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Atheria Smith 8/8/19

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SECOND MERRITT COLLEGE CHILDCARE CENTER ARBORIST REPORT

SUMMARY

The second proposed site for the Merritt College Childcare Center is located behind the gym next to the entry road to the back of the gym, and extends up to the road that runs around the rear of the Merritt College campus toward the Environmental Education Center.

I made my first site visit to site #2 of the proposed Merritt College Childcare Center with Anthony Jones On 6/24/19, where we measured some of the trees on the site.

I made a second site visit on 8/2/19 to measure the additional trees that Anthony Jones had tagged. All of them are described in the chart below, followed by several site images provided to me, along with images of some of the plants. The second site, described and detailed in the Observations, includes a total of 53 trees, although 54 are listed - with two numbers not used correctly, and one tree that doesn't have a tag on it.

Most of the area where the actual construction will occur is free of trees, so all that will be needed will be to protect the trees that are retained, and remove the trees that are either dead or are within the construction site.

It is my opinion and conclusion that if the portion of the Childcare Center built near the oak grove is kept far enough away from the trees, so that no roots greater than 2" in diameter are cut, a retaining wall will not be needed at the base of the slope below the oak trees. A single temporary chain link fence at the base of the slope should be sufficient to protect the **critical root zones**¹ of the trees, if the temporary fencing is placed outside the root protection zones listed on the chart. However, if the back of the center is moved closer to the trees, then a retaining wall will be required. It should be constructed using piers and grade beams, so that no oak roots greater than 2" in diameter are cut.

My recommendations are listed below. If they are followed, the trees to be removed will be those within the construction zone, and those that are dead or pose a fire hazard to the area. The trees to be protected will be the oaks in the oak grove, and the trees along the road to the gym that will be retained and protected from foot traffic with temporary chain link fencing.

BACKGROUND AND ASSIGNMENT

This report addresses the issues regarding the trees surrounding the second site for a childcare center at Merritt College, 12500 Campus Drive, Oakland CA 94619 that will be impacted by the construction of a new large building in the center of the area.

Anthony Jones originally asked me to prepare a second tree report for the Peralta Community College District. On 6/24/19 I visited site #2 of the proposed Merritt College Childcare Center with him, to measure some the trees of concern. Later Atheria Smith as me to put together an inventory of the trees that might be impacted by construction of play areas for children at the second site, determine which trees need to be removed, if any, and to determine how to protect those trees that are to be retained. She also asked me to give you some best management practices to apply for retaining the protected trees.

OBSERVATIONS

The second proposed site for the Merritt College Childcare Center is located behind the gym next to the entry road to the back of the gym, and extends up to the road that runs around the rear of the Merritt College campus toward the Environmental Education Center. Most of the area is free of trees, so all that will be needed will be to protect the trees that are retained, and remove the trees that are either dead, pose a fire hazard, or are within the construction site.

I visited the site with Anthony Jones on 6/24/19, and took measurements, which are shown on the chart below; and I took additional measurements on 8/2/19. All trees were measured at the **DBH**, or at breast

¹ Please refer to the Glossary of Terms.

height² - 4.5' (54") above the ground. The visual chart that follows shows the trees that are to be removed and which are to be protected.

As detailed in the illustrations below, that were sent to me by Anthony Jones, the second site includes a total of 53 trees, although 54 are listed. Anthony tagged the trees, and we measured trees 1-31 on 6/24/19. Then, in completing the measurements of the remaining trees on 8/2/19, I found that tree #29 is actually a branch on tree #28, which discounts it. And the tag for tree #45 was found sticking to the tag for tree #44 on the ground at the base of the tree #44. So there is no tree #45. In addition, a *Platanus acerifolia* (London plane tree) on the road between trees 40 and 50 wasn't tagged, which adds a tree in that location.

