California Tree and Landscape Consulting, Inc.
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February 19, 2025

Ms. Silvia Sandoval, Project Manager
All States Engineering and Construction
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Via Email: silvia@zalzali.com

SUBJECT: ARBORIST REPORT FOR CONSTRUCTION OF COMMUNICATION TOWER AT 5127 HEARTLAND DRIVE, COUNTY OF SACRAMENTO, CA

Executive Summary:
Ms. Silvia Sandoval of All States Engineering and Construction, on behalf of the County, contacted California Tree and Landscape Consulting, Inc. to inventory and evaluate the trees on the property at 5127 Heartland Drive for the purpose of the construction of a communication tower in a County Park. The property falls under the jurisdiction of the County of Sacramento. See Supporting Information Appendix 1 – Tree Location Map.

Tyler Thomson, ISA Certified Arborist #WE-12751A, and Gordon Mann, ISA Certified Arborist #WE0151AM, were on site February 17, 2025. A total of 29 trees were assessed on the property, and 2 offsite street trees were included. Both street trees are considered protected by the County of Sacramento Tree Preservation code chapter 19.12. The tree information is shown in the table below:

Table 1 – Tree Inventory

Tree Species	Trees Inventoried	Trees located on the Project site[1]	Protected by Sacramento County Tree Preservation Code	Proposed for Removal
Bradford Pear,*Pyrus calleryana 'Bradford'*	2	0	2 (Street Trees)	2
Callery Pear, *Pyrus calleryana*	6	6	6 (Park Trees)	0
Coast Redwood, *Sequoia sempervirens*	7	7	7 (Park Trees)	0
Japanese Zelkova, *Zelkova serrata*	4	4	4 (Park Trees)	2
London Plane Tree, *Platanus x hispanica*	7	7	7 (Park Trees)	0
Red Oak, *Quercus rubra*	3	3	3 (Park Trees)	0
Total	**29**	**29**	**29**	**4**

See Appendix 2, 5127 Heartland Drive, Sacramento (County) Tree list for specific information on each tree.

[1] CalTLC is not a licensed land surveyor. Tree ownership was not determined. Conclusions within this report are based on existing fences or other landmarks which may not represent the actual property boundary.

While the County only protects Native Oak trees, these trees are County owned in a park and all should be considered protected as County assets. There are 2 Zelkova trees that appear to be within the footprint of the proposed fenced area for the cell tower. There are 2 dead Pear trees that can be used as space to mitigate the loss of the Zelkova trees. The proposed mitigation is 4 24-inch boxed trees of the County's species choice to replace the 2 trees removed for the tower and the 2 dead trees. The remaining trees adjacent to the project limits should be protected. There were 6 trees outside of the project limits that can be avoided without protection.

The excavation for the conduit to the electrical connection and phone line connection should be carefully excavated adjacent to 8 trees. The excavation can be pneumatic, hydraulic, or boring, and the conduit installed around roots, only pruning and removing roots directly in the depth path of the conduit, retaining the shallow roots over the conduit depth. If any roots are pruned, those trees should be treated with Mitogrow (www.mitogrow.com) to encourage new root growth.

Assignment

Ms. Silvia Sandoval contacted California Tree and Landscape Consulting, Inc. to perform the tree inspection, assessment and report including tree protection plan and mitigation proposal. The work is following the County's ordinance and policies for development and permits.

The definition of Private Protected trees in 19.12.040 Definitions is:
Tree: As used in this chapter, a "tree" shall mean any living native oak tree having at least one trunk of six inches or more in diameter measured four and one-half feet above the ground, or a multi-trunked native oak tree having an aggregate diameter of ten inches or more, measured four and one-half feet above the ground (dbh).

While none of these trees are Native Oaks, they all are park trees and assets of the County and should be treated as protected trees.

Mitigation Requirements – There are 2 Zelkova, non-native oaks, proposed to be removed for the footprint of the fenced area and cell tower infrastructure, and access path to the fenced area. There are 2 dead trees. The mitigation proposed is four 24-inch boxed trees of the County's preference such as Red Oak, Linden, or Kentucky Coffee Tree which can be planted in the space of the 2 dead trees removed and 2 other spaces to screen the tower in the park. None of the excavation, grading, and construction is to be performed prior to installing the tree protection fence. The protection of the trees should not cause significant impacts to those trees following the tree protection plan.

