



Jerry Holcomb
Consulting Arborist

Email: [REDACTED]

March 20, 2014

Harvey Lashley
Director, Park & Tree Department
City of Richmond Hill
P.O. Box 250
Richmond Hill, Georgia 31324

Re: Evaluation of Live Oak Trees at 2285 US Highway 17

Dear Harvey,

At your request, on March 12, 2014, I inspected two large Live Oak trees at the above address for hazardous conditions. The purpose of the inspection was to determine tree health and condition and what recommendations should be followed to abate any problems. The trees were evaluated based on International Society of Arboriculture (ISA) Evaluation of Hazard Trees in Urban Areas – 2nd Edition criteria. The following is a summary of my observations, findings and recommendations.

Tree Information:

- Physical location – 2285 US Highway 17 (Intersection of US 17 & GA Highway 144) Exhibit 1
- Species of trees – Live Oaks (*Quercus virginiana*)
- Diameter at Breast Height (4.5' above ground)
 1. Tree #550 (metal tag ID #) – 53"
 2. Tree #551 (metal tag ID #) – 72"

Information and observations noted:

1. City of Richmond Hill is concerned about potential tree failure.
2. Both trees are aging mature Live Oaks in a declining situation.
3. Trees are growing in an island on GADOT right-of-way at intersection of GA 144 and US 17 on the eastside of intersection Exhibit 2.
4. Recent widening of road way and construction in August 2013 has encroached within the critical root zone of the tree's roots causing damage to the tree's roots, by cutting roots to install curbing and installation of electrical boxes for signal control's.
5. Trees have been pruned in the past with large scaffold branches being removed, which have now developed sizeable cavity areas.
6. The pruning has removed close to 40% of the canopy of the two trees and offset the balance of the canopy leaving remaining growth over private property area with fuel pumps used by customers of the convenience store and over GA 144.
7. Vehicular traffic on GA 144 is extremely high and usage of convenience store facility is constant at all times.
8. These trees were evaluated in 2007 during a Tree Inventory and were identified to be in Fair condition, and recommendations stated trees should be monitored yearly due to condition factors and needed to have deadwood removed.

Live Oak Tree Evaluation

Results of Tree Evaluation:

1) Tree # 550: Live Oak (*Quercus virginiana*)

This is a 53.5" diameter native Live Oak single trunk, decurrent growth habit tree with major scaffolding branches. The tree is growing in an island between the street and a commercial business establishment. The live crown ratio is less than 50%, and the tree is in the over-mature age category. The tree has had multiple pruning events in its history with one large scaffold branch about 26" in diameter being removed. Critical root zone of the tree has been compromised with widening of GA 144. The tree due to its age category is classified as a heritage street tree.

Overall health of the tree is in a declining situation due to several factors; 1) widening of the street has cut roots to a certain degree to within 14' of the trunk of the tree; 2) installation of an electrical control box in the ground within 5' of the trunk of the tree has severed roots for lines to be connected to control panel Exhibit 3; 3) the removal of a large scaffold branch over 26" in diameter has left a wound area which has developed into a sizeable cavity that runs from the major scaffold branch area down to the ground Exhibit 4; 4) the live crown ratio is less 50% with new growth being sparse with evidence of deadwood in crown area; and 5) remaining soil area within the critical root zone area is compacted.

The location of the tree within 14' of the street and overhanging a busy convenience stores gas pump area creates an area of potential hazards.

The hazard rating of the tree is as follows (one-year year evaluation period):

Failure potential:	3
Size of defective part:	3
Target rating:	4
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Hazard Rating:	10

2) Tree # 551 – Live Oak (*Quercus virginiana*)

The tree is 72" in diameter with a co-dominant trunk up to scaffold branch area. Tree has a decurrent growth habit with one of the co-dominant boles, around 28" in diameter, removed several years back. The tree is in an over-mature age bracket with less than 50% of the normal crown ratio remaining. The tree has been pruned several times in the past with large branches being removed. The critical root zone area of the tree has been compromised with widening of GA 144 a number of times with the latest time event being in August 2013. The tree due to its age is classified as a heritage street tree.

