



RBMC- Petaluma Subdivision Tree Inventory and Assessment Report

July 1, 2019

PREFACE

This report is a inventory of trees growing on the RBMC property at 149 McNear Avenue in Petaluma, CA. The inventory identifies the species, size, and health and condition of the trees growing on site. This report was prepared at the request of Mr. Geoff McComic of Vesta Pacific Development.

James MacNair, principal of MacNair and Associates, ISA Certified Arborist WE-0603A, and ISA Qualified Tree Risk Assessor prepared this evaluation and report.

Unless expressed otherwise, the information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection. 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 trees in questions may not arise in the future.

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Assignment

This report is an inventory of trees growing on the RBMC property at 149 McNear Avenue in Petaluma, CA. The inventory identifies the tree species growing on site and subject to construction impact from the residential development proposed for the property.

The project site was evaluated on May 6, May 31, and June 1, 2019.

The purpose of this evaluation is to:

- Identify the trees growing on the site and native trees meeting the criteria for protected status as described in the City of Petaluma Tree Preservation Ordinance (Chapter 17, Section 17.040);
- Assess the health and structural condition of the trees;
- Calculate the required mitigation trees based upon the protected status tree removals as described in Section 17.065 of the Tree Preservation Ordinance.

Report Summary

One hundred and eighteen trees are evaluated in this inventory. The locations and tag numbers are shown on the attached Tree Numbering and Location Plan (Appendix C). The attached tree evaluation matrix (Appendix A) provides the tree species, trunk diameters, approximate crown height and spread, health and structural condition descriptions, and suitability for preservation ratings. Appendix B provides images of trees and site conditions.

The following table lists the tree species and quantities listed in the inventory.

Species	Quantities	Protected Status
green wattle (<i>Acacia decurrens</i>)	1	No
bay laurel (<i>Umbellularia californica</i>)	1	No
black walnut (<i>Juglans nigra</i>)	9	No
box elder (<i>Acer negundo</i>)	6	No
Canary Island date palm (<i>Phoenix canariensis</i>)	11	No
coast live oak (<i>Quercus agrifolia</i>)	37	Yes
coast redwood (<i>Sequoia sempervirens</i>)	5	Yes
Douglas fir (<i>Pseudotsuga menziesii</i>)	1	No
Italian stone pine (<i>Pinus pinea</i>)	1	No
Lombardy poplar (<i>Populus nigra</i> 'Italica')	8	No
London plane tree (<i>Platanus hispanica</i> x 'Bloodgood')	6	No
Monterey pine (<i>Pinus radiata</i>)	1	No
oak hybrid (<i>Quercus</i> x)	1	Yes
olive (<i>Olea europaea</i>)	3	No
plum (<i>Prunus domestica</i>)	2	No
valley oak (<i>Quercus lobata</i>)	24	Yes
white poplar (<i>Populus alba</i>)	1	No
Total:	118	67 protected status

It should be noted that this inventory did not capture all of the volunteer seeding plums and glossy privet (*Ligustrum lucidum*) growing on the site. These two species have naturalized and are not considered significant tree species. The general location of these trees is noted on the Tree Numbering and Location Plan.

The majority of the trees are in generally in acceptable condition. The Suitability for Preservation Rating identifies 73 trees as in moderate to good condition, 29 trees in fair condition, and 16 trees in poor condition with one of these a dead palm. The specific health and structural condition descriptions are provided in Appendix A.

Construction Impact and Replacement Tree Mitigation Calculations

The proposed project is a high-density residential development with all of the trees located within the project construction and grading limits. Based upon the preliminary grading plans, all of the existing trees will require removal. As no trees are assumed to be preserved, tree protection specifications are not provided in this report.

A total of 67 trees have protected tree status. The individual tree mitigation calculations are provided in the tree evaluation matrix (Appendix A). The mitigation requirements are 417 24-inch box trees with the in-lieu fee estimated at is \$218,925.00. This estimate is based on a wholesale nursery cost of \$175.00 for a 24-inch box trees and an installation cost of \$350.00.

The landscape planting plan has not been reviewed and any native oak species planted as part of the project will reduce the in-lieu fees.

Individual Tree Evaluations

The trees have been assigned a number as indicated on the attached site plan. Additionally, the trees have been rated for health and condition. Following is a description of the various data used in the evaluations:

Botanical and Common Names:

The botanical name and common name are provided for each tree.

DBH and # of Trunks:

DBH refers to the approximate measurement of the trunk diameter at 4.5 feet above grade. This measurement is useful to arborists providing quotations for tree maintenance work and evaluating tree growth over time.

The # of trunks notes single or multiple trunk trees. Trunks should occur at or below 54 inches above grade to be considered as a multiple trunk structure.

For protected status tree with multiple trunks, an equivalent single trunk calculation is provided for purposes of determining replacement or in lieu mitigation trees.