Observations: The site was inspected on February 17, 2025, by Tyler Thomson, ISA Certified Arborist #WE-12751A and Gordon Mann, ISA Certified Arborist #WE0151AM. There were 27 Park trees and 2 Street Trees inspected as trees adjacent to or near the proposed construction per the site plans provided. The trees were measured for diameter with a diameter tape at 54 inches above grade (DBH) or the appropriate height to measure the diameter for the tree characteristics present. The crown radius was measured or paced. The condition was assessed based on the condition rating process below:

> The condition is based on both the health and structure of the tree using the rating system in the Council of Tree and Landscape Appraisers Guide to Plant Appraisal published by the International Society of Arboriculture (ISA) on a numeric scale of 5 (being the highest excellent) to 0 (the worst condition, dead) explained in the chart below:

Rating #0 Dead: This indicates a tree that has no significant sign of life.
Rating #1 Very Poor: The problems are extreme. This rating is assigned to a tree that has structural and/or health problems that no amount of work or effort can change. The issues may or may not be considered a dangerous situation.
Rating #2 Poor: The tree has major problems. If the option is taken to preserve the tree, its condition could be improved with correct arboricultural work including, but not limited to: pruning, cabling, bracing, bolting, guying, spraying, mistletoe removal, vertical mulching,

fertilization, etc. If the recommended actions are completed correctly, hazard can be reduced and the rating can be elevated to a 3. If no action is taken the tree is considered a liability and should be removed.

Rating #3 Fair: The tree is in fair condition. There are some minor structural or health problems that pose no immediate danger. When the recommended actions in an arborist report are completed correctly the defect(s) can be minimized or eliminated.

Rating #4 Good: The tree is in good condition and there are no apparent problems that a Certified Arborist can see from a visual ground inspection. If potential structural or health problems are tended to at this stage future hazard can be reduced and more serious health problems can be averted.

Rating #5 Excellent No problems found from a visual ground inspection. Structurally, these trees have properly spaced branches and near perfect characteristics for the species. Highly rated trees are not common in natural or developed landscapes. No tree is ever perfect especially with the unpredictability of nature, but with this highest rating, the condition should be considered excellent.

Appendix 2 in this report contains the tree list with detailed tree information. The discussion section explains the mitigation and construction options and specifications for preserving the protected oak trees.

Discussion: The trees were assessed based on sound arboricultural practices, and the site design to determine if the trees were in the footprint of proposed development structures, roads, or driveways. The impacts to the trees outside of the construction was assessed following the development impacts below, and the impacts were found to be negligible or minor for the protected trees to be retained.

There are 2 fair condition Zelkova trees that are proposed for removal for the fenced area, cell tower and pathways to the cell site. There are 2 dead Pear trees on the site. It is proposed that four 24-inch boxed trees be planted as mitigation and the 2 dead trees be replaced and 2 trees planted around the new cell tower site.

The 19 trees that are to be protected for the project will be retained as park assets. The project proposes a walkway to the tower site and conduit that are adjacent to existing trees and should be protected with careful excavation, proper root pruning, and treatment with Mitogrow after the root pruning.

The 8 trees adjacent to the route of the conduit connection for the electricity and telephone connections shall be carefully excavated using pneumatic, hydraulic, or boring to avoid root pruning except for any roots actually in the path of the conduit at the appropriate depth, around 24 or 36 inches depending on the design.

The trees with tree protection are going to have negligible to minor impact with the proposed tree protection.

Development impact is explained below:

Development Restrictions/Actions	Recommended actions to increase health and longevity.
Development Impacts	Projected development impacts are based solely on distance relationships between tree location and grading. Field inspections and findings during the project at the time of grading and trenching can change relative impacts. Closely followed guidelines and requirements can result in a higher chance of survival, while requirements that are overlooked can result in a dramatically lower chance of survival. Impacts are measured as follows:

Impact Term:	Long Term Result of Impact:
Negligible	Tree is unlikely to show any symptoms. Chance of survival post development is excellent. Impacts to the Protected Root Zone are less than 5%.
Minor	Tree is likely to show minor symptoms. Chance of survival post development is good. Impacts to the Protected Root Zone are less than 15% and species tolerance is good.

Moderate	Tree is likely to show moderate symptoms. Chance of survival post development is fair. Impacts to the Protected Root Zone are less than 35% and species tolerance is good or moderate.
Severe	Tree is likely to show moderate symptoms annually and a pattern of decline. Chance of long-term survival post development is low. Impacts to the Protected Root Zone are up to 50% and species tolerance is moderate to poor.
Critical	Tree is likely to show moderate to severe symptoms annually and a pattern of decline. Chance of long-term survival post development is negligible. Impacts to the Protected Root Zone are up to 80%.

The tree protection will be soil protection to prevent compaction and damage caused by excavation, and protection from equipment encountering the trunks or branches. The tree protection fencing shall be installed prior to any construction work on the site. The proposed removal will need to take place to install the access road. The remaining trees are outside the proposed access road construction. The tree protection fence location is shown in the appendix.

