

Client: Vaccaro's Tree Service

Arborist: Zach Vought

Project Address: 104 Suffield Ave., San Anselmo

Inspection Date: December 23, 2019



ASSIGNMENT/ BACKGROUND

Chris Vaccaro of Vaccaro's Tree Service contacted Urban Forestry Associates on behalf of the owners of 104 Suffield Avenue in San Anselmo to request an assessment of the large Giant Sequoia tree located in the side yard. The owners of 104 Suffield Ave. and 126 Suffield Ave. have concerns regarding current tree-related property damage and the risk of continued damage and both support removal of the tree. The purpose of this report is to satisfy the requirement for an arborist's report to accompany heritage tree removal permit applications in San Anselmo.

OBSERVATIONS

Tree-1

Species	Giant sequoia (<i>Sequoiadendron giganteum</i>)
Size	48.4 dbh ¹ qualifying as "heritage" per San Anselmo tree Ordinance
Location	The tree stands inside and directly against the fence at 104 Suffield Avenue (See Figure 4,5). There is a small structure/ storage shed at 126 Suffield Ave. on the other side of the portion of fence impacted by the tree. The nearest edge of the trunk at grade measures five feet from the 104 Suffield Ave. home foundation.
Health	Fair (See Glossary). Moderate dieback of twigs and branches up to two inches in diameter was observed throughout the canopy, though more pronounced in the lower canopy (See Figure 1,3).
Structure	Good.
Form	Good.



Figure 1. Subject tree as viewed from Suffield Avenue looking west. The home and driveway of 126 Suffield Ave. in foreground.

DISCUSSION

In its native range, Giant sequoia is one of the largest and long-lived trees in the world, in part due to its resistance to insects and disease, and its thick bark which provides protection from fire. In the Bay area the species can become large, regularly achieving a trunk diameter of over four feet, though it does not typically live as long due to site constraints and disease issues. The species has been widely planted (outside its native range) in the Bay area, successfully in many cases, though, of late fungal diseases have had a marked effect on the species' health and aesthetic conditions. The most common damaging pathogen affecting the species is called Botryosphaeria canker (*Botryosphaeria dothedia*), a fungal disease widely distributed in the Bay area that causes damage to a wide array of trees and plants. Giant sequoia is particularly vulnerable, as it is not

¹ DBH is Diameter at Breast Height, measured 4.5' above grade on the upslope side of a tree.

adapted to the local climate, particularly prolonged dryness. Drought conditions stress the tree leaving it susceptible to infection, which begins with dieback or of small diameter twigs, eventually spreading throughout the canopy. The disease is chronic, and no accepted chemical treatments have been found to be effective or feasible. Some trees can tolerate the disease, but others experience slow decline.

Pruning to remove infected material can help hinder spread of disease spores, though there is no way to eradicate the disease once its established. Such pruning is tedious work and can be expensive as pruning tools must be sterilized constantly to avoid spreading the disease to uninfected tissue. Promoting tree health through proper irrigation is the best way to prevent or limit infection and mulch applications can help but the main issue is that the tree is not well adapted to the Bay area climate, which cannot be remedied.

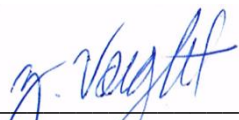
The root system of Giant sequoia is extensive and on urban sites with compacted, shallow soils root conflicts can occur. For this reason, the species is best suited for parks or open areas with ample space from man-made objects. The subject tree is poorly placed in this respect as it is only five feet from the home foundation at 104 Suffield Ave. and is damaging the shared fence. As such there is an elevated risk of continued damage.

CONCLUSION

Giant sequoia is poorly suited for the site outside of its native range and is experiencing chronic Botryosphaeria canker that has no good remedy. The disease is stressing the tree and has diminished its aesthetic condition. Additionally, the subject tree has outgrown the space in the narrow side yard between the two compact residential lots and is damaging the fence. The root system threatens the home foundation at 104 Suffield Avenue. While pruning is an option to remedy the aesthetic issue in the short term, there is no good option to correct the disease issue and would be expensive. The elevated risk of tree related property damage cannot be abating unless the tree is removed.

RECOMMENDATION

To abate the issues outlined above remove the whole tree.



Zachary Vought, Urban Forester
RCA #691, ISA Certified Arborist WE-
9995A & TRAQ



Figure 2. Aerial image depicting the approximate location of the tree's trunk (red) and canopy (green).