Height and Canopy Spread:

These fields are approximate visual measurements of the tree's height and canopy spread. Accuracy is within plus or minus 20% of the indicated measurement.

Health and Structural Ratings and Descriptions:

The following chart describes the health and structural rating system used in the evaluation. It is a rating of relative conditions such as vigor, extent of decay, structure, and insect or disease problems. Good and moderate ratings indicate limited structural problems, acceptable vigor, and an absence of significant pest or disease problems. Poor and marginal ratings indicate serious health or structural problems especially if the tree is situated near structures or public areas. Trees rated as poor or marginal are often hazardous.

Rating Chart:

3	Moderate or better condition	Normal and correctable problems of structure or pests and diseases.
2	Marginal condition	Indicates serious problems with structure, decay, or significant insect or disease problems.
1	Poor condition	Indicates very poor health, vigor, or hazardous structural condition

Trees may be rated between two conditions, such as 1.5 or 2.5. This indicates the tree does not precisely meet the criteria for either of the two categories and allows the rating system to be used as a continuum.

The Comments/Observation section describes the basis for the health and structural rating. The specific pests, disease, and structural defects observed are described and identified if possible.

This evaluation is of above ground structure only and additional defects may exist at the root collar. Many of the larger mature and over-mature trees require a root collar examination to evaluate the primary structural roots and root collar for decay and disease.

Comment/Observations:

A summary description of the tree including health and structural observations.

Protected Tree Status

Identification of native trees as defined in the protected status as described in the City of Petaluma Tree Preservation Ordinance (Chapter 17, Section 17.040).

Suitability for Preservation:

An assessment of health and structural condition as an indication for tolerance to construction impacts and as criteria for preservation.

Rating Factors:

Tree Health: Vigorous and healthy trees are better able to tolerate construction impacts including root loss or injury,

Structural Condition: Preserved trees should be structurally sound or have defects that can be effectively abated in areas near structures or high use areas.

Tree Age and Species: Older trees may have reduced ability to tolerate construction impacts and adapt to changed site conditions. Additionally, individual tree species have varying tolerances to environmental impacts and changes.

Replacement Tree Mitigation Inches:

The replacement tree mitigation inches based upon the trunk diameter and the condition of the tree as defined in Section 17.065 of the Tree Preservation Ordinance.

Appendix A

Tree Inventory and Assessment Matrix

RBMC0 Petaluma Subdivision
Tree Evaluation Data- Appendix A

RBMC- Petaluma Subdivision Tree Evaluation Data (149 McNear Avenue)

Health and Structural Rating Key: 3.0 = moderate or better condition
2.5 = fair condition
2.0 = marginal condition
1.5 = poor to marginal condition
1.0 = poor condition

Suitability for Preservation Ratings: Good: Trees in good health and structural condition with high potential for longevity.
Moderate: Trees in fair health and/or with structural defects that can usually be abated with treatment.
Fair: Trees in marginal health or structural condition that could possibly be mitigated or improved.
Poor: Trees in poor health and/or structural condition that probably cannot be effectively abated.

Tree #	Species	Trunk Diameter @4.5' (inches)	Single Trunk Equivalent	# of Trunks	Crown Height	Crown Diameter	Health Rating	Structural Rating	Comments/Observations	Protected Tree Status	Suitability for Preservation (Based on Condition)	Mitigation Inches
1	valley oak (<i>Quercus lobata</i>)	13.5		1	45'±	35'-40'±	3.0	3.0	Semi-mature tree with upright structure. Closely spaced, multiple limb attachments forming at 12' Vigor and foliage density are moderate with limited twig dieback occurring.	Yes	Good	13.5
2	Canary Island date palm (<i>Phoenix canariensis</i>)	24 ±		1	15'±	15'±	3.0	3.0	Young volunteer palm. No significant pest or disease issues observed.	No	Good	
3	valley oak	11		1	30'±	30'±	2.5	3.0	Semi-mature tree with upright form. No significant structural defects observed. Vigor and foliage density are moderate with limited branch dieback occurring. Probable pit scale infestation.	Yes	Good	11
4	coast live oak (<i>Quercus agrifolia</i>)	8		1	20'±	15'±	2.5	3.0	Young tree with two trunks forming at 6'. Lower trunk bark beetle damage. Vigor and foliage density are moderate.	Yes	Good	8
5	valley oak	6.5		1	22'±	15'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate.	Yes	Good	6.5
6	Canary Island date palm	24 ±		1					Palm is dead. Not tagged due to access.	No	NA	0
7	London plane tree (<i>Platanus hispanica</i> x 'Bloodgood')	18±		2 @ 6'	30'±	35'±	2.0	2.5	Mature tree with two trunk structure forming at 6'. Ivy growing on tree. Vigor is variable. Pruned for HV (high voltage) electrical line clearance. Vigor is moderately low.	No	Fair	
8	London plane tree	24 ±		1	40'±	45'±	2.5	2.0	Mature tree with ivy growing on tree. Tree is partially topped for HV line clearance	No	Fair	
9	Canary Island date palm	24 ±		1	30'±	30'±	3.0	3.0	Mature palm in good vigor.	No	Good	