If during the access road excavation any roots are encountered 2 inches diameter or greater, the roots will need to be root pruned prior to excavating the roots from the excavation area. Root pruning shall be performed by pruning the roots at the edge of the excavation closest to the tree with sharp tools appropriately sized for the roots to be pruned. The cuts shall be clean cuts and then the roots can be excavated from the area.

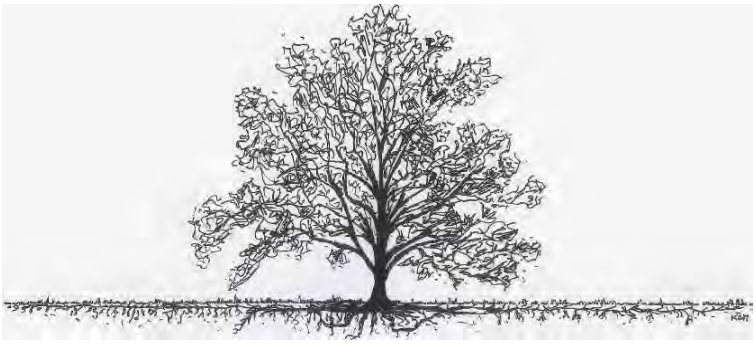
After the excavation and the roots are exposed or pruned, the roots need to be covered with moist burlap and the burlap kept moist until the roots are backfilled and covered with soil.

General Tree Protection

Trees need to be protected from normal construction practices if they are to remain healthy and viable on the site. Our recommendations are based on experience and the County ordinance requirements to enhance tree longevity. This requires their root zones remain intact and viable despite the use of heavy equipment to install foundations, driveways, underground utilities, and landscape irrigation systems. Simply walking and driving on soil can have serious consequences for tree health. The Tree Protection measures for this site will be to protect trees to the side setback along the angled side of the parcel where all the private trees are growing far enough away from the property line common fence to be protected from impact. The tree protection needs to be incorporated into the site plans in order to protect the trees.

Root Structure

The majority of a tree's roots are contained in a radius from the main trunk outward approximately two to three times the canopy of the tree. These roots are located in the top 6" to 3' of soil. It is a common misconception that a tree underground resembles the canopy. The correct root structure of a tree is in the drawing below. All plants' roots need both water and air for survival. Poor canopy development or canopy decline in mature trees after development is often the result of inadequate root space and/or soil compaction.



The reality of where roots are generally located

Our native oak trees are easily damaged or killed by having the soil within the Protected Root Zone (PRZ) disturbed or compacted. All of the work initially performed around protected trees that will be saved should be done by people rather than by wheeled or track type tractors. Oaks are fragile giants that can take little change in soil grade, compaction, or warm season watering. Don't be fooled into believing that warm season watering has no adverse effects on native oaks. Decline and eventual death can take as long as 5-20 years with poor care and inappropriate watering. Oaks can live hundreds of years if treated properly during construction, as well as later with proper pruning, and the appropriate landscape/irrigation design.

Summary of Tree Protection Measures

The Owner and/or Developer should ensure the project arborist's protection measures are incorporated into the site plans and followed. Tree specific protection measures will be developed when the final grading plans are produced.

The tree protection will be soil protection to prevent compaction and damage caused by excavation, and protection from equipment encountering the trunks or branches. The tree protection fencing shall be installed prior to any construction work on the site. If the approved tree removal occurs after some of the site grading, the fencing will need to be moved until after the tree removal is completed, and then replaced prior to any further construction work. The tree protection fence location is shown in the appendix.

The access route alongside trees that are not protected will be to cover the soil with 4 inches of wood chip mulch and use 1" plywood or plates over the mulch for any construction equipment traffic. If the access is necessary, the fence can be moved for the access with adequate mulch cover and then replaced after the access has been utilized.

The excavation encountering roots greater than 2 inches diameter will need to be root pruned prior to excavating the roots from the excavation area. Root pruning shall be performed by pruning the roots at the edge of the excavation closest to the tree with sharp tools appropriately sized for the roots to be pruned. The cuts shall be clean cuts and then the roots can be excavated from the area.

After the excavation and the roots are exposed or pruned, the roots need to be covered with moist burlap and the burlap kept moist until the roots are backfilled and covered with soil.

General Tree Protection guidelines:

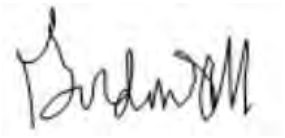
1. The project arborist is required to inspect the tree protection fencing prior to grading and/or excavation for compliance with the required protection zones.
2. The soil under and around the trees should be protected from compaction. Four inches of wood chip mulch should be spread over the soil outside the tree protection fence. If heavy equipment is needed to excavate, a steel plate will be placed over the wood chip mulch.
3. Any and all work to be performed inside the protected root zone fencing shall be supervised by the project arborist.
4. All stumps within the root zone of trees to be preserved shall be ground out using a stump router or left in place. No trunk within the root zone of other trees shall be removed using a backhoe or other piece of grading equipment.
5. Trenching inside the protected root zone shall be by a hydraulic or air spade, placing pipes underneath the roots, or boring deeper trenches underneath the roots.
6. If pruning is needed for equipment clearance, the pruning shall be performed by a qualified tree care professional to the following specifications written in accordance with ANSI A300 standards Pruning, and the ISA Pruning BMPs 3rd Edition.

