



## **LAKEVIEW FARMS**

*An Assessment of Tree  
and Forest Quality*

**For:**

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**Authored by:**

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On December 21<sup>st</sup>, 2021, an inspection was performed on the future site of the Lakeview Farms Community in Belmont NC. The purpose of this inspection was to assess 3 tree save areas that will remain undisturbed to determine the quality of the trees and overall quality of the Forest. This information can be used to better understand if the 3 areas are setting aside parts of the forests that are worth saving and protecting.

To determine if the trees that are being protected and the ecosystems around them are unique or valuable and should be preserved is subjective. The more experience and knowledge a person has about the natural environment the more understanding they will have to be able to prioritize what should be protected. This assessment will look at the 3 areas that are set aside in terms of species diversity and tree health condition. It will also provide insight to the ecosystems that are being preserved.

Each area was traversed and observed noting items of interest and where the forest would change, and a new ecosystem is entered. A complete inventory was taken in a tenth of an acre circular plot in each of the designated areas. The tenth acre plot locations were chosen based on the observations made across the area that would provide a balanced mix between the differences in each area. The species, DBH, and condition were recorded for every tree inside each plot.

The 3 areas are shown in figure.1 and are referenced as zone's "A", "B", and "C".



Figure .1 Tree Save Zones

## Zone Summaries

### Zone “A”

This area wraps around a pond located toward the center of the property. The area has good specie diversity across a wide age range. The density or spacing of trees varies greatly across the zone with some areas open with an almost park like vista and large specimen trees to ingrowth that is so thick that you cant walk through it. The ingrowth consisted of young Pine and Sweetgum ranging from 1 to 10 years old. The larger specimen trees were American Beech and Chestnut Oak that reached close to 80 feet in height, and some were 40 inches DBH or larger. The topography changed drastically throughout the zone providing both upland sites for upland species and wet bottomlands for bottomland species. There were granite outcrops that provided a suitable soil for Green Ash and American Holly, creek valleys that provided the perfect environment for Blackgum and Yellow Poplar, ridge tops and slopes that provided large Chestnut Oaks, Northern Red Oaks, White Oaks, and American Beech. The pond area has lost many trees from an abundant beaver population leaving a tremendous amount of wood and debris on the ground to provide organic matter and recycle nutrients as they break down with decay. The overall condition of the trees was good with only a scattered few dead or dying which were also providing much needed wildlife habitat. This area has so much to protect and preserve and should be set aside as a tree save.

## TREE SAVE "A" PLOT DATA

DBH	Common Name	Scientific Name	Condition
28"	American Beech	<i>Fagus grandifolia</i>	Good
32"	Swamp Chestnut Oak	<i>Quercus michauxii</i>	Good
12"	Red Maple	<i>Acer rubrum</i>	Good
28"	Mockernut Hickory	<i>Carya tomentosa</i>	Good
8"	American Hornbeam	<i>Carpinus caroliniana</i>	Poor
16"	Sweetgum	<i>Liquidambar styraciflua</i>	Poor
7"	American Beech	<i>Fagus grandifolia</i>	Good
12"	Sweetgum	<i>Liquidambar styraciflua</i>	Fair
18"	Red Maple	<i>Acer rubrum</i>	Good
16"	Green Ash	<i>Fraxinus pennsylvanica</i>	Fair
20"	Green Ash	<i>Fraxinus pennsylvanica</i>	Fair
14"	American Beech	<i>Fagus grandifolia</i>	Fair
15"	American Beech	<i>Fagus grandifolia</i>	Good
6"	American Holly	<i>Ilex opaca</i>	Good
10"	American Beech	<i>Fagus grandifolia</i>	Good

### Zone “B”

This area runs along the Lake Wylie shoreline and includes the lake buffer strip that is protected by Duke Energy. There are many small creeks or springs that cross this zone to flow into the lake. This area had the most species diversity out of the 3 areas. The density or spacing over all was less than the other 2 areas but still contained some small very dense areas of ingrowth. The majority of the area was very park like because the large spaced-out trees create a very high canopy and very little underbrush so it is open and easy to walk with plenty of visibility through the area. The area has high quality hardwoods such as White Oaks, Northern and Southern Red Oaks, Chestnut Oaks, American Beech, Green Ash and Post Oaks. The understory was predominantly young American Beech, with a few Red Maple, American Holly and Sourwoods mixed in. There were rolling hills between creeks or low wet areas that provided some steep slopes that separated the Upland ecosystem from the bottomland ecosystem across relatively short distances. The condition of the trees overall was good with only a few standing dead trees which were providing wildlife habitat. The soil was rich with organic matter and completely covered with several seasons worth of foliage that is breaking down and recycling the nutrients back to the trees. This area should be protected and preserved for its large towering trees and park like feel.