RBMC0 Petaluma Subdivision
Tree Evaluation Data- Appendix A

Tree #	Species	Trunk Diameter @4.5' (inches)	Single Trunk Equivalent	# of Trunks	Crown Height	Crown Diameter	Health Rating	Structural Rating	Comments/Observations	Protected Tree Status	Suitability for Preservation (Based on Condition)	Mitigation Inches
10	olive (<i>Olea europaea</i>)	3; 4; 6		3	20'±	10'±	3.0	2.0	Multiple trunk tree growing in shaded conditions. High-branched structure. Glossy privet and palm adjacent.	No	Fair	
11	coast live oak	7		1	20'±	15'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate.	Yes	Good	7
12	Canary Island date palm	24 ±		1	35'±	30'±	3.0	3.0	Mature palm in good vigor. (Not tagged)	No	Good	
13	bay laurel (<i>Umbellularia californica</i>)	6; 20.5	21.4	2	35'±	40'±	2.0	3.0	Mature tree with moderately asymmetrical form extending to northeast. No significant structural defects. Vigor is variable with twig dieback and foliage SOD symptomatic.	Yes	Poor	0
14	oak hybrid	7.5		1	15'±	20'±	3.0	2.0	Tree has severe lean to north. Vigor and foliage density are moderate.	Yes	Poor	3.75
15	valley oak	17		1	50'±	40'±	2.5	3.0	Mature tree with upright form. No significant structural defects, Variable vigor with limited branch dieback.	Yes	Good	17
16	box elder (<i>Acer negundo</i>)	4; 4; 5; 5; 6; 6.5		6	35'±	35'±	3.0	2.0	Low, multiple trunk structure forming from basal sprouts. Vigor and foliage density are moderate.	No	Poor	
17	coast live oak	6.5		1	20'±	25'±	3.0	3.0	Dense cluster of young, volunteer coast live oaks. Generally narrow structural forms. Vigor and foliage density is generally moderate.	Yes	Good	6.5
18	coast live oak	4.5		1	20'±	25'±	3.0	3.0		Yes	Good	4.5
19	coast live oak	10.5		1	20'±	25'±	3.0	3.0		Yes	Good	10.5
20	coast live oak	5		1	20'±	25'±	3.0	3.0		Yes	Good	5
21	coast live oak	4		1	20'±	25'±	3.0	3.0		Yes	Good	4
22	coast live oak	7		1	20'±	25'±	3.0	3.0		Yes	Good	7
23	coast live oak	9		1	20'±	25'±	3.0	3.0		Yes	Good	9
24	coast live oak	5.5		1	20'±	25'±	3.0	3.0		Yes	Good	5.5
25	coast live oak	5.5		1	20'±	25'±	3.0	3.0		Yes	Good	5.5
26	coast live oak	10		1	20'±	25'±	3.0	3.0		Yes	Good	10
27	coast live oak	6.5		1	20'±	25'±	3.0	3.0		Yes	Good	6.5
28	Canary Island date palm	24 ±		1	30'±	30'±	3.0	3.0	Mature palm in good vigor. (Not tagged.)	No	Good	
29	coast live oak	10		1	35'±	25'±	3.0	3.0	Young tree with no significant structural defects. Narrow form. Vigor and foliage density are moderate.	Yes	Good	10
30	Canary Island date palm	24 ±		1	30'±	30'±	3.0	3.0	Mature palm in good vigor. (Not tagged.)	No	Good	

