

BALCERAK DESIGN
LANDSCAPE ARCHITECTURE • URBAN FORESTRY
555 Fifth Street, Suite 300-B Santa Rosa, CA 95401

ARBORIST'S REPORT

844 VAUGHN COURT

SANTA ROSA, CALIFORNIA

August 7, 2024

BALCERAK DESIGN
LANDSCAPE ARCHITECTURE • URBAN FORESTRY
555 Fifth Street, Suite 300-B Santa Rosa, CA 95401

August 7, 2024

Nick Hu
XZ Development Inc.
3645 Crown Hill Road
Santa Rosa, CA 95404

INTRODUCTION

This Report has been prepared to address the Tree Alteration, Removal or Relocation requirements, as described in Chapter 17-24 of the City of Santa Rosa Municipal Code (Tree Protection Ordinance). The property at 844 Vaughn Court is an approximately 3.62 acre lot, The original residence was burned in the Glass Fire of 2020. The development proposal is to build a new single-family residence and an Accessory Dwelling Unit. The site improvements include reestablishing utilities, new driveway alignment, vehicle parking, and landscaping.

Existing trees that would be impacted by the proposed construction were observed to determine their species, size, and condition. The construction impacts are based upon the Design Review Grading, Drainage and Utility Plan prepared by Swicegood Civil Engineering, Inc., dated August 4, 2023.

A detailed description of each tree can be found in the Tree Evaluation section of this Report. A Tree Exhibit showing the location of the existing trees and their identification numbers has been provided for reference. A definition of terms used is provided at the end of this Report.

SUMMARY

A total of 30 trees have been evaluated for this Report. A total of 19 are proposed to be removed to accommodate the development. The tree species observed consisted of *Quercus agrifolia* (coast live oak), *Quercus lobata* (valley oak) and *Sequoia sempervirens* (coast redwood), all are native to Sonoma County. Of the 19 Protected Trees scheduled for removal, none are of sufficient size to be deemed a Heritage Tree. All of the trees proposed to be removed are coast live oak, except one which is a valley oak.

The total trunk diameter of trees proposed for removal is 196.2". Therefore, the number of required Replacement Trees is 66 – #15 size trees. The calculations are as follows:

$196.2/6 = 32.7$ $32.7 (2) = 65.4$ round up to 66 – #15 size replacement trees.

METHODS

Field observations were performed on June 20, 2024 and July 2, 2024, by Gary Balcerak, International Society of Arboriculture (ISA), Certified Arborist. All tree diameters were recorded

using a standard diameter tape with units in feet and tenths of feet. All diameters given are as measured at 54" off grade – Diameter at Breast Height (DBH), unless otherwise noted. When a tree had a crotch below DBH, the smallest trunk diameter below the crotch was measured and its height above natural grade was recorded.

When trees, of the same species, are growing adjacent to each other it is often not possible to determine if they are separate trees or clones of the same tree, without DNA analysis. Therefore, professional judgement was used based upon the species encountered and their modes of reproduction to determine if the cluster should be counted as the same tree or separate individuals. The species identification was determined based upon visual analysis of the features present at the time of the observation.

A detailed analysis was not requested nor performed. The evaluations are based upon a visual inspection of the trees, from ground level. No crown explorations or climbing inspections were performed. No specialized equipment or testing was used to examine the trees. The evaluations are based upon the external defects present at the time of the observation; therefore, the analysis is not exhaustive. The condition of the trees will continue to change over time. In cases where access to the tree was limited due to the site conditions, or the trees were not solely on the subject property, an explanation is provided in the Tree Evaluations.

The Evaluations provide an assessment of the overall condition of each tree as characterized by its vigor and structure. Vigor is an indication of the overall health and general condition of the tree. Structure refers to the physical form of the tree, this includes branch attachment, presence of decay, or mechanical damage the tree has suffered. Each tree was rated, in each category, using a value of good, fair, or poor.

WILDLIFE CONSIDERATIONS

All bats (order *Chiroptera*) are protected due to the fact that many species of bats are in decline. Bats are almost all insectivores and provide an important control on the population of insects as well as being a critical part of the larger ecological community. Although bats can carry rabies, the University of California reports that 99% of cases are a result of rabid dog bites and in tests of random bats no more than 0.50% have been found to be rabid. Furthermore, since bats are nocturnal the chances of bat and human interaction is very small. If a bat colony is discovered a qualified wildlife biologist needs to be contacted to evict them, consistent with state and federal laws.

Birds are provided significant legal protection under both state and federal laws. The breeding season is a particularly sensitive time of year and although it is possible to find active nests at any time of year, generally speaking the nesting season is from February 1 through

August 15. Regardless of the time of year, a pre-work inspection should be made looking for active nests. This inspection needs to be performed by a person qualified to identify nesting bird activity. If wildlife breeding is suspected a wildlife biologist should be contacted for recommendations prior to commencing the work.