7. The trees to be pruned are any trees that have branches in the way of construction equipment. The objective is to create clearance for pruning prior to the contact or damage by any construction equipment and retain as large a crown as possible. The cuts to be made are branch removal cuts and reduction cuts on the branches to achieve the proper clearance. The smallest diameter cuts and least amount of live foliage necessary to achieve the objective shall be removed.
8. The project arborist will monitor the site during (and after) construction to ensure protection measures are followed and make recommendations for care of the trees on site, as needed.

Follow all of the General Development Guidelines, Appendix 3, for all trees not identified as requiring special preservation measures in the summary and in Appendix 2.

Please contact me at 650-740-3461, or gordon@mannandtrees.com, if you have any questions about this report or any other services we provide.

Report Prepared by:



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ISA Qualified Tree Risk Assessor

Appendix 1 – Tree Location Image and Site Plan
Appendix 2 – Tree Data – All Trees
Appendix 3 – Site Images
Appendix 4 – General Development Guidelines
Appendix 5 - Terms

Bibliography

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APPENDIX 1 –TREE LOCATION IMAGES AND SITE PLAN



Aerial image with trees in approximate locations



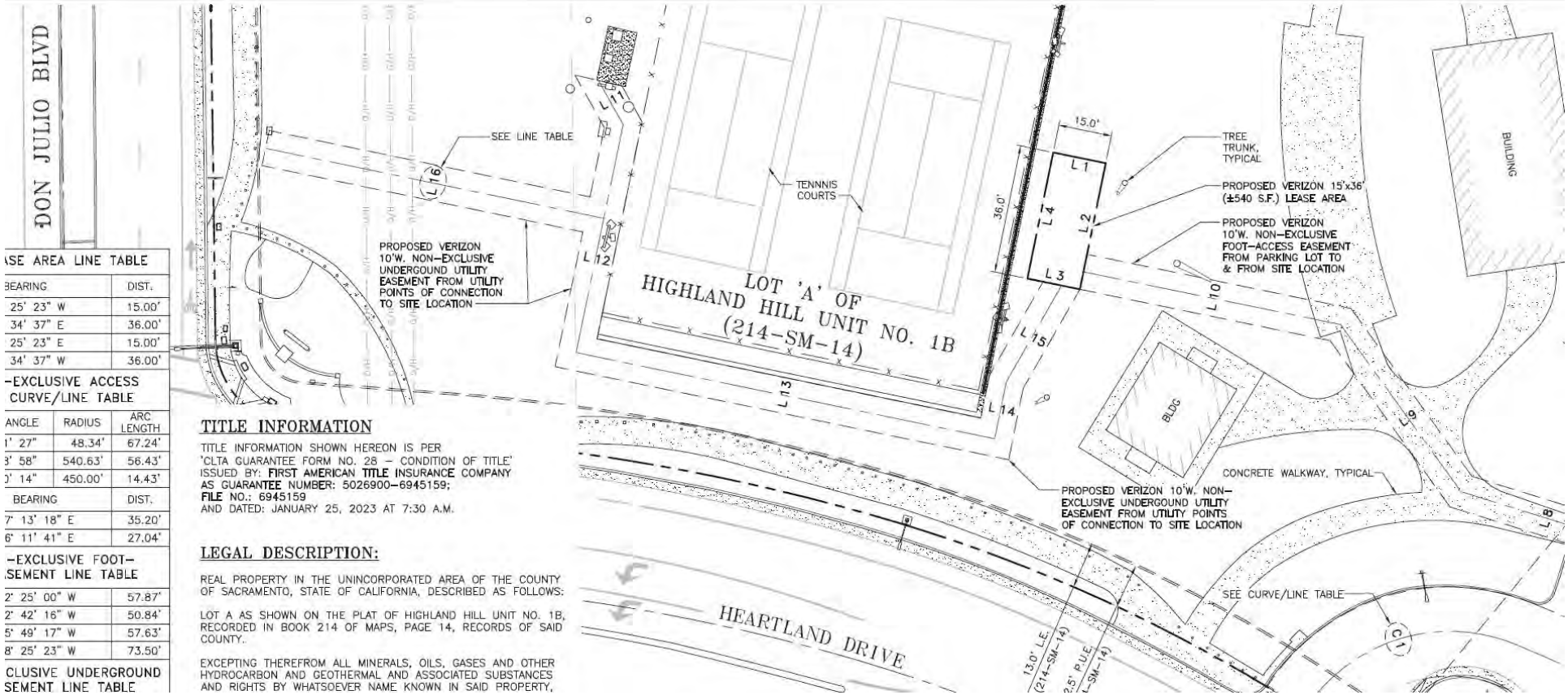
Aerial image enlarged with trees in approximate locations (west portion)