#	Tree Species	Trunk 1	Trunk 2	Trunk 3	Trunk 4	Tree DBH	Remove	Retain	Comments
1	Eucalyptus sideroxylon	26.9"				26.9"		X	It's in fair condition, and is located by the steps to the lower parking area. It has a large 2.5' stub about 7' above the ground.
2	Platanus acerifolia	11.8"				11.8"		X	It's in poor condition, near the entrance to the gym. The soil is compacted; and the tree hasn't been irrigated.
3	Platanus acerifolia	12"				12"		X	It is in good condition, and is located in the parking lot.
4	Platanus acerifolia	7.1"				7.1"		X	It is in fair to good condition, and is located in the parking lot.
5	Platanus acerifolia	11"				11"		X	It is in good condition, and is located at the edge of the parking lot.
6	Platanus acerifolia	8.6"				8.6"		X	It is in fair to good condition, and is located at the edge of the parking lot. Three trees nearby will also remain.
7	Platanus acerifolia	8"				8"		X	It is in good condition, and is located on the back road across from the other London Plane trees, near another London Plane tree.
8	Pinus radiata	15.8"				15.8"	X		In middle of proposed childcare center. No permit required for removal. Many seedling oaks in the area can replace the pines.
9	Pinus radiata	12.5"				12.5"	X		In middle of proposed childcare center. No permit required for removal. Many seedling oaks in the area can replace the pines.
10	Pinus radiata	12.5"				12.5"	X		In middle of proposed childcare center. No permit required for removal. Many seedling oaks in the area can replace the pines.
11	Sequoia sempervirens	22.2"				22.2"	X		This coast redwood is only in fair condition due to a lack of wter. It is on a soil mound is in the center of the proposed building. Remove and replace with other specimens elsewhere on campus.
12	Pinus radiata	16.9"				16.9"	X		This pine is in good condition but is in the middle of the proposed building corner.

² Please refer to the Glossary of Terms.

13	Quercus agrifolia	6.5"		6.5"	X	This oak has a crooked trunk. Place protective fencing 6.5-10' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13, 14, 15 etc. can be raised by a certified arborist to allow construction of the retaining wall.
14	Quercus agrifolia	11.8"		11.8"	X	Place protective fencing at least 11.8' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13, 14, 15 etc. can be raised by a certified arborist to allow construction of the retaining wall.
15	Quercus agrifolia	10.5"	9.9"	20.4"	X	Place protective fencing at least 20.4' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13, 14, 15 etc. can be raised by a certified arborist to allow construction of the retaining wall.
16	Quercus agrifolia	less than 6"		less than 6"	X	Place protective fencing at least 6' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall.
17	Quercus agrifolia	less than 6"		less than 6"	X	Place protective fencing at least 6' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall.
18	Quercus agrifolia	18.3"		18.3"	X	Trees 18, 19 and 20 are actually connected as one tree, with multiple trunks. Place protective fencing at least 18.3'out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall.
19	Quercus agrifolia	23.8"		23.8"	X	Trees 18, 19 and 20 are actually connected as one tree, with multiple trunks. Place protective fencing at least 23.8'out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall.

20	Quercus agrifolia	9.4" branch at ground level				9.4" branch at ground level	X	Trees 18, 19 and 20 are actually connected as one tree, with multiple trunks. Place protective fencing at least 9.4'out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall.
21	Quercus agrifolia	14"	9.6"	4.1"	9.6"	37.3"	X	Place protective fencing at least 37.3' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall.
22	Quercus agrifolia	"	>>			,,	X	Place protective fencing at least 37.3' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall.
23	Quercus agrifolia	6.5"				6.5"	X	Place protective fencing at least 6.5' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall.
24	Quercus agrifolia	16.2"				16.2"	X	Place protective fencing at least 16.2' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall.
25	Quercus agrifolia	6"				6"	X	Place protective fencing at least 6' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall.
26	Quercus agrifolia	9.7"				9.7"	X	Place protective fencing at least 9.7' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall.