Overall health of the tree is in a declining situation due to several factors; 1) widening of the street has cut roots to within 9' of the trunk of the tree; 2) the removal of one of the co-dominant boles has left an area that has developed a large cavity in the trunk area of the tree Exhibit 5; 3) the live crown ratio is less 50% with evidence of deadwood in crown area and die-back of branches; and 4) the remaining root zone area of the tree has been cut 75% and remaining soil area within the critical root zone area is compacted.

The location of the tree within 9' of the street and overhanging into the driveway area of the convenience store and part of the area near the gas pumps creates an area of potential hazards.

Live Oak Tree Evaluation

The hazard rating of the tree is as follows (one year evaluation period):

Failure potential:	3
Size of defective part:	3
Target rating:	4
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Hazard Rating:	10

Recommendations:

The evaluation process used on the two trees looks at three components to determine a hazard rating; Failure potential (4 points) of structural defects of a tree; Size of defective parts (4 points) most likely to fail; and Target rating (4 points) which rates the use and occupancy of the area that would be struck by the defective part. Ratings have only relative meaning, i.e., a tree rated an 11 has a greater hazard potential than one rated a 5. By definition, a tree rated a 12 represents a significant hazard. However, abatement of a hazard involves consideration of both tree and target. Treatment of hazardous situations is framed by the nature of the individual situation.

The hazard evaluation ratings of 10 on both trees, which means both trees have been determined to have potential structural injury and defects that could cause the trees to fail, defines the fact that a recommendation to abate the potential of injury or damage from the trees has to be made. Since damage has been noted within the critical root zone area of the trees and abatement option would be to do an excavation of the root system to determine full extent of root damage. This would determine how much of the structural support and anchoring ability of the tree has been compromised. Another option would be to do a pruning of trees to remove all deadwood and reduce weight load on trees over the streets and private property. The major abatement situation faced in this situation is can targets be reduced or eliminated in this area – in this case the answer is no. When a hazard is posed by a tree in decline and no way to reduce targets, there may be few abatement options and removal may be the only choice.

It is the professional opinion and recommendation of this arborist that abatement options cannot reduce the hazard situations presented, therefore these trees should be removed. However, this decision is left up to the owner or managers of the trees and how much risk they are willing to assume.

If you have any questions about this report, or if I can be of additional service, please give me a call.