RBMC0 Petaluma Subdivision
Tree Evaluation Data- Appendix A

Tree #	Species	Trunk Diameter @4.5' (inches)	Single Trunk Equivalent	# of Trunks	Crown Height	Crown Diameter	Health Rating	Structural Rating	Comments/Observations	Protected Tree Status	Suitability for Preservation (Based on Condition)	Mitigation Inches
31	Canary Island date palm	24 ±		1	30'±	30'±	3.0	3.0	Mature palm in good vigor.	No	Good	
32	Canary Island date palm	24 ±		1	30'±	30'±	3.0	3.0	Mature palm in good vigor.	No	Good	
33	coast live oak	10; 10; 16; 19	28.6	4	35'±	40'±	3.0	3.0	Low, multiple trunk structure with symmetrical crown form. No significant structural defects. Vigor and foliage density are moderate. 19" trunk fused.	Yes	Good	28.5
34	valley oak	13		1	45'±	45'±	3.0	3.0	Semi-mature tree with upright structure. Closely spaced, multiple limb attachments forming at 12' Vigor and foliage density are moderate with limited twig dieback occurring.	Yes	Good	13
35	coast live oak	7		1	15'±	18'±	3.0	2.0	Low, leaning, asymmetrical structure. Vigor and foliage density are moderate.	Yes	Fair	3.5
36	coast live oak	8.5; 10.5	13.5	2	40'±	35'±	3.0	3.0	Low, two trunk structure with okay union. Symmetrical crown form. Vigor and foliage density are moderate.	Yes	Good	13.5
37	Lombardy poplar (<i>Populus nigra</i> 'Italica')	11		1	50'±	20'±	3.0	3.0	Typical Lombardy poplar with narrow form. No significant structural defects observed. Vigor and foliage density are moderate.	No	Good	
38	valley oak	15; 17	22.7	2	50'±	45'-50'±	2.5	2.5	Co-dominant trunk structure forming at 4' with seam at union. Moderately low vigor with branch dieback occurring.	Yes	Fair	11.5
39	Lombardy poplar	7		1	40'±	15'±	3.0	3.0	Typical Lombardy poplar with narrow form. No significant structural defects observed. Vigor and foliage density are moderate.	No	Good	
40	Lombardy poplar	5; 7; 8		3	30'±	15'±	3.0	2.0	Low, multiple trunk form.	No	Fair	
41	valley oak	18±		1	45'±	50	2.5	3.0	Growing in dense blackberries. Symmetrical crown form. Vigor and foliage density are variable with branch dieback occurring.	Yes	Moderate	18
42	coast live oak	5		1	20'±	15'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate. Growing in dense blackberries.	Yes	Good	5
43	coast live oak	6		1	20'±	15'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate. Growing in dense blackberries.	Yes	Good	6

RBMC0 Petaluma Subdivision
Tree Evaluation Data- Appendix A

Tree #	Species	Trunk Diameter @4.5' (inches)	Single Trunk Equivalent	# of Trunks	Crown Height	Crown Diameter	Health Rating	Structural Rating	Comments/Observations	Protected Tree Status	Suitability for Preservation (Based on Condition)	Mitigation Inches
44	coast live oak	4; 4.5	6	2	20'±	15'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate. Growing in dense blackberries.	Yes	Good	6
45	coast live oak	6.5; 8	10.3	2	15'±	15'±	3.0	3.0	Low, two trunk structure with okay union. Symmetrical crown form. Vigor and foliage density are moderate.	Yes	Good	10.5
46	black walnut (<i>Juglans nigra</i>)	7; 7; 8; 9; 10; 10		6	20'±	30'±	2.0	1.5	Low, multiple trunk structure with significant crown dieback occurring.	No	Poor	
47	box elder	6; 10; 10		3	20'±	20'±	3.0	2.5	Low, multiple trunk structure. Possible attachment defects. Vigor and foliage density are moderate.	No	Moderate	
48	box elder	8; 9; 10; 10; 11		5	25'±	30'±	3.0	2.5	Low, multiple trunk structure. Possible attachment defects. Vigor and foliage density are moderate.	No	Moderate	
49	valley oak	7.5		1	30'±	15'±	3.0	3.0	Young tree with no significant structural defects. Narrow form. Vigor and foliage density are moderate.	Yes	Good	7.5
50	white poplar (<i>Populus alba</i>)	2 to 10		6 to 8	30'±	40'±	3.0	2.5	Dense cluster of young, volunteer seedlings and root sprouts. Vigor and foliage density is generally moderate.	No	Fair	
51	plum (<i>Prunus domestica</i>)	6 to 9		8	20'±	35'±	3.0	2.0	Low. multiple trunk structure with lower trunk decay. Vigor and foliage density are moderate.	No	Poor	
52	black walnut	9		1	18'±	18'±	2.0	2.0	Basal sprouts from old stump. Vigor is low with significant limb dieback occurring.	No	Poor	
53	black walnut	20		1	20'±	30'±	2.0	2.0	Significant lower trunk decay and branch dieback.	No	Poor	
54	valley oak	10		1	20'±	20'±	2.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are marginal with significant branch dieback occurring.	Yes	Fair	5
55	valley oak	9.5		1	30'±	25'±	3.0	2.5	Co-dominant trunk structure forming at 5' with seam at union. Vigor and foliage density are moderate.	Yes	Moderate	9.5
56	valley oak	8		2	20'±	15'±	3.0	2.5	Narrow, two trunk structure. Vigor and foliage density are moderate.	Yes	Moderate	8