Aerial image enlarged with trees in approximate locations (east portion)



Aerial image showing 4 trees proposed to be removed (red Xs), and tree protection fencing (orange)



ASE AREA LINE TABLE

BEARING	DIST.
25' 23" W	15.00'
34' 37" E	36.00'
25' 23" E	15.00'
34' 37" W	36.00'

-EXCLUSIVE ACCESS CURVE/LINE TABLE

ANGLE	RADIUS	ARC LENGTH
1' 27"	48.34'	67.24'
3' 58"	540.63'	56.43'
0' 14"	450.00'	14.43'

BEARING	DIST.
7' 13' 18" E	35.20'
6' 11' 41" E	27.04'

-EXCLUSIVE FOOT- SEMENT LINE TABLE

2' 25' 00" W	57.87'
2' 42' 16" W	50.84'
5' 49' 17" W	57.63'
8' 25' 23" W	73.50'

CLUSIVE UNDERGROUND SEMENT LINE TABLE

TITLE INFORMATION

TITLE INFORMATION SHOWN HEREON IS PER 'CLTA GUARANTEE FORM NO. 28 – CONDITION OF TITLE' ISSUED BY: FIRST AMERICAN TITLE INSURANCE COMPANY AS GUARANTEE NUMBER: 5026900-6945159; FILE NO.: 6945159 AND DATED: JANUARY 25, 2023 AT 7:30 A.M.

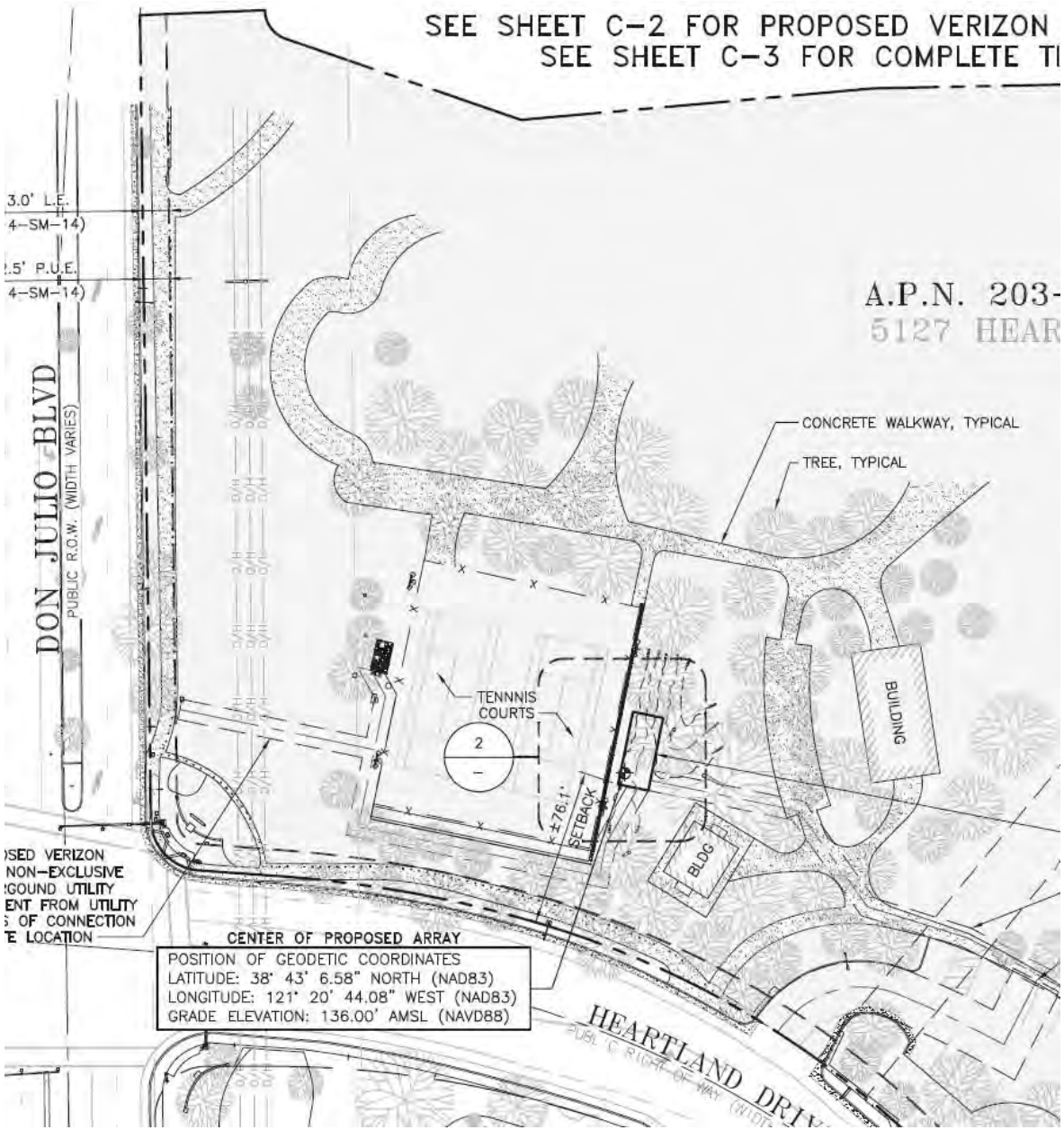
LEGAL DESCRIPTION:

REAL PROPERTY IN THE UNINCORPORATED AREA OF THE COUNTY OF SACRAMENTO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

LOT A AS SHOWN ON THE PLAT OF HIGHLAND HILL UNIT NO. 1B, RECORDED IN BOOK 214 OF MAPS, PAGE 14, RECORDS OF SAID COUNTY.

EXCEPTING THEREFROM ALL MINERALS, OILS, GASES AND OTHER HYDROCARBON AND GEOTHERMAL AND ASSOCIATED SUBSTANCES AND RIGHTS BY WHATSOEVER NAME KNOWN IN SAID PROPERTY,

Site Plan Provided



Site plan provided showing trees

APPENDIX 2 – TREE DATA

5127 Heartland Dr Antelope (County)

Tree List

Tree #	Common Name, *Species*	DBH (in.)	Ht Dia Meas At (in.)	Canopy Radius (ft.)	Condition Rating	Comments	Project Status
100	Bradford Pear, *Pyrus calleryana 'Bradford'*	11	54	11	1 Very Poor - Extreme Structure or Health Problems	50% bark loss on south base. Street tree, adequate distance from proposed trench.	Away from proposed consttruction
200	Bradford Pear, *Pyrus calleryana 'Bradford'*		54		2 Poor - Major Structure or health problems	Undersized Pear street tree. Multi-stem.	Away from proposed consttruction
500	Callery Pear, *Pyrus calleryana*	11.9	54	0	0-Dead	Dead.	Remove and replant with mitigation
501	Callery Pear, *Pyrus calleryana*	8.3	36	0	0-Dead	Dead stump cut at 3'.	Remove and replant with mitigation
3764	Callery Pear, *Pyrus calleryana*	14	54	14	3 Fair - Minor Problems	Normal flare, low laterals at 6', symmetric crown, 8' W of driveway.	Away from proposed construction, protect
3766	Callery Pear, *Pyrus calleryana*	13.6	54	14	2 Poor - Major Structure or health problems	Swollen flare, bark missing SW 0-12", co dom at 7', 6" dead branch E at 6', low branches over driveway at 8', symmetric crown, 7' S of driveway.	Away from proposed construction, protect
3850	Japanese Zelkova, *Zelkova serrata*	11.2	54	24	3 Fair - Minor Problems	Normal flare, co doms at 7', end wts SE, drainage grate 7' SE.	Adjacent to proposed site access route, Protect
3851	Callery Pear, *Pyrus calleryana*	12.3	54	17	2 Poor - Major Structure or health problems	Normal flare, SGR SE, W, co doms at 6', included bark, in 6' wide concrete lined planter W of Pavillion, crown growing SW.	Adjacent to proposed site access route, Protect
3852	Callery Pear, *Pyrus calleryana*	10.2	54	13	2 Poor - Major Structure or health problems	Swollen flare, co doms at 11', in turf area SW of Pavillion, crown growing W.	Adjacent to proposed site access route, Protect
3853	Red Oak, *Quercus rubra*	14.7	54	23	3 Fair - Minor Problems	Buttressing roots SE,W,N,E, vertical growth, surface roots, growing in turf area.	Adjacent to proposed site access route, Protect
3854	Red Oak, *Quercus rubra*	16	54	21	3 Fair - Minor Problems	Normal flare, vertical growth, surface roots, growing in turf area with mulch.	Adjacent to proposed site access route, Protect