27	Quercus agrifolia	6.5"				6.5"		X	Place protective fencing at least 6.5' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall
28	Quercus agrifolia	6"				6"		X	Place protective fencing at least 6' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crowns of trees 13-30 can be raised by a certified arborist as needed to allow construction of the retaining wall.
29	A limb on #28 numbered here by mistake by Anthony Jones							X	
30	Quercus agrifolia	11"	13.6"	13.9"	8"	46.5"		X	Place protective fencing at least 46.5' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crown of this tree can be raised by a certified arborist as needed to allow construction of the retaining wall.
31	Quercus agrifolia	6.9"	2.8" mostly dead					X	Place protective fencing at least 25.2' out from the trunk toward the new retaining wall. Don't cut roots that are greater than 2" in diameter. The crown of this tree can be raised by a certified arborist as needed to allow construction of the retaining wall.
32	Eucalyptus sideroxylon	25.2"				25.2"		X	Needs 20% crown reduction pruning, removal of dead wood and root protection.
33	Pinus radiata	11.2"					X		No tag. On slope in French broom below pines 34-36. Remove as needed for construction
34	Pinus radiata	26.9"						X	On upper slope above flat area and entry road. Retain to hold soil.
35	Pinus radiata	30.7"						X	On upper slope above flat construction areas and entry road to the back of the gym. Retain to hold soil.
36	Pinus radiata	32.3"						X	On upper slope above the construction area and entry road. Retain to hold soil.
37	Quercus agrifolia	10.4"						X	On slope above entry driveway behind #54 which is on the road. Retain to hold soil.
38	Platanus acerifolia	13.5"						X	Next to the Lot F sign beyond #54, on the entry road to the back of the gym.
39	Platanus acerifolia	12.4"						X	Near the Lot F sign as well, on the entry road to the back of the gym.
40	Pinus radiata	13.6"	16.5"	19.1"	49.2"			X	Near intersection of back road and entry road to the back of the gym. near the gate. Retain.
41	Pinus radiata	22.5"						X	Along the back road. Retain as needed.

42	Pinus radiata	20.2"			X		This tree is dead. Remove it along with all of the French broom in the
							area for fire hazard reduction.
43	Pinus radiata	29.1"			X		This tree is dead. Remove it along
							with all of the French broom in the
							area for fire hazard reduction.
44	Pinus radiata	20.3"			X		This tree is dead. Remove it along
							with all of the French broom in the
							area for fire hazard reduction.
1.5	T. C1						area for fire flazard reduction.
45	Tag found						
	sticking to tag						
	#44 on the ground						
46	Pinus radiata	20.5"			X		Tree is in poor condition. Remove
							it along with all of the French
							broom in the area for fire hazard
							reduction.
47	Pinus radiata	17.9"			X		Tree is in poor condition. Remove
. ,	1 11100 100100	17.5					it along with all of the French
							broom in the area for fire hazard
40	D: 1: /	222	13"		37		reduction.
48	Pinus radiata	33"	13"		X		Four trunks higher up, at the
							Environmental Center sign. Tree is
							in poor condition. Remove it along
							with all of the French broom in the
							area for fire hazard reduction.
49	Platanus	10.1"				X	Along entry road to back of gym
	acerifolia						next to tree #6 and the traffic
							circle. Retain the tree.
	Platanus	12"				X	Untagged tree between #50 and #7
	acerifolia	12				Λ.	along entry road to back of gym.
	acernona						
50	DI 4	0.622				37	Retain the tree.
50	Platanus	9.6"				X	Near tree #7. Along entry road to
	acerifolia						back of gym near tree #7. Retain
							the tree.
51	Platanus	13"				X	Next to tree #7. Along entry road
	acerifolia						to back of gym near tree #7.
							Retain the tree.
52	Platanus	9.2"				X	Next to tree #51. Along entry road
	acerifolia						to back of gym. Retain the tree.
52		8.7"				v	
53	Platanus	8.7				X	Next to tree # 52. Along entry road
	acerifolia						to back of gym. Retain the tree.
54	Platanus	6.7"				X	Next to tree # 53. Along entry road
	acerifolia						to back of gym. Retain the tree.

DISCUSSION AND CONCLUSIONS

It is my opinion and conclusion that, the oak grove shown in the site plans and in images #1 and #2 in the upper portion of the site will require protection from construction activity. According to Matheny, N.P. and J.R. Clark. 1998, *Trees and Development: A Technical Guide to Tree Preservation During Land Development*, coast live oaks have a good tolerant to construction impacts but are sensitive to the addition of fill soil around the base of the trunks. They are intolerant of frequent summer irrigation, and the bark is sensitive to sunburn following pruning, if they are over-pruned. Images #3 and #4 shown that the ground beneath these trees slopes down to the existing parking lot.

