



An old painting dating to 1899 of the lakefront thought to have been painted very near the site of the proposed LSU Health Foundation's Sucette active adult center Combined Use District



**Mariners Village Project
Mr. Bear Cheezem, Development Manager
Woodward Interest, L.L.C
Mandeville, Louisiana**

Re: LSU Health Foundation Site Trees

Dear Mr. Cheezem

It is an honor to report findings in regard to the existing trees located on your property surrounding the site of Mariners Village. These observations and remarks will assist you in your intent to construct a unique and comfortable active adult community along with other related facilities on a prominent water view site in historic Mandeville.

The following information and professional conclusions result from a review of the schematic plans for the project as well multiple site visits of inspection. Site inspection has allowed the author to become familiar with the trees, topography existing drainage situation and surroundings on the site.

Below you will see an abstract that sets forth my thoughts about the building site and specifically my thoughts about five *Quercus virginiana* trees that appear to lie within the proposed footprint of the larger multi-family residential building.

Thank you for the opportunity to assist you and your team with this project. I believe my observations are as fair and impartial as possible and hopefully will be useful to you as well as to any party in which you choose to share.

Respectfully submitted

Buck Abbey ASLA emeritus
Landscape Architect
Louisiana State University (Ret)



Abstract

The five live oaks which are the center of this site review present a problem for the development of the site. The City of Mandeville through their zoning code, Sec. 9.2.5.7, greatly restrict the removal of live oak trees. To be allowed to remove them the developer must seek a tree removal permit where they “state in writing that such activity will *enhance the health, safety and welfare of the public*, or otherwise *benefit the public interest*” The applicant must offer evidence to that effect in writing. The argument to be made under these terms is three fold.

First, the five live oaks in question happen to be growing right in the spot that appears to be the existing natural drainage pattern of the site. This might just explain why the remnant forest on this site was not removed in the early 1970s. To build the proposed active adult multi-family dwelling building will require regrading the site. This will change the natural drainage paths that will send runoff from site into rain gardens at the perimeter of the open space of the site. From these cleansing landscapes clearer water finds its way to the lake.

Second, lone standing trees in forest remnants are very subject to overturning in high wind. When surrounding forest trees are removed taller trees have less resistance to the power of wind. Since the subject oaks in this arguments are elongated due to severe competition for sunlight and space, and critical root zone mass is smaller they lack positive balance when group protection is removed. Live oaks grow more horizontal that tall and nature designed it that way for better stability. Tall thin rangy live oaks are un-natural. Any forester will tell you that lone trees with shallow roots or restricted root mass on weakened soils are more subject to wind damage when nearby forest trees are removed

Lastly the trees in question here are forest trees rather than specimen open space trees. These five trees grew from seedlings that germinated on the site perhaps 60-70 years ago. The exact age has not been determined. These trees seem smaller than the live oaks on the LSU campus which were planted in 1938. The LSU trees are 84 years old. The Live Oak Association in the early 1930s postulated that the circumference of a live oak has to be seventeen feet to assume the tree is a hundred years old. (William Guion) The largest tree within the footprint of the multi-family residential building is 48” (Guidry) so the largest tree in this group is far from being 100 old. We have pointed out above that these trees are highly deformed as a result of fighting for sunlight and crown and root space among other more naturally tall growing forest trees in this same area.(see companion species identified in the field). These trees have also been raked by successive hurricanes over the years and this too



has added to the disfigurement of these trees. More importantly perhaps than being awkward, irregularly shaped with a deficient leaf canopy and root zone is the fact that these trees are more likely than not are deficient in producing desirable environmental benefits that make the environment of Mandeville citizens more pure and healthy.

The environmental services of a well proportioned full canopy live oak tree are impressive. They act as filters for air cleansing of airborne contaminants (carbon monoxide, ozone, nitrogen dioxide, sulfur dioxide and inhale-able particulate matter). They also sequester carbon, absorb and slow stormwater run off, and provide breathable oxygen. Their canopies also produce cooling shade that limit the “urban heat island effect” over cities and modify windy conditions and generate habitat, food and shelter for urban wild life.

And of course the aesthetic, artistic and cultural heritage of Louisiana’s favorite tree must not be overlooked as being beneficial to citizens too. According to Walt Whitman live oaks standing alone “utter joyous leaves of dark green” to the delight of all observers. Dr. Edwin Lewis Stephens, founder of the Louisiana Live Oak Association (now Live Oak Society) in 1934 notices the aesthetic of a well balanced, low and spreading full canopy live oak. Dr Stephens president of the University in Lafayette described the live oak as the “*sylvan lord of Louisiana*.”¹ He promoted the culture of this tree statewide based upon its “majesty, dignity, grandeur as well as venerating it for age, strength, visual character and beneficence of shade. Several authors have written books about the aesthetics of a well forms and shaped live oak. The marina oaks do not match this standard Louisiana aesthetic.

Stephens also missed the environmental services sustained to mankind by this favored tree. In those days we did not have the technology to measure the environmental values of trees. We now have a tool called “I Tree” and with the use of this modern tool and the U.S. Forest Service claims it can measure the value of a tree by assessing it environmental services. A 72” live oak on the project site has been measured with I Tree and does not produce a great value in environmental services. This is most likely due to age and condition. But the tool does measure its absorptive-filtering-production effects this along with other trees in a forest result in important environmental services to the community.

No matter the environmental, aesthetic and economic value, old forest live oaks do not produce maximum environmental services. But younger live oaks do produce more environmental services. These five trees should be measured on the environmental services they provide. It is the quality of a live oak that is most important. If better quality younger live oaks can be planted the citizens of the community will receive much more and better benefits. It is



really ok to substitute older, less productive trees with younger more productive trees. This is a thoughtful and logical tradeoff to achieve better environmental productivity.

Classic wide spreading full crown live oaks produce the most environmental services therefore removing five limited production oaks growing under forest conditions and replacing them will enhance the health, safety and welfare of the general public while heightening public benefit. All of this can be done while providing homes to several hundred more elderly active adult citizens and stimulating the economy of the city by adding jobs and producing tax revenue.

1. Louisiana Conservation Review Vol. IV, April 1934, No. 2