5127 Heartland Dr Antelope (County)

Tree List

Tree #	Common Name, *Species*	DBH (in.)	Ht Dia Meas At (in.)	Canopy Radius (ft.)	Condition Rating	Comments	Project Status
3855	Red Oak, *Quercus rubra*	13.4	54	21	3 Fair - Minor Problems	Normal flare, vertical growth, surface roots, growing in turf planter between sidewalks and driveway.	Adjacent to proposed site access route, Protect
3856	London Plane Tree, *Platanus x hispanica*	10.8	54	17	3 Fair - Minor Problems	Swollen flare, 10' N of sidewalk, S of Pavillion.	Adjacent to proposed site access route, Protect
3857	London Plane Tree, *Platanus x hispanica*	13.7	54	18	3 Fair - Minor Problems	Swollen flare, 10' N of sidewalk, SE of Pavillion, co dom at 6'.	Adjacent to proposed site access route, Protect
3858	London Plane Tree, *Platanus x hispanica*	16.2	54	21	3 Fair - Minor Problems	Swollen flare, 9' N of sidewalk, SE of Pavillion, co dom at 13'.	Adjacent to proposed site access route, Protect
3859	London Plane Tree, *Platanus x hispanica*	7.4	54	14	3 Fair - Minor Problems	Swollen flare, 9' N of sidewalk.	Away from proposed construction
9970	Coast Redwood, *Sequoia sempervirens*	18.1	54	11	2 Poor - Major Structure or health problems	Fair flare, 6 feet from concrete pad. Stress sprouts throughout tree. Sparse foliage. Fair/low vigor.	Away from proposed construction
9971	Coast Redwood, *Sequoia sempervirens*	24.5	54	13	3 Fair - Minor Problems	Good flare. Moderate amount of stress sprouts. Botryosphaeria present. Good balance. Fair vigor.	Away from proposed construction
9972	Coast Redwood, *Sequoia sempervirens*	21.8	54	13	3 Fair - Minor Problems	Fair flare. Proposed trench approximately 13 feet east of base. Good balance. Fair vigor.	Adjacent to route of underground conduit, protect and hydrovac or bore
9973	Coast Redwood, *Sequoia sempervirens*	21.4	54	12	3 Fair - Minor Problems	Good flare. Large roots north, 3 feet from proposed trench. Botryosphaeria present. Good balance. Fair vigor.	Adjacent to route of underground conduit, protect and hydrovac or bore
9974	Coast Redwood, *Sequoia sempervirens*	20.2	54	13	3 Fair - Minor Problems	Fair flare, 30% bark loss east flare. Approximately 8 feet from proposed trench. Fair branch balance. Botryosphaeria present.	Adjacent to route of underground conduit, protect and hydrovac or bore

5127 Heartland Dr Antelope (County)

Tree List

Tree #	Common Name, *Species*	DBH (in.)	Ht Dia Meas At (in.)	Canopy Radius (ft.)	Condition Rating	Comments	Project Status
9975	Coast Redwood, *Sequoia sempervirens*	16.2	54	11	3 Fair - Minor Problems	Fair flare. Approximately 4 feet from proposed trench. Fair branch balance. Good vigor.	Adjacent to route of underground conduit, protect and hydrovac or
9976	Coast Redwood, *Sequoia sempervirens*	15.9	54	10	3 Fair - Minor Problems	Fair flare. Approximately 8 feet from proposed trench. Fair branch balance. Good vigor.	Adjacent to route of underground conduit, protect and hydrovac or
9977	London Plane Tree, *Platanus x hispanica*	10.7	54	26	3 Fair - Minor Problems	Large southwest root plate. Elevated roots all directions. Proposed trench approximately 6 feet north. Stress sprouts present throughout crown. Fair crown balance, overextended laterals south.	Adjacent to route of underground conduit, protect and hydrovac or bore
9978	London Plane Tree, *Platanus x hispanica*	12.2	36	24	3 Fair - Minor Problems	Large elevated roots all directions. Proposed trench approximately 8 feet north. Fair crown balance, overextended low laterals south. Good crown balance and bud development.	Adjacent to route of underground conduit, protect and hydrovac or bore
9979	London Plane Tree, *Platanus x hispanica*	11.1	54	24	3 Fair - Minor Problems	Large elevated roots all directions. Proposed trench approximately 12 feet west. Fair crown balance. Good crown balance and bud development.	Adjacent to route of underground conduit, protect and hydrovac or bore
9980	Japanese Zelkova, *Zelkova serrata*	16.3	54	33	3 Fair - Minor Problems	Signs of partial girdling at base. Elevated roots all directions. Proposed trench and concrete pad adequate distance from base, outside of drip line. Fair crown balance, overextended south laterals. Fair vigor.	Potential removal, Mitigate
9981	Japanese Zelkova, *Zelkova serrata*	17.1	54	31	3 Fair - Minor Problems	Elevated roots all directions, approximately 15 feet from nearest zone of proposed construction. Moderate/high amount of dead branches, up to 3 inches. Low southwest laterals over proposed construction. Fair	Potential removal, Mitigate