TREE PROTECTION

Prior to the initiation of any construction activity, temporary protective fencing shall be erected. Fencing shall be a minimum of four feet high, and shall form a continuous barrier around the trees to be protected. The fencing installation shall be performed by qualified personnel with all necessary supports and braces to provide a secure fence throughout the construction process. The fence location shall be approved by the project arborist prior to starting construction. The fence shall not be removed during the construction process, without written authorization from the project arborist. All equipment and personnel shall remain outside the fenced area at all times. The storage of materials (of any kind) is prohibited within the tree protection area. Failure to comply with tree protection measures may result in a stop-work order and or fines.

GENERAL NOTES ON TREE PRESERVATION

There are some general recommendations that apply to all of the existing trees that are to be retained. All trees should be protected from mechanical damage during the construction work. Construction impacts on existing trees are a serious matter. All trees are subject to stress when construction activities occur around them, therefore it is important to use care during any and all construction. Often the impacts of the construction are not visible for months or years after the construction has been completed. It is often the case that by the time the tree has exhibited overt signs of decline it is too late to return the tree to a healthy condition. Trees are huge living systems where health problems are slow to manifest and slow to be reversed. It is imperative that contractors and construction personnel understand the procedural guidelines and follow them. Any deviation from the guidelines presented here will increase the chances of tree decline, failure, or death.

Soil compaction shall be kept to a minimum, no machinery, worker, or operation shall be allowed on exposed soil surfaces, except that which is necessary to complete the approved work. Damage to and disruption of the roots is a serious matter. Any roots encountered during construction operations shall be cut cleanly across the face of the root, past any damage. Roots shall not be exposed to the air any longer than necessary. The established drainage patterns should be respected. The soil elevation, particularly at the trunk, shall not be altered without written authorization from the project arborist.

CONSIDERATIONS

Roots are opportunistic and will grow wherever possible and extend where they can to support the tree. It is impossible to know how many roots, and of what size, will be encountered during the grading operations. Given the clear limitations regarding root location, extent, and total mass, all trees should be observed during and post grading operations so that additional recommendations and mitigation measures can be offered by the project arborist.

LIMITATIONS

The observations and preparation of this report have been done in accordance with the generally accepted standards of the arboricultural profession. No warranty, either expressed or implied is given. The services provided were limited to the scope of work outlined above and specifically excluded other services.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Please feel free to contact me if further discussion of these items is necessary, or if you have any questions.

Respectfully,
BALCERAK DESIGN



Gary Balcerak
Landscape Architect C-3704
Certified Arborist WE-3069A
Certified Urban Forester 125

TREE EVALUATIONS

Tree	Species	Diameter	Vigor	Structure	Status	Notes
1	<i>Quercus agrifolia</i> (coast live oak)	11.9"	Good	Good	Remove	Tree has sustained mechanical damage from vehicles, incipient decay present.
2	<i>Quercus agrifolia</i> (coast live oak)	8.7"	Fair	Fair	Remove	Suppressed by adjacent larger trees. Intermingled with Tree #3, necrotic area at the points of contact.
3	<i>Quercus agrifolia</i> (coast live oak)	6.4", 3.6"	Fair	Fair	Remove	Suppressed by adjacent larger trees. Intermingled with Tree #2, necrotic area at the points of contact.
4	<i>Quercus agrifolia</i> (coast live oak)	6.2"	Fair	Good	Remove	Suppressed by adjacent larger trees. No overt defects noted.
5	<i>Quercus agrifolia</i> (coast live oak)	6.9", 2.1"	Fair	Fair/Poor	Remove	Suppressed by adjacent larger trees. Narrow angle at crotch of trunks with included bark, necrotic tissue below.
6	<i>Quercus agrifolia</i> (coast live oak)	10.0"	Fair/Poor	Good	Remove	Adjacent neighbor has added gravel to expand the driveway width, heavily compacted by vehicle traffic.
7	<i>Quercus agrifolia</i> (coast live oak)	12.6" @ ± 20" off grade	Good	Good	Remove	No overt defects noted.
8	<i>Quercus agrifolia</i> (coast live oak)	12.5" @ ± 24" off grade	Good	Good	Remove	No overt defects noted.
9	<i>Quercus agrifolia</i> (coast live oak)	6.5"	Good	Good	Save	Past pruning, using heading cuts, to provide horizontal clearance for vehicles. Tree should be structurally pruned, using BMPs.
10	<i>Quercus agrifolia</i> (coast live oak)	13.2" @ ± 18" off grade	Fair	Good	Save	No overt defects noted.
11	<i>Quercus agrifolia</i> (coast live oak)	8.1"	Fair	Good	Save	No overt defects noted.