RBMC0 Petaluma Subdivision
Tree Evaluation Data- Appendix A

Tree #	Species	Trunk Diameter @4.5' (inches)	Single Trunk Equivalent	# of Trunks	Crown Height	Crown Diameter	Health Rating	Structural Rating	Comments/Observations	Protected Tree Status	Suitability for Preservation (Based on Condition)	Mitigation Inches
57	Lombardy poplar	9		1	35'±	20'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate.	No	Good	
58	black walnut	4; 5; 10		3	20'±	25'±	3.0	2.0	Low, multiple trunk form. Volunteer seedling.	No	Fair	
59	valley oak	25		1	45'-50'±	60'±	3.0	2.5	Mature tree with marginal secondary trunk attachments. Symmetrical crown form. Vigor and foliage density are moderate.	Yes	Moderate	25
60	valley oak	11		1	35'±	30'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate.	Yes	Good	11
61	black walnut	16		5 @ 5'	20'±	30'±	3.0	2.5	Low, structure with multiple trunks forming at 5'. Moderate vigor and foliage density. 6" black walnut nearby.	No	Fair	
62	black walnut	9		11	15'±	15'±	2.0	2.5	Significant dieback occurring. Variable vigor.	No	Poor	
63	black walnut	6; 6; 13.5		3	25'±	25'±	2.5	2.0	Low structure. one 6" trunk dead. Variable vigor with branch dieback. 7" black walnut nearby.	No	Poor	
64	coast live oak	22		1	45'-50'±	40'±	3.0	3.0	Mature tree with symmetrical crown form. No significant structural defects observed. Moderate vigor and foliage density.	Yes	Good	22
65	Canary Island date palm	48±		1	20'±	20'±	3.0	3.0	Younger palm in good vigor.	No	Good	
66	coast live oak	6		6	25'±	15'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate.	Yes	Good	6
67	coast live oak	16		1	35'-40'±	30'±	3.0	3.0	Semi-mature tree with upright form. No significant structural defects observed. Vigor and foliage density are moderate.	Yes	Good	16
68	Canary Island date palm	30±		1	20'±	20'±	3.0	3.0	Younger palm in good vigor.	No	Good	
69	valley oak	18		1	50'-55'±	40'-45'±	3.0	3.0	Mature tree with co-dominant trunks forming at 12'. No significant structural defects. Vigor and foliage density are moderate.	Yes	Good	18
70	coast live oak	9.5		1	25'±	20'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate.	Yes	Good	9.5
71	Canary Island date palm	30±		1	20'±	20'±	3.0	3.0	Younger palm in good vigor. Volunteer plums adjacent.	No	Good	
72	plum	4 to 7		6	18'±	20'±	3.0	2.0	Appears to be one of the original trees. Moderate vigor with marginal, dense structure.	No	Fair	

RBMC0 Petaluma Subdivision
Tree Evaluation Data- Appendix A

Tree #	Species	Trunk Diameter @4.5' (inches)	Single Trunk Equivalent	# of Trunks	Crown Height	Crown Diameter	Health Rating	Structural Rating	Comments/Observations	Protected Tree Status	Suitability for Preservation (Based on Condition)	Mitigation Inches
73	valley oak	7.5		1	25'±	15'±	3.0	2.5	Young tree with co-dominant trunks forming at 12'. Vigor and foliage density are moderate.	Yes	Moderate	7.5
74	coast live oak	22		1	55'-60'±	40'-45'±	3.0	2.5	Mature tree with co-dominant trunks forming at 7'. Moderately asymmetrical crown form. Vigor and foliage density are moderate.	Yes	Moderate	22
75	olive	4; 5; 5; 5; 6		5	25'±	25'±	3.0	3.0	Low, multiple trunk form. Vigor and foliage density are moderate.	No	Good	
76	London plane tree	24 ±		1	40'±	45'±	2.5	2.0	Mature tree that has been pruned for clearance from HV electrical lines. Vigor and foliage density are variable.	No	Fair	
77	London plane tree	34.5		1	40'±	45'±	2.5	2.0	Mature tree that has been pruned for clearance from HV electrical lines. Vigor and foliage density are variable. Lower trunk cavity present.	No	Fair	
78	coast live oak	26		1	50'-55'±	45'-50'±	3.0	2.5	Mature tree with symmetrical crown form. Closely spaced, multiple limb attachments form at 20'. Vigor and foliage density are moderate.	Yes	Moderate	26
79	Douglas fir (<i>Pseudotsuga menziesii</i>)	15		1	45'-50'±	30'±	2.0	2.0	Semi-mature tree growing adjacent to large coast redwood. Two trunks form at 2'. Vigor is low with branch dieback occurring.	No	Poor	
80	coast redwood (<i>Sequoia sempervirens</i>)	24; 24; 36±	49.5	3	90'±	40'±	3.0	2.5	Mature tree with three trunks forming at 5'-10'. Narrow trunk attachments. Vigor and foliage density are moderate.	Yes	Moderate	49.5
81	coast redwood	30; 36	46.9	2	90'±	40'±	2.5	2.5	Mature tree with low, two trunk structure. Vigor is variable with upper crown in low vigor.	Yes	Fair	23.5
82	coast redwood	13; 24	27.3	2	90'±	40'±	2.5	2.5	Mature tree with low, two trunk structure. Vigor is variable with upper crown in low vigor.	Yes	Fair	13.5
83	coast live oak	28		1	50'-55'±	40'±	3.0	3.0	Mature tree with upright form. No significant structural defects. Vigor and foliage density are moderate.	Yes	Good	28
84	coast live oak	8; 10; 14	19.0	3	40'-45'±	30'-35'±	3.0	2.5	Low, multiple trunk structure with seam and reaction wood at union. Tree has history or pruning.	Yes	Moderate	19