If a long temporary chain link fence is erected at the bottom of the slope next to the existing parking lot around the oak grove, and if construction activity doesn't extend into the oak grove, the trees should be **protected**³. Should a retaining wall be required behind the Childcare Center in that area, it can be constructed using pier and grade beams, to avoid any large roots extending out into the parking lot. In general, the area of the roots to be protected extends away from the trunks of the trees to a distance of 1-1.5' for every inch of trunk diameter on each tree. So the single fence at the edge of the parking lot should work for all of the trees.

Should the **crowns**⁴ of the trees require raising for the construction of a retaining wall, the work should be done by a certified arborist, and not by the construction crew.

It is my opinion and conclusion that some trees will require removal, as are shown on the chart. The recommendations for tree removal are listed below.

It is my opinion and conclusion that the use of temporary chain link fencing should be used along the road to the gym, to prevent people from walking off the sidewalks and roads over the tree roots when going to and from the construction activity. It is important to protect the **critical root zones**⁵ of the trees.

According to the book by Larry Costello, *Reducing Infrastructure Damage by Tree Roots, a Compendium of Strategies*, few large lateral roots or sinker roots are found beyond ten feet of the trunk on most trees. Beyond ten feet, lateral roots taper rapidly to rope-like roots one to two inches in diameter that grow radially and horizontally in the soil. So, it is my opinion and conclusion that any roots greater than two inches in diameter shouldn't be cut; and larger roots should be left intact where they are encountered. So, during construction, the area between any roots at the bottom of the oak grove should be dug out by hand, and pier and grade beam construction should be utilized to place piers between any large roots, if a retaining wall is required there.

³ Please refer to the Glossary of Terms.

⁴ Please refer to the Glossary of Terms.

⁵ Please refer to the Glossary of Terms.

Finally, it is my opinion and conclusion that the children using the area be prevented from climbing into the oak grove. This can be accomplished by installing permanent fencing around any play areas in the future.

RECOMMENDATIONS

I recommend that those trees marked for removal be removed, as they are in the construction zone, are in poor health or are dead, or are so deformed that they present issues that shouldn't remain in the area.

I recommend that the Monterey pines #8, #9, #10 and #12 be removed, as they are in the middle of the proposed 10,000 square foot Childcare Center. Tree #33 may also require removal for the same reason. Trees #42 to #48 along the upper road to the Environmental Education Center should also be removed, as some of them are dead or are in poor condition. The area along the upper road is a fire hazard; so the french broom in the area should also be removed. No permits are required for their removal, as they are not required for this species by the City of Oakland.

I recommend that the coast redwood #11 be removed, as it is in the middle of the construction zone. I don't recommend that it be replaced, as there are many seedling oaks in the area outside the construction zone that can replace the lost tree canopy. A permit for its removal may be required by the City of Oakland, but community colleges may be exempt from this rule.

The coast live oaks will require monitoring and protection during the construction of the new Childcare Center. No roots greater than two inches in diameter should be cut, since there is a direct vascular connection between certain roots and their corresponding branches above.

If a long temporary chain link fence is erected at the bottom of the slope next to the existing parking lot around the oak grove, and if construction activity doesn't extend into the oak grove, the trees should be protected. Should a retaining wall be required behind the Childcare Center in that area, it can be constructed using pier and grade beams, to avoid any large roots extending out into the parking lot. In general, the area of the roots to be protected extends away from the trunks of the trees to a distance of 1-1.5' for every inch of trunk diameter on each tree. So the single fence at the edge of the parking lot should work for all of the trees.

The goal of tree preservation is not merely tree survival during development but includes maintenance of tree health and beauty for many years. Trees retained on sites that are either subject to extensive injury during construction or are inadequately maintained become a liability rather than an asset. The response of individual trees will depend on the amount of excavation and grading, the care with which demolition is undertaken, and the construction method used. Any construction activity inside the Tree Protection Zone should be minimized and coordinated, so that repeated trampling of the area is minimized.

All construction work shall conform to the American National Standards A300 (Part 1) - 2017 Pruning, the ANSI National Standard A300 (Part 5) - 2012 on the Management of Trees and Shrubs During Site

Construction, Site Development and Construction, and their corresponding BMPs - on Tree Pruning and Managing Trees During Construction, as are listed in the Bibliography.