Sincerely,


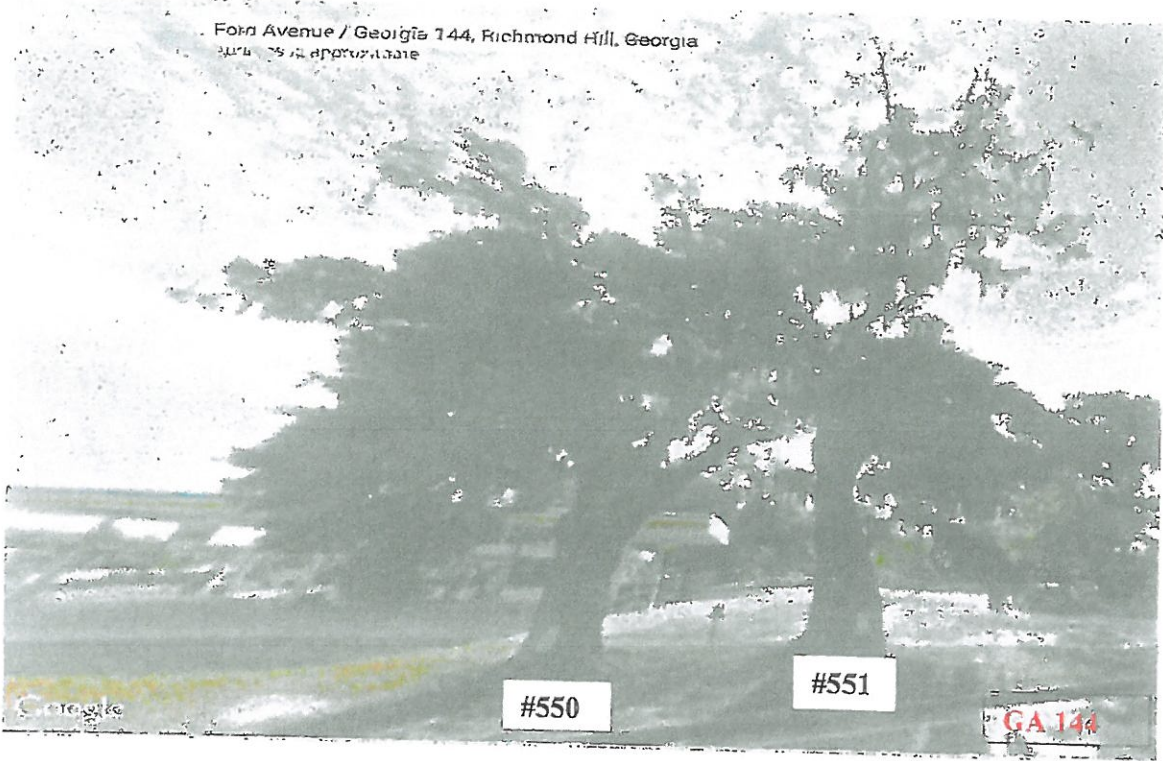

Jerry Holcomb
ISA Certified Arborist
Consulting Arborist

Exhibit 1