RBMC0 Petaluma Subdivision
Tree Evaluation Data- Appendix A

Tree #	Species	Trunk Diameter @4.5' (inches)	Single Trunk Equivalent	# of Trunks	Crown Height	Crown Diameter	Health Rating	Structural Rating	Comments/Observations	Protected Tree Status	Suitability for Preservation (Based on Condition)	Mitigation Inches
85	coast live oak	10; 24	26.0	2	50'-55'±	50'-60'±	3.0	2.0	Originally a three trunk structure with one trunk removed. Remaining trunk union is included.	Yes	Fair	13
86	coast live oak	15		1	25'±	30'-35'±	3.0	2.0	Leaning, asymmetrical structure. Dense ivy and palm seedling adjacent. Vigor and foliage density are good. Vigor and foliage density are moderate.	Yes	Fair	7.5
87	Italian stone pine (<i>Pinus pinea</i>)	17		1	40'±	30'±	3.0	2.5	Mature tree with closely spaced, multiple limb attachments forming at 6'. Vigor and foliage density are moderate.	No	Moderate	
88	Monterey pine (<i>Pinus radiata</i>)	25		1	50'±	45'±	2.5	3.0	Mature tree with limited red turpentine beetle pitch tubes. No significant structural defects. Vigor and foliage density are moderate.	No	Fair	
89	valley oak	6		1	40'±	40'±	3.0	2.0	Leaning, asymmetrical structure. Shaded with high-branch structure. Vigor and foliage density are moderate.	Yes	Fair	3
90	London plane tree	24		1	40'±	45'±	2.5	2.0	Mature tree that has been pruned for clearance from HV electrical lines. Vigor and foliage density are variable.	No	Fair	
91	coast live oak	8		1	20'±	15'±	3.0	2.5	Located in dense vegetation with leaning, asymmetrical form. Vigor and foliage density are moderate.	Yes	Moderate	8
92	valley oak	9		1	25'±	20'±	3.0	2.5	Located in dense vegetation with leaning, asymmetrical form. Vigor and foliage density are moderate.	Yes	Moderate	9
93	coast live oak	4; 7	8.1	2	15'±	15'±	3.0	2.0	Low, two trunk structure. 4" trunk is cut. Vigor and foliage density are moderate.	Yes	Fair	4
94	London plane tree	32		1	40'±	45'±	2.5	2.0	Mature tree that has been pruned for clearance from HV electrical lines. Vigor and foliage density are variable.	No	Fair	
95	coast live oak	24; 24	33.9	2	25'-30'±	35'-40'±	3.0	2.0	Low structure with included union. Pruned for HV electrical clearance. Vigor and foliage density are good.	Yes	Fair	17
96	acacia (<i>Acacia decurrens</i>)	6; 8		2	15'±	20'±	2.0	1.5	Tree has been topped for HV electrical line clearance. Poor structure. Low vigor.	No	Poor	