I recommend that all trees in the areas near the entry road and the sidewalks be fenced off with temporary chain link fencing during construction, so that no construction people can shortcut through the area and trample the soil and impact the trees in the area.

I recommend that the arborist inspect the temporary chain link fences and pier and grade beam construction as it progresses, to be sure that they are properly installed - if it is needed.

I recommend that the soil levels around the trees be left unaltered, so that no soil is piled against the base of any tree to be retained in the area.

I recommend that all trees in the construction zone have dead wood removed from beneath them and in their crowns. And I recommend that any long limbs that have been reaching for the light be reduced in length by twenty percent per year as needed, to reduce the end weight on them. The crown cleaning and reduction will reduce the risk of branch breakage during rains and any possible wind events. All pruning work shall be performed by International Society of Arboriculture Certified Arborists in accordance with the pruning standards listed in the bibliography.

Please let me know if any of you have any additional questions. I can be reached at (510) 568-2960.

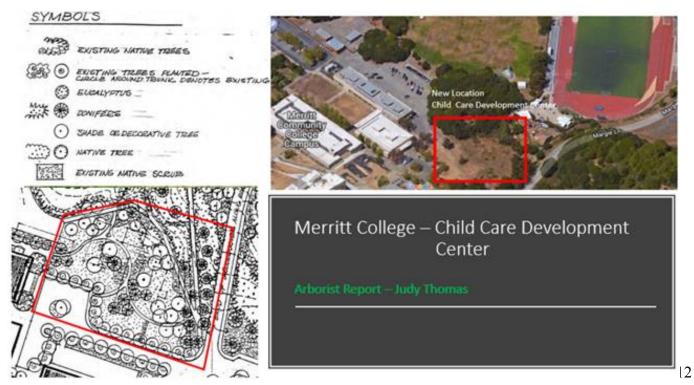
Project Site Area 1 6-5-19



Merritt College Child Care Development Center DRAFT Program 06/06/19







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IMAGES OF SOME TREES WITH COMMENTS

Images #1 and #2 are of the oak grove above the proposed Childcare Center location. Any retaining wall near these trees should be constructed using piers and grade beams. If the parking lot remains in the same location, then all that would be needed would be to fence these trees off with temporary chain link fencing during the construction process.





Images #3 and #4 show the oak grove on the left, and a redwood and a red ironbark eucalyptus in the middle of the construction zone - that will need to be removed.





Image #5 is tree #11, the coast redwood in the middle of the proposed construction site that must be removed. It has suffered from lack of water for many years. The Monterey pines above it are on the road to the Environmental Education Center. Some of them are dead, as can be seen in image #10.

Image #6 shows the same redwood, the eucalyptus near it that needs to be removed, and two additional eucalyptus specimens next to Building F, the gym.





Image #7 is of tree #9, a Monterey pine and the trees surrounding it, on the slope above the road leading to the gym. These trees are to be retained, as is detailed in the chart above.

Image #8 is of some of the *Platanus acerifolia* (London plane trees) on the entry road to the gym. Tree #7 is shown, along with others near the traffic circle at the end of the road.





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Image #9 is of the *Pinus radiata* (Monterey pine) #40 near the intersection of the back road to the Environmental Education Center and the road to the back of the gym. This tree is to be retained.

Image #10 is of some of the *Pinus radiata* (Monterey pines) on the road to the Environmental Education Center. Some of these should be removed, either because they are dead or because they pose a fire hazard to the Childcare Center below. The French broom shrubs that are growing beneath them should all be removed, as they have created a "fire ladder" for flames on the ground to climb up into the trees.





Glossary:

critical root zone ... The root system of a tree that is generally considered to be

within (under) the dripline of the crown.

DBH...... Diameter of the trunk, measured at breast height (1.4m or 54

in. above the ground).

tree protection zone (TPZ) A designated area around trees where maximum protection and

preservation efforts are implemented to minimize soil compaction, prevent

mechanical damage etc.

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Random House Webster's College Dictionary. New York: Random House. 1999.