TREE SAVE PLOT "B"			
DBH	Common Name	Scientific Name	Condition
38"	Northern Red Oak	<i>Quercus rubra</i>	Good
40"	Northern Red Oak	<i>Quercus rubra</i>	Good
10"	American Beech	<i>Fagus grandifolia</i>	Good
12"	American Beech	<i>Fagus grandifolia</i>	Good
10"	Sweetgum	<i>Liquidambar styraciflua</i>	Good
28"	Yellow Poplar	<i>Liriodendron tulipifera</i>	Good
28"	Yellow Poplar	<i>Liriodendron tulipifera</i>	Good
12"	Yellow Poplar	<i>Liriodendron tulipifera</i>	Good
26"	White oak	<i>Quercus alba</i>	Poor
32"	White oak	<i>Quercus alba</i>	Good
10"	American Beech	<i>Fagus grandifolia</i>	Good
10"	Sourwood	<i>Oxydendrum arboreum</i>	Good

### Zone “C”

This area runs along the edge of the property next to the power line right-of-way and it appears to have been cut or logged at some point. Except for a few pockets of older large trees, the majority is second generation regrowth. It was the most dense area out of the 3 because of the amount of young trees trying to out compete each other to survive. The ingrowth was predominantly Virginia Pine, Loblolly Pine, and Sweetgum. The tenth acre plot that was taken for this Zone had approximately 80 Sweetgums ranging from 1” to 3” DBH and approximately 60 Virginia and Loblolly Pine ranging from 1” to 3” in DBH that were not officially recorded. The zone was much flatter with almost no slopes as compared to the other 2 zones. Upland hardwood species were the majority such as Red Maple, White Oak, Post Oak, Scarlett Oak, Northern Red Oak, Southern Red Oak, Hickory and American Beech. There were pockets of Dogwoods, Sourwoods, Persimmon, Black Cherry, and Eastern Red Cedar where the was not very dense ingrowth. There were species in this zone that were not observed anywhere else on the property which makes it unique with different ecosystems. The soil was more clay which appeared to be compacted and had a lot of large debris, tree trunks, and stumps scattered all over the forest floor. As the debris material breaks down over time improving the soil, the ecosystems and the species in them will change slightly and may reduce the amount of ingrowth density. There are some invasive plants, such as Chinese Privet, observed and noted that were right on the border of the power line right-of-way. Overall, the tree condition is good in this area. This area should be protected and preserved because of the species found no where else on the property and it provides a great example of a young forest.



TREE SAVE PLOT "C"			
DBH	Common Name	Scientific Name	Condition
15"	Maple	<i>Acer rubrum</i>	
12"	Sweetgum	<i>Liquidambar styraciflua</i>	Good
14"	Sweetgum	<i>Liquidambar styraciflua</i>	Good
10"	Sourwood	<i>Oxydendrum arboreum</i>	Good
14"	Yellow Poplar	<i>Liriodendron tulipifera</i>	Poor
10"	Sweetgum	<i>Liquidambar styraciflua</i>	Good
11"	Yellow Poplar	<i>Liriodendron tulipifera</i>	Good
8"	Sourwood	<i>Oxydendrum arboreum</i>	Good
10"	Maple	<i>Acer rubrum</i>	Fair
14"	Sourwood	<i>Oxydendrum arboreum</i>	Good
10"	Sweetgum	<i>Liquidambar styraciflua</i>	Good
11"	Yellow Poplar	<i>Liriodendron tulipifera</i>	Good
15"	Yellow Poplar	<i>Liriodendron tulipifera</i>	Good
8"	Maple	<i>Acer rubrum</i>	Good
12"	Sweetgum	<i>Liquidambar styraciflua</i>	Good
20"	Sweetgum	<i>Liquidambar styraciflua</i>	Good
10"	American Beech	<i>Fagus grandifolia</i>	Good
6"	Winged Elm	<i>Ulmus alata</i>	Good

## Conclusion

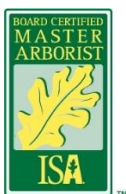
Based on my 25 years of experience and knowledge of forestry and arboriculture, this is one of the most interesting and unique properties I have had the privilege to work on. There are some areas in these zones that made you feel like you were in a different region of the country and almost made you forget where you really are. I have looked at so many trees in my career, some of which were specimens that are one of a kind, but there were areas in Zones “A” and “B” that had such a perfect mix of visibility, tree canopy, topography, and wildlife that it was overwhelming, inspiring, and caused me to pause for a moment to take it all in. These areas should be protected and preserved because they are truly unique examples of healthy forests in our region. The tree save areas designated in other municipalities that I have worked in are usually the most unusable area and usually contain invasive and undesirable species that is the exact opposite of what you think of as a tree save. Tri Pointe Homes and the City of Belmont should be commended for making sure that these tree saves zones are indeed areas that should be protected and preserved so that future generations can enjoy and experience them.

Please contact me if there are any questions regarding my assessment or with any trees within these trees save zones.

*Respectfully,*

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