RBMC0 Petaluma Subdivision
Tree Evaluation Data- Appendix A

Tree #	Species	Trunk Diameter @4.5' (inches)	Single Trunk Equivalent	# of Trunks	Crown Height	Crown Diameter	Health Rating	Structural Rating	Comments/Observations	Protected Tree Status	Suitability for Preservation (Based on Condition)	Mitigation Inches
97	coast live oak	6; 8; 11	14.9	3	35'-40'±	30'-35'±	2.5	2.0	Low, multiple trunk structure originating from basal sprouts. Partially pruned for HV electrical line clearance. Bacterial flux infection in lower trunk.	Yes	Fair	7.5
98	coast live oak	5; 6; 7	10.5	3	35'-40'±	20'-25'±	2.5	2.0	Low, multiple trunk structure originating from basal sprouts. Partially pruned for HV electrical line clearance. Poor trunk union.	Yes	Poor	5.25
99	coast live oak	18		1	35'-40'±	30'-35'±	3.0	3.0	Mature tree with moderately asymmetrical crown form due to shading. No significant structural defects observed. Moderate vigor and foliage density.	Yes	Good	18
100	coast redwood	34		1	80'-85'±	30'-35'±	2.5	2.5	Mature tree with history of root impacts. Vigor is generally moderate with limited branch dieback occurring.	Yes	Fair	34
101	valley oak	7; 10; 14	18.6	3	30'±	40'±	2.5	2.0	Low, multiple trunk structure forming from basal sprouts. Vigor and foliage density are variable. Heavily pruned for HV electrical line clearance.	Yes	Poor	9.25
102	valley oak	14		1	45'-50'±	35'±	3.0	3.0	Semi-mature tree with upright form. No significant structural defects observed. Vigor and foliage density are moderate. Limited side pruning for HV electrical line clearance occurring.	Yes	Good	14
103	Lombardy poplar	11		1	18'±	6'±	3.0	2.0	Young tree requiring topping due to location below HV electrical lines.	No	Poor	
104	black walnut	5; 6; 7		3	18'±	25'±	3.0	2.5	Low, multiple trunk tree growing in dense blackberries. Moderate vigor and foliage density.	No	Fair	
105	valley oak x Oregon white oak (<i>Quercus lobata</i> x <i>Q. garryana</i>)	22; 22	31.1	2	45'-50'±	55'-60'±	2.5	2.5	Mature tree with co-dominant trunks forming at 3.5'. Seam at trunk union. Symmetrical crown form. Variable vigor and foliage density with sporadic branch dieback occurring.	Yes	Fair	15
106	olive	2.5 to 6		8	15'±	18'±	3.0	2.0	Low, dense, multiple trunk form. Moderate vigor and foliage density.	No	Fair	

RBMC0 Petaluma Subdivision
Tree Evaluation Data- Appendix A

Tree #	Species	Trunk Diameter @4.5' (inches)	Single Trunk Equivalent	# of Trunks	Crown Height	Crown Diameter	Health Rating	Structural Rating	Comments/Observations	Protected Tree Status	Suitability for Preservation (Based on Condition)	Mitigation Inches
107	valley oak	4.5		1	20'±	8'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate.	Yes	Good	4.5
108	black walnut	12		1	30'±	25'±	3.0	3.0	Semi-mature tree with no significant structural defects observed. Vigor and foliage density are moderate.	No	Good	
109	coast redwood	18; 24; 36	46.9	3	85'-90'±	40'±	3.0	2.5	Mature tree with multiple trunk structure. Unknown condition of trunk union. Moderate vigor and foliage density.	Yes	Moderate	47
110	Lombardy poplar	18±		1	85'-90'±	25'±	3.0	3.0	Mature tree with form typical of Lombardy poplars. No significant structural defects observed. Moderate vigor and foliage density.	No	Good	
111	Lombardy poplar	18±		1	85'-90'±	25'±	3.0	3.0	Mature tree with form typical of Lombardy poplars. No significant structural defects observed. Moderate vigor and foliage density.	No	Good	
112	Lombardy poplar	18±		1	85'-90'±	25'±	3.0	3.0	Mature tree with form typical of Lombardy poplars. No significant structural defects observed. Moderate vigor and foliage density.	No	Good	
113	box elder	8		2 @ 5'	22'±	15'±	2.5	2.5	Young tree with moderately asymmetrical crown form. Another box elder is growing nearby on adjacent residential property. Moderately low vigor.	No	Fair	
114	box elder	6; 7; 11		3	20'±	25'±	3.0	3.0	Low, multiple trunk structure with moderately asymmetrical crown form. Moderate vigor and foliage density.	No	Moderate	
115	valley oak	12		2 @ 5'	30'±	25'±	3.0	2.5	Young tree with co-dominant trunks forming at 5'. Leaning structure. Moderate vigor and foliage density.	Yes	Moderate	12
116	valley oak	6		1	20'±	12'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate.	Yes	Good	6
117	valley oak	7.5		1	25'±	12'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate.	Yes	Good	7.5
118	box elder	7; 8; 10		3	25'±	25'±	2.0	2.0	Low, multiple trunk structure with one trunk dead. Vigor and foliage density are variable with branch dieback occurring.	No	Poor	

Appendix B

Site and Tree Images

Tree and Site Images:



View of tree vegetation to the west from center of property showing coast redwoods, oaks, and pines.



View of west side of residence on S. Petaluma Blvd. showing Lombardy poplars, oaks, and redwood.



View to south from center of property.



View of oaks and black walnuts around barn in center of property.



Mature valley oak and trees in rear portion of S. Petaluma residence.



View of center portion of property to east with smaller oaks, black walnuts, and box elders. Lombardy poplar is in background.



View of vegetation in rear area behind residence at northeast corner of the property/



Box elder and black walnut in center of property.



Area with dense blackberries and oaks near south edge of property.



View of oaks and Lombardy poplars along south property line.



Dense vegetation in southwest portion of property.



Canary Island date palms are prominent in southwest portion of property.



Valley oak growing adjacent to original residence on Mc Near Avenue.



