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Arborist Report

February 5, 2023

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City of Santa Rosa
100 Santa Rosa Avenue, Room 3
Santa Rosa, CA 95404

Definition of assignment:

Inspect Bunya Pine located at 1080 2nd St., Santa Rosa, Ca 95404 to rate the risk of the multiple stem portion(s) in upper canopy of the tree, provide mitigation option(s) to aid in minimizing the likelihood(s) for failure and determine residual risk of the same area(s). The evaluation to be achieved by a ground level, visual perspective as well as by climbing the tree to more closely observe the stem attachment(s) and arrangement. The current risk and residual risk rating to be determined by utilizing the Tree Risk Assessment Qualification (TRAQ) matrices.

Observations:

The inspected tree, often referred to as a "Bunya Bunya " is a (*Araucaria bidwillii*), measuring approximately 65" DBH (diameter at breast height), with an approximate height of 125 feet and an approximate crown spread diameter of 40 feet. The tree appears to be of good health based on canopy conditions, leaf mass, foliage color and foliage density, shoot elongation, as well as low presence of dead limbs throughout the tree. This evaluation was performed on January 11, 2023 in slightly overcast and drizzling conditions (this remark is an observation only and not felt to be a limitation to evaluation accuracy).

The tree is approximately 10' from the public sidewalk, approximately 15' from the public roadway (2nd St.) and approximately 25' from the entrance to a private parking area. During the two hours I was present, I noticed an infrequent rate of occupation of all areas surrounding the tree, other than the parking area, which possessed a frequent occupancy rate (these occupation rates are noted, as they are contributors to effective utilization of the TRAQ risk rating matrices).

From the ground, I observed a singular, dominant stem/trunk originating at



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ground level, with subordinated lateral limbs extending up through the canopy to approximately 100' above ground level. At the approximate 100' height range, the tree forks into three stems (see photo #1).

While in the tree I also observed the point of attachment of the three competitive stems. Each stem possesses an average stem diameter of 12-14". The three stems originate at the same position on the tree (see photo #2).

While in the tree I noticed one approximate 3" diameter broken branch in the upper 20' of the tree. This limb appeared securely lodged among its surrounding limbs (this is an observation only and in my opinion, does not affect the overall risk rating of the tree).

Interpretations and Recommendations:

The presence of a dominant stem, with subordinated limbs is a well designed system for weight distribution and improved limb attachments at trunk. Multiple stems, especially those similar in diameter, which originate in one location, possess an increased likelihood for failure at the attachment point. These stems do not appear to possess a high weight load. These co-dominant stems are closely oriented to one another. In my experience, this closeness minimizes exposure to load increasing elements, such as wind, rain, etc. and improves stem retention likelihood. While the load on these stems appears low, there persists a likelihood of failure at the point of attachment. In my experience, a very effective method of managing the load on stems like these and minimizing their current risk for failure is a support cable system in the form of a triangle. An additional risk management tool to cabling is thinning and reduction of the crown in the portion(s) above the stems' point of attachment.

Regardless of any mitigation options pursued, it would be prudent to continually monitor this tree for any changes from its current state, as well as manage the tree's weight distribution as appropriate based on the conclusions drawn from that same monitoring.

Based on the current condition of the tree and processing it through the TRAQ matrices, its overall risk rating is low, as it relates to likelihood for failure in addition to the likelihood for impact and consequences of failure to its target(s). While a rating of "low" is the lowest achievable through this industry accepted risk evaluation system, there are still options available to manage the current risk associated with the multiple stems.



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Conclusion:

Utilizing the TRAQ matrices, I have concluded that the overall risk rating for the multiple stems of the tree's upper canopy is low. If the above mitigation steps are taken as advised, the overall risk rating maintains a low risk, based on the same matrices.

To reduce the stems' failure risk, I recommend installation of a cable support system in addition to, or apart from crown thinning and mass reduction in the upper 25' of the tree.

Due to the sensitive nature of pruning and/or cabling of a tree, it should be performed and/or overseen by an ISA Certified Arborist to ensure the highest likelihood of proper execution of the care. The tree should then be monitored by an ISA Certified Arborist (recommended is every twelve months, or until a different interval is deemed appropriate).

Assumptions and Limiting Conditions

1. Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character.
2. It is assumed that property is not in violation of any applicable codes, ordinances, statutes or other governmental regulations.
3. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant/appraiser can neither guarantee nor be responsible for the accuracy of information provided by others.
4. The consultant/appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.
5. This report and any values expressed herein represent the opinion of the



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consultant/appraiser, and the consultant/appraisers fee for this report is in no way contingent upon the reporting of a specified value, a stipulated result, nor upon any finding to be reported.

6. Unless expressed otherwise: 1) the information in this report covers only the items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee expressed or implied that problems or deficiencies of the plants or property in question may not arise in the future.

7. Loss or alteration of any part of this report invalidates the entire report.

Sincerely,

Fredrick Frey
ISA certified Arborist
WE-4209



Photo #1



Arrow
points to
fork



Union of
stems
as seen
in
canopy

Photo #2