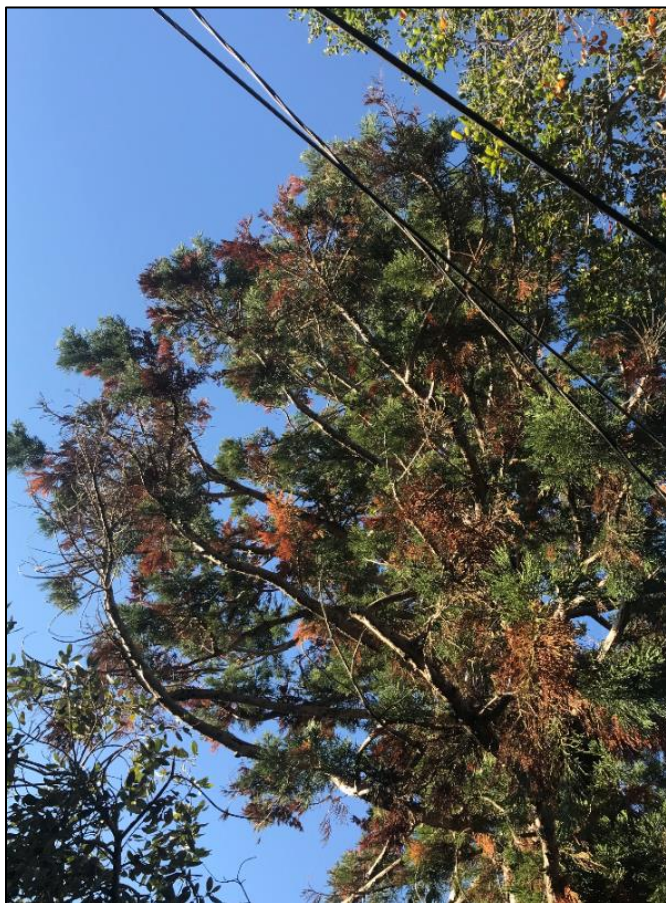


Figure 3. View up into the lower canopy showing copious twig/ branch dieback.



Figure 5. View of the trunk proximity to the home at 104 Suffield Ave.



Figure 4. Trunk conflict with fence and structure on 126 Suffield Ave. property.

Glossary

Health – overall health or ability of the plant to deal with stress (vitality). Health assessment is based on the appearance of foliage, incremental growth, and the amount of living vascular tissue.

Form – The plant's overall appearance as it relates to its shape or silhouette. Can be negatively affected by crown asymmetries.

Structure – Overall stability of the tree or its branches. This can be negatively affected by things such as acute angle crotches, decay cavities, strong leans, stem girdling roots, ambrosia beetles, history of failures, etc.

SCOPE OF WORK AND LIMITATIONS

Urban Forestry Associates has no personal or monetary interest in the outcome of this investigation. All observations regarding trees in this report were made by UFA, independently, based on our education and experience. All determinations of health condition, structural condition, or hazard potential of a tree or trees at issue are based on our best professional judgment. The health and hazard assessments in this report are limited by the visual nature of the assessment. Defects may be obscured by soil, brush, vines, aerial foliage, branches, multiple trunks or other trees. Even structurally sound, healthy trees are wind thrown during severe storms or other weather events. Consequently, a conclusion that a tree does not require corrective surgery or removal is not a guarantee of no risk, hazard, or sound health.

Table 1. Tree Condition Ratings

Rating category	Condition components		
	Health	Structure	Form
Excellent	High vigor and nearly perfect health with little or no twig dieback, discoloration, or defoliation	Nearly ideal and free of defects.	Nearly ideal for the species. Generally symmetric. Consistent with the intended use.
Good	Vigor is normal for the species. No significant damage due to diseases or pests. Any twig dieback, defoliation, or discoloration is minor.	Well-developed structure. Defects are minor and can be corrected.	Minor asymmetries/deviations from species norm. Mostly consistent with the intended use. Function and aesthetics are not compromised.
Fair	Reduced vigor. Damage due to insects or diseases may be significant and associated with defoliation but is not likely to be fatal. Twig dieback, defoliation, discoloration, and/or dead branches may comprise up to 50% of the crown.	A single defect of a significant nature or multiple moderate defects. Defects are not practical to correct or would require multiple treatments over several years.	Major asymmetries/deviations from species norm and/or intended use. Function and/or aesthetics are compromised.
Poor	Unhealthy and declining in appearance. Poor vigor. Low foliage density and poor foliage color are present. Potentially fatal pest infestation. Extensive twig and/or branch dieback.	A single serious defect or multiple significant defects. Recent change in tree orientation. Observed structural problems cannot be corrected. Failure may occur at any time.	Largely asymmetric/abnormal. Detracts from intended use and/or aesthetics to a significant degree.
Very poor	Poor vigor. Appears to be dying and in the last stages of life. Little live foliage.	Single or multiple severe defects. Failure is probable or imminent.	Visually unappealing. Provides little or no function in the landscape.
Dead			