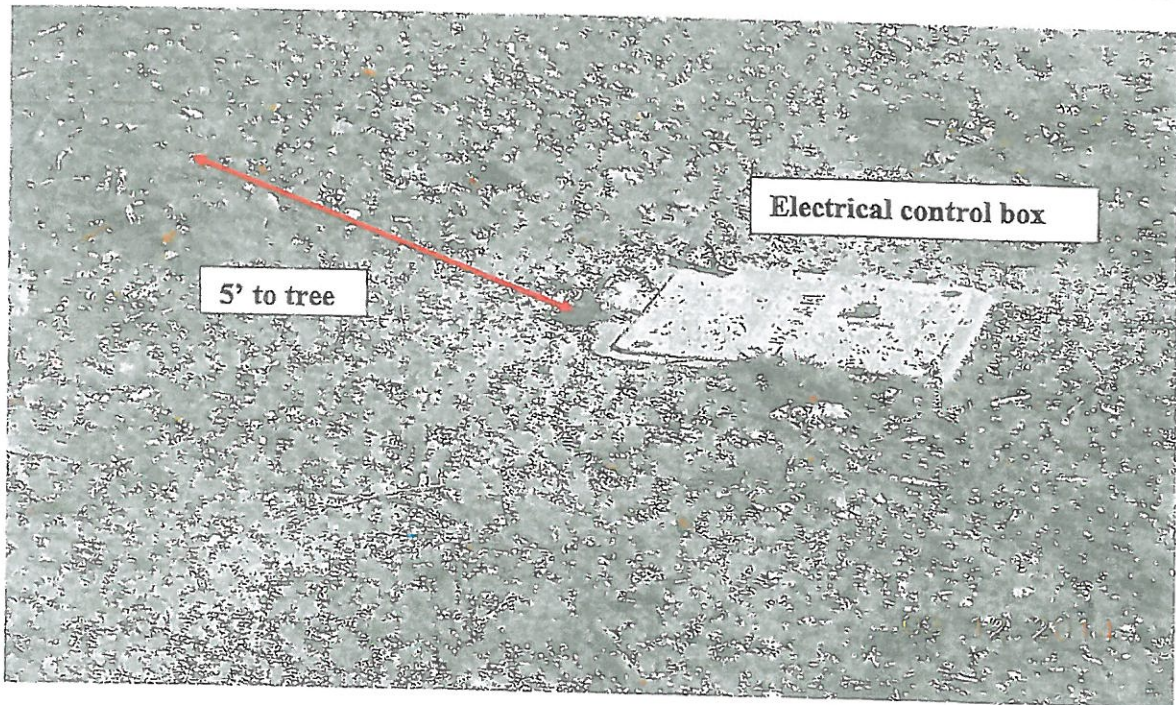
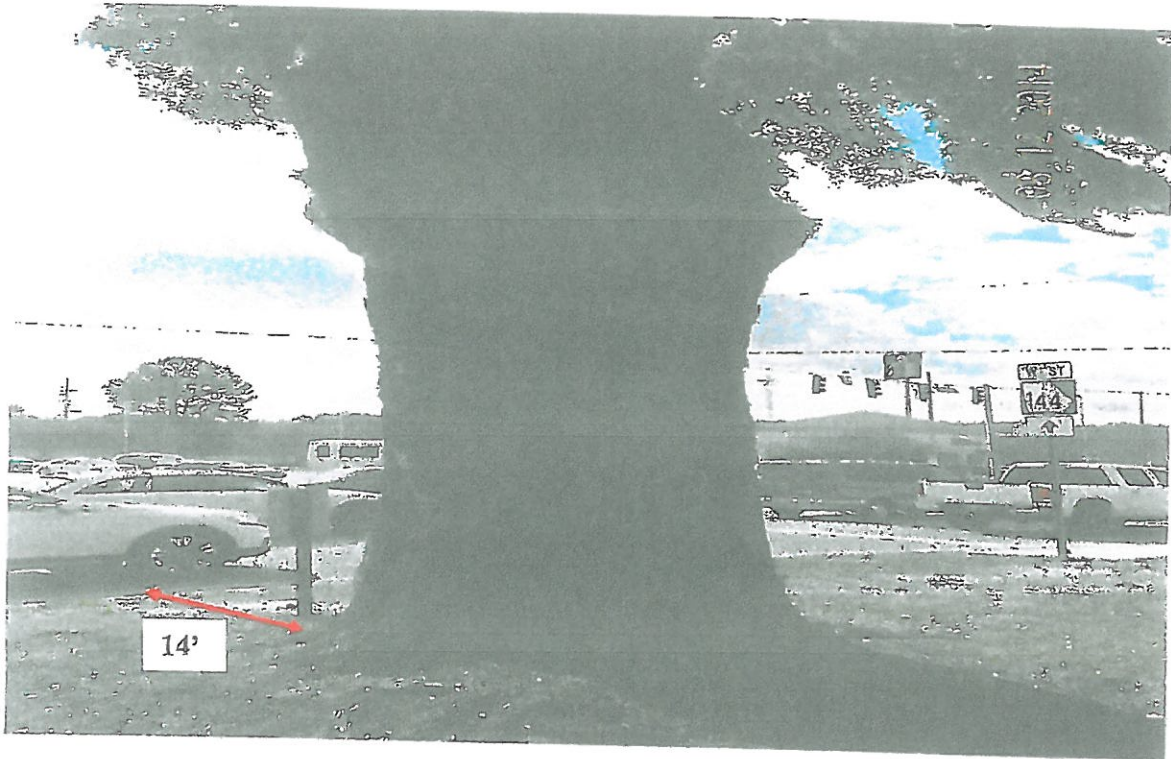
Location at intersection of US 17 and GA 144