Dense areas of volunteer plums and glossy privet.



Mature coast live oaks at rear of residence on McNear Avenue.



London plane trees are planted along Mc Near Avenue as street trees. All are subject to electrical line clearance pruning.



Coast live oak at rear north corner of Mc Near Avenue residence.



Other mature coast live oaks and smaller oaks near McNear Avenue.



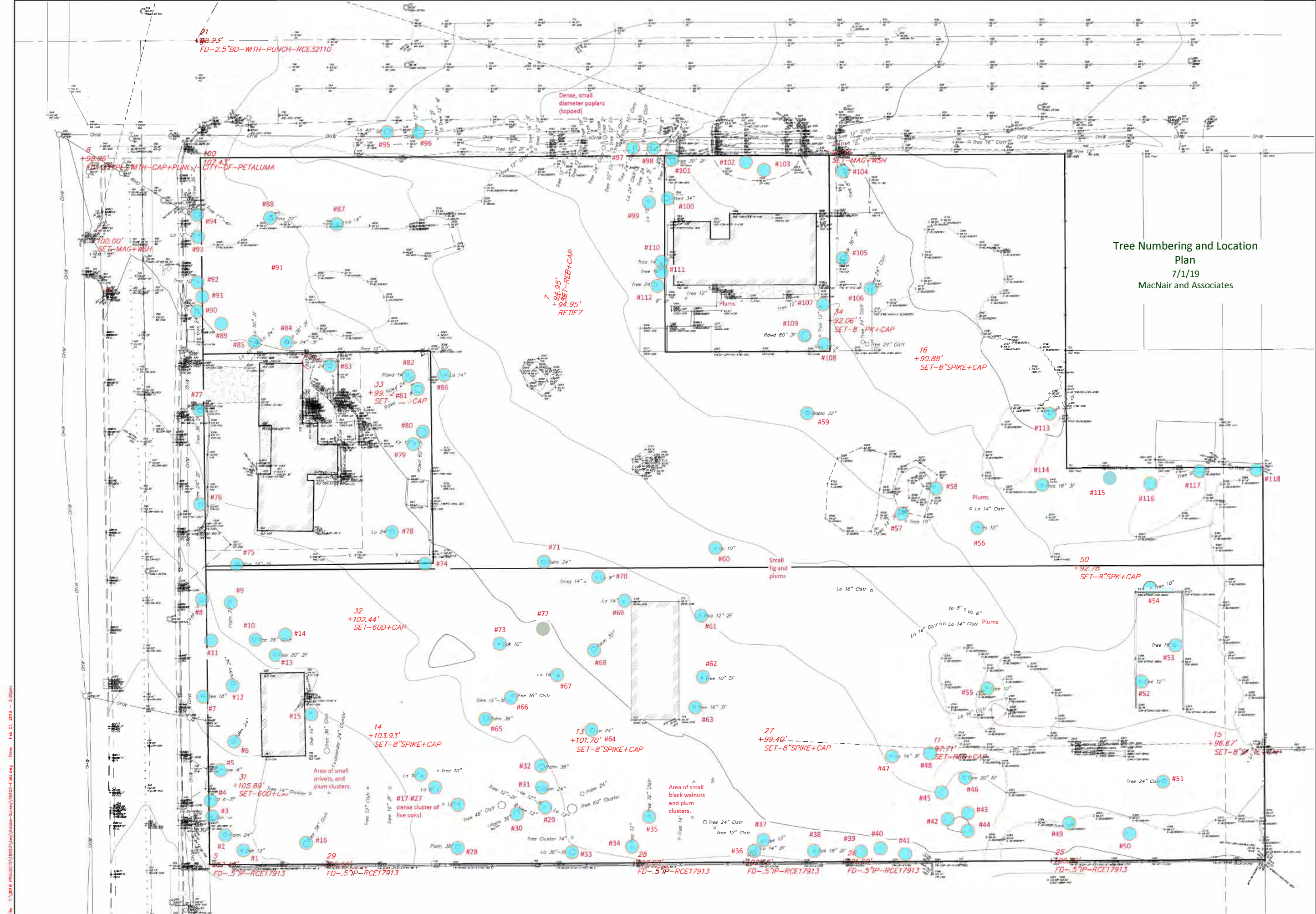
Coast live oak pruned for electrical line clearance along South Petaluma Blvd.



Numerous volunteer Lombardy poplars along South Petaluma Blvd. are being top pruned for electrical line clearance.

Appendix C

Tree Numbering and Location Plan



Tree Numbering and Location Plan
7/1/19
MacNair and Associates

Scale:	1" = 20'
Date:	February 1, 2019
File Name:	_____ .txt
Available Points:	0+
Job No.:	18423

File: S:\2019\18423\18423\Survey\18423-Field.dwg Time: Feb 01, 2019 1:25:00pm