %
6. **Replacement Tree Size** (diameter) 3 in./cm
   (Trunk Area) 7 in^2/cm^2 TA_R
7. **Replacement Tree Cost** $ 325.00
   (see Regional Information to use **Cost** selected)
8. **Installation Cost** $ 650.00
9. **Installed Tree Cost** (#7 + #8) $ 975.00
10. **Unit Tree Cost** $ 139.00 per in^2/cm^2
    (see Regional Information to use **Cost** selected)

Calculations by Appraiser using Field and Regional Information

11. **Appraised Trunk Area:**
    (TA_A or ATA_A; use Tables 4.4–4.7)
    or c^2 (#3) _____ × 0.08
    or d^2 (#3) 12.5 × 0.785
    = 123 in^2/cm^2
12. **Appraised Tree Trunk Increase** (TA_{INCR}) =
    TA_A or ATA_A 123 in^2/cm^2 (#11) – TA_R 7 in^2/cm^2 (#6) = 116 in^2/cm^2
13. **Basic Tree Cost** = TA_{INCR} (#12) 116 in^2/cm^2 × **Unit Tree Cost** (#10) $ 139.00 per in^2/cm^2 + **Installed Tree Cost** (#9) $ 975.00 = $ 17,099.00
14. **Appraised Value** = **Basic Tree Cost** (#13) $ 17,099.00 × **Species** rating (#5) 80 % × **Condition** (#2) 72 % × **Location** (#4) 82 % = $ 8,076.00
15. If the **Appraised Value** is $5,000 or more, round it to the nearest $100; if it is less, round to the nearest $10.
16. **Appraised Value** = (#14) $ 8,076 (POST INJURY)

Items 5 through 10 are determined by the Regional Plant Appraisal Committee. The **Wholesale Replacement Tree Cost**, the **Retail Replacement Tree Cost**, or the **Installed Tree Cost** (#9) divided by the **Replacement Tree Size** (#6) can be used for the **Unit Tree Cost** (#10), or it can be set by the Regional Plant Appraisal Committee.

Assumptions and Limiting Conditions

1 Any legal description provided to the consultant / appraiser is assumed to be correct. Any titles and ownership to any property are assumed to be good and marketable. No responsibility is assumed for matters of legal character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.

2 It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other government regulations.

3 Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant / appraiser can neither guarantee nor be responsible for accuracy of information provided by others.

4 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 as described in the fee schedule and contract of engagement.

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

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

7 Neither all nor any part of the contents of this report, nor 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 / appraiser--particularly as to value conclusions, identity of the consultant / appraiser, or any reference to any professional society or institute or to any initialed designation conferred upon the consultant / appraiser as stated in his qualification.

Certificate of Performance

I, Howard Gaffin, certify that:
I have personally inspected the tree on the property referred to in this report and have stated my findings accurately. The extent of the evaluation and/or appraisal is in the attached report.
I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no bias with respect to the parties involved.
The analysis, opinions, and conclusions stated herein are my own and are based on current scientific procedures and facts.
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.
My analysis, opinions, and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices.
No one provided significant professional assistance to the consultant, except as indicated within the report.

I further certify that I hold the following credentials:

- Registered Consulting Arborist #458
- Board Certified Master Arborist #NE-0363B
- Massachusetts Arborist Association Certified Arborist#1468

I have been involved with the practice of arboriculture for over 30 years.

Signed _____
Date _____