TREE EVALUATIONS

Tree	Species	Diameter	Vigor	Structure	Status	Notes
12	<i>Quercus lobata</i> (valley oak)	10.1"	Good	Good	Remove	No overt defects noted.
13	<i>Quercus agrifolia</i> (coast live oak)	7.8"	Good	Good	Remove	No overt defects noted.
14	<i>Sequoia sempervirens</i> (coast redwood)	20.0"	Poor	Good	Save	Fire scarred trunk. Drought stressed, thin canopy foliage. Vigorous new growth at base. Supplemental irrigation would be beneficial.
15	<i>Sequoia sempervirens</i> (coast redwood)	17.5"	Poor	Good	Save	Fire scarred trunk. Drought stressed, thin canopy foliage. Vigorous new growth at base. Supplemental irrigation would be beneficial.
16	<i>Sequoia sempervirens</i> (coast redwood)	24.8"	Fair	Good	Save	Fire scarred trunk. Drought stressed, thin canopy foliage. Supplemental irrigation would be beneficial.
17	<i>Sequoia sempervirens</i> (coast redwood)	± 23"	Good	Good	Save	Base of trunk inaccessible due to regrowth and construction items staged in the area. Fire scarred trunk with vigorous new regrowth at base and canopy. Supplemental irrigation would be beneficial.
18	<i>Sequoia sempervirens</i> (coast redwood)	16.5"	Good/Fair	Good	Save	Fire scarred trunk with new regrowth at in canopy. Supplemental irrigation would be beneficial.
19	<i>Quercus agrifolia</i> (coast live oak)	10.0", 7.8", 7.7", 9.4"	Good	Poor	Save	Fire scarred trunk with necrotic areas, structurally weakened. Many epicormic shoots, indicator of stress.
20	<i>Quercus agrifolia</i> (coast live oak)	10.4"	Good	Fair	Remove	Fire scarred limbs with incipient decay. Vigorous new growth in canopy.
21	<i>Quercus agrifolia</i> (coast live oak)	7.5", 8.2"	Good	Fair	Remove	Narrow angle at crotch of trunks with included bark, necrotic tissue below.

TREE EVALUATIONS

Tree	Species	Diameter	Vigor	Structure	Status	Notes
22	<i>Quercus agrifolia</i> (coast live oak)	9.8"	Good	Good/Fair	Remove	Included bark at crotch of scaffold limbs, necrotic tissue below.
23	<i>Quercus agrifolia</i> (coast live oak)	17.8" @ 16" off grade	Good	Good	Remove	No overt defects noted.
24	<i>Quercus agrifolia</i> (coast live oak)	9.5" @ ± 30" off grade	Good	Good	Remove	No overt defects noted.
25	<i>Quercus agrifolia</i> (coast live oak)	10.4"	Good	Good	Remove	Damage from sapsucker's feeding, holes have calloused over.
26	<i>Quercus agrifolia</i> (coast live oak)	10.5	Good	Good	Remove	No overt defects noted.
27	<i>Quercus agrifolia</i> (coast live oak)	10.3"	Good	Good	Remove	No overt defects noted.
28	<i>Quercus agrifolia</i> (coast live oak)	9.1"	Good	Good/Fair	Save	Fire scarred trunk with incipient decay.
29	<i>Quercus agrifolia</i> (coast live oak)	6.9", 8.7". 6.1"	Good	Fair	Remove	Included bark at crotch of trunks. Fire scarred trunk, some bark sluffing off at base, necrotic area below. Numerous dead limbs in canopy. Vigorous new growth in canopy.
30	<i>Quercus agrifolia</i> (coast live oak)	11.0"	Good	Fair	Save	Fire scarred trunk, some bark sluffing off at base, necrotic area below. Numerous dead limbs in canopy. Vigorous new growth in canopy.

Definition of Terms

arborist: professional who possesses the technical competence to provide or supervise the management of trees and woody plants.

best management practices (BMP): best course of action as recognized by the industry, based on scientific research, and current knowledge.

branch bark ridge: swelling of bark tissue on the upper side of the branch junction; normal pattern of development (contrast with embedded and included bark).

branch collar: wood which forms around a branch attachment, frequently more pronounced below the branch.

canopy: collection of branches and foliage of a tree or group of trees' crowns.

codominate: equal in size and relative importance, usually associated with either the trunks/stems or scaffold limbs/branches in the crown; in the context of crown class, trees whose crowns form the bulk of the upper layer of the canopy but which are crowded by adjacent trees.

compaction: compression of the soil that breaks down soil aggregates and reduces soil volume and total pore space.

crotch: the point (or angle) at which two branches (or branch and the leader) meet.

crown: parts of the tree above the trunk, including leaves, and branches.

DBH: diameter of the trunk, measured at breast height (54 inches above the ground).

decay: process of degradation of woody tissues by fungi and bacteria through decomposition of cellulose and lignin.

dripline: the width of the crown, as measured by the lateral extent of the foliage.

epicormic: shoots, which result from adventitious or latent buds.

heading: pruning technique where the cut is made to a bud, or weak lateral branch not large enough to assume the role as a leader. Resulting in codominate scaffold limbs.

included bark: pattern of development at branch junctions where bark is turned inward rather than pushed out.

leader: primary terminal shoot or trunk of a tree.

lean: departure of trunk from the vertical or near vertical position.

mechanical injury: injury caused by human activities as opposed to natural forces like wind, snow, or ice loads.

moribund: nearly dead; having lost all vitality.

necrotic: dead

scaffold limb: primary structural branch of the crown.

structural pruning: pruning to influence the orientation, spacing, growth rate, strength of attachment, and ultimate size of branches and stems.

suppressed: trees which have been overtopped and whose crown development is restricted from above.