Organizations and Forms:

<u>American Society of Consulting Arborists</u>, 5130 W. 101st Circle, Westminster, CO 80030, (303) 466-2722. ASCA members are skilled in tree and other plant identification, evaluation diagnosis and repair.

<u>International Society of Arboriculture</u>, P.O. Box GG, 6 Dunlap Ct., Savoy, IL 61874-9902, (217) 355-9411. Fax (217) 355-9516.

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

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.

Treatment, pruning and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information you provide.

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.

I, Judy Thomas, certify that:

I have personally inspected the trees and the property referred to in this report and have stated my findings accurately.

I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.

The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts.

My analysis, opinions and conclusions were developed and this report prepared according to commonly accepted arboricultural practices.

No one provided significant professional assistance to me.

My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of the American Society of Consulting Arborists and the International Society of Arboriculture. I have been involved in the field of Arboriculture since 1977.

Respectfully submitted,

Judith Thomas

Judy (Judith) Thomas Bay Area Plant Consultants August 8, 2019 Vendor # 0000735345. JUDITH L. THOMAS
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Retired Full-time Faculty Member Dept. of Landscape Horticulture Merritt College 12500 Campus Drive Oakland CA 94619 plantinfolady@me.com

SERVICES OFFERED

PLANT CONSULTATIONS

- Identification of Trees, Shrubs, Groundcovers, Vines and Turf Types
- Landscape Design and Plant Selection for New Landscapes with Consideration for Drought, Fire, Freeze and Ease of Maintenance
- Modification of Existing Landscape Designs
- Replacement Plant Selection for Established Gardens
- Specifications for Planting, Pruning and Long Term Care
- Specifications for Establishment of New Turf Areas
- Pre- and Post-Construction Site Preservation Measures
- Casualty Loss Assessments for Landscapes Damaged by Fire, Flood, Drought or Negligence
- Value Appraisal of Landscape Plants
- Arbitration of Tree Disputes

LANDSCAPE MANAGEMENT

- Landscape Appraisal, Evaluation and Inventory
- Tree Hazard Evaluation
- Tree and Landscape Problem Identification
- Recommendations for Long Term Care of Plants
- Assessment of Plant Health and Site Restrictions for Plant Growth
- Tree Preservation for Construction Sites
- Tree Care Supervision

RESUMÉ

- Board Certified Master Arborist WE-0113B and Tree Risk Assessment Qualified with the International Society of Arboriculture; Registered Consulting Arborist #484 with The American Society of Consulting Arborists; Aesthetic Pruning Certificate from Merritt College, 1998; Certified Aesthetic Pruner with the Aesthetic Pruners Assoc., 2011.
- Retired 5/26/07 as a Full-time Landscape Horticulture Instructor, Merritt College, Oakland CA (1977-2007); taught courses in Arboriculture, Forestry, Plant Diseases, Turf Management, General Horticulture, Ecology, Plant Terminology and identification courses in Trees, Shrubs, CA Native Plants, Groundcovers & Vines and Herbaceous Plants. Past President of the Northern CA Turf & Landscape Council (NCTLC), and editor of their quarterly online newsletter. Serves on the N CA Advisory and Executive committees of the Mediterranean Garden Society.
- Member of the American Society of Consulting Arborists, the California Arborist's Association, Inc., the International Society of Arboriculture, the Aesthetic Pruners Association, the CA Horticultural Society, the CA Native Plant Society, and the Diablo Firesafe Council.
- Has a Bachelor's degree in Biology from Stanford University. Holds a Master's degree in Biology from San Jose State University and a
 Master's Degree in Education from Stanford University. Received the 1985 Education Award from the Northern CA Turf and
 Landscape Council.
- Serves as a featured speaker for the East Bay Master Gardener Program, the International Society of Arboriculture, the NCTLC, the Diablo Firesafe Council, the Nevada Shade Tree Conference, the N CA Landscape Expo. and numerous garden clubs and civic groups. Has been an education chair for the I.S.A., an editor for the Ortho book *Gardening Techniques* and was a 1985 Horticultural Delegate to China. Her garden was photographed for two Sunset books and was one of those featured on the Park Day School tour in 1989. Her new garden has been described in the MGS Journal No. 57 in July 2009.