5127 Heartland Dr Antelope (County)

Tree List

Tree #	Common Name, *Species*	DBH (in.)	Ht Dia Meas At (in.)	Canopy Radius (ft.)	Condition Rating	Comments	Project Status
9982	Japanese Zelkova, *Zelkova serrata*	13.6	54	30	3 Fair - Minor Problems	Elevated roots east and west. Partially girdled base with moderate swelling. Codominant at 6 feet. Fair crown balance. Adequate distance from proposed construction.	North of proposed project, Protect
29 trees included in inspection; 4 trees proposed for removal, 2 for the project and 2 dead trees that can be used for mitigation planting; 19 trees to protect with tree protection fencing; 6 trees outside of the proposed construction and should not require protection							

Color Key

19	Trees to protect during construction
4	Trees to remove, dead or for construction
6	Away from project no protection needed

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APPENDIX 3 – SITE IMAGES by Tyler Thomson and Gordon Mann, February 17, 2025



Photo #1, Shows Trees #9971 & #9970, from left to right

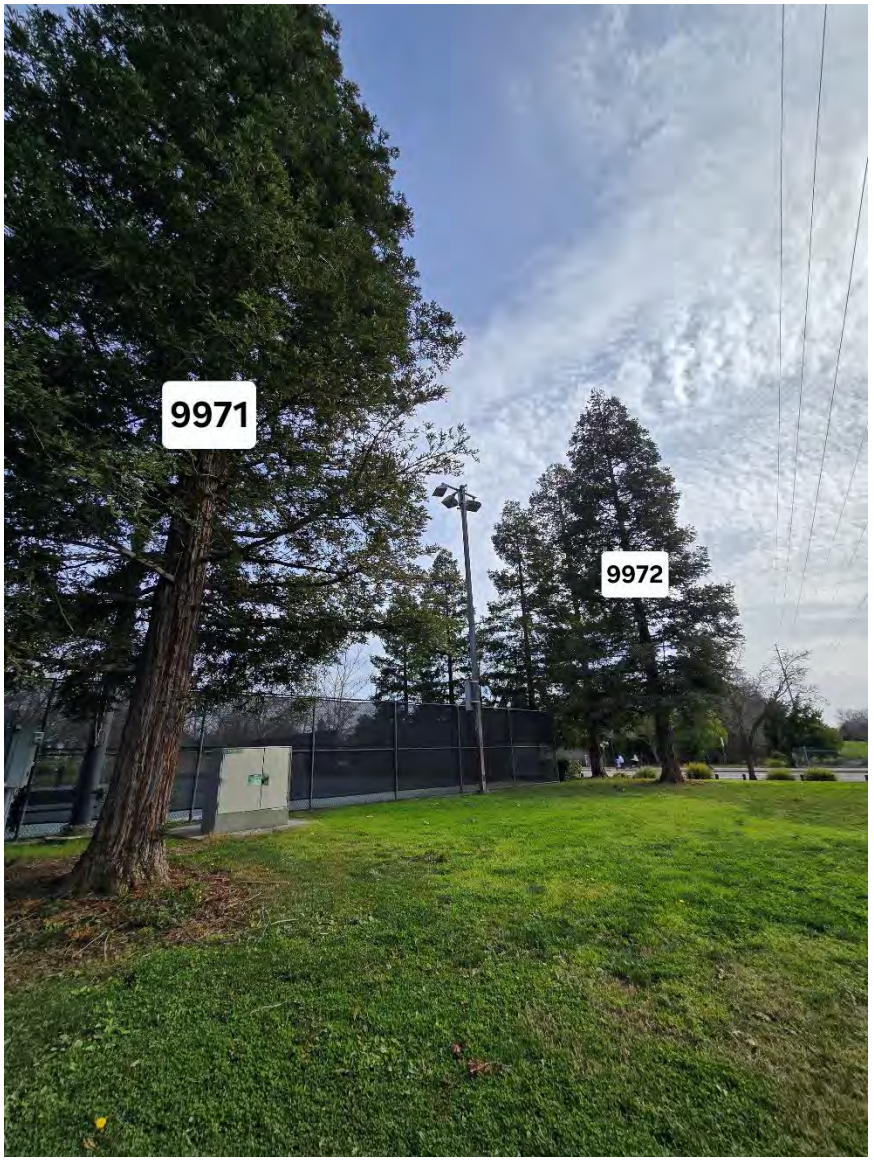

Photo #2, Shows Trees #9971 & #9972, from left to right



Photo #3, Shows Tree #9971 and proximity to approximate zone of proposed trench



Photo #4, Shows Trees # 9975, #9974 & #9973, from left to right, and proximity to approximate zone of proposed trench