Exhibit 2



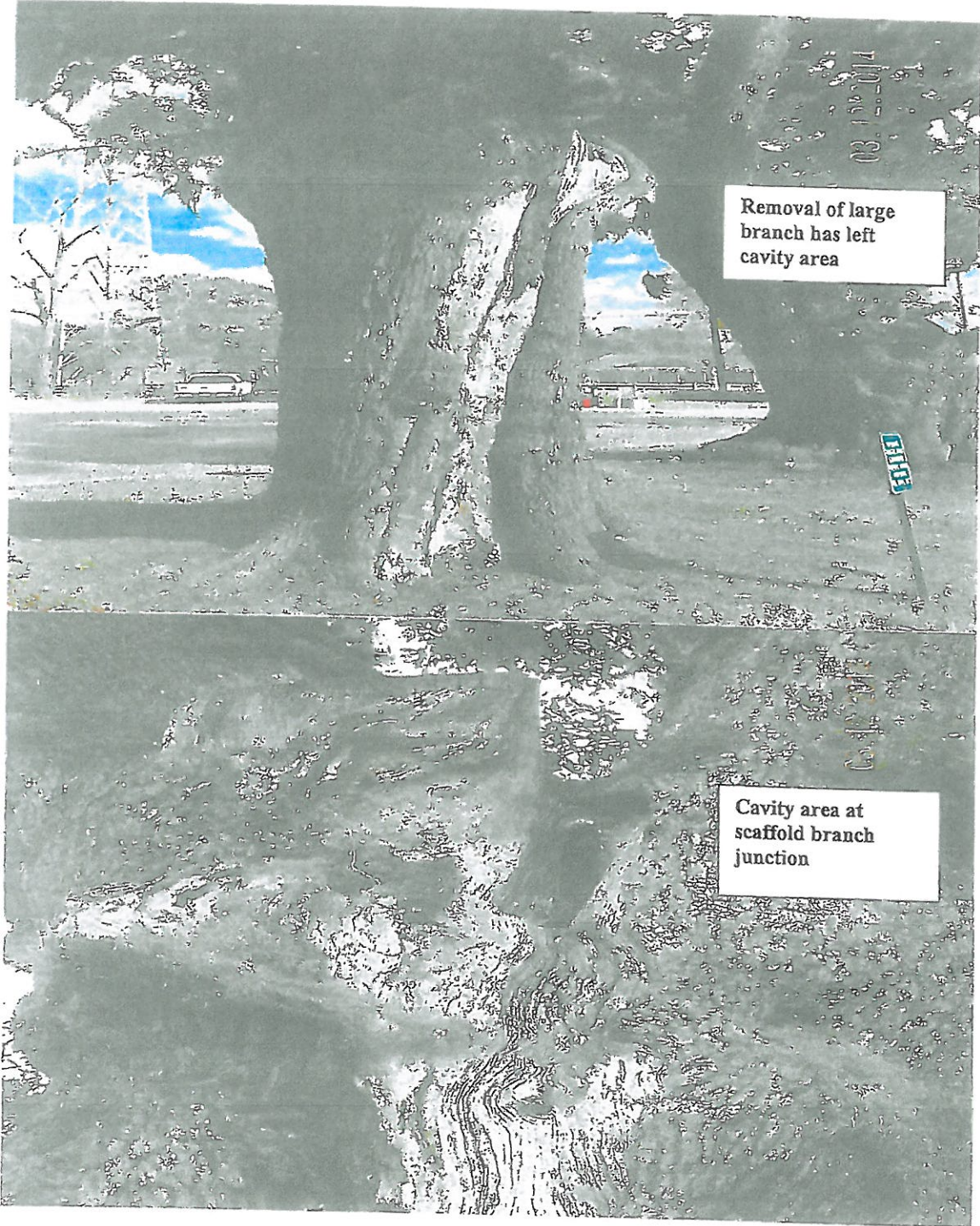
Trees growing in an island area

Exhibit 3



Curb cut to within 14' of trunk of tree and installation of electrical control box cut roots

Exhibit 4



Removal of a large scaffold branch over 26" in diameter has left a wound area which has developed into a large cavity that runs from the major scaffold branch area down to the ground.

Exhibit 5



Removal of one of the co-dominant boles has left an area that has developed a large cavity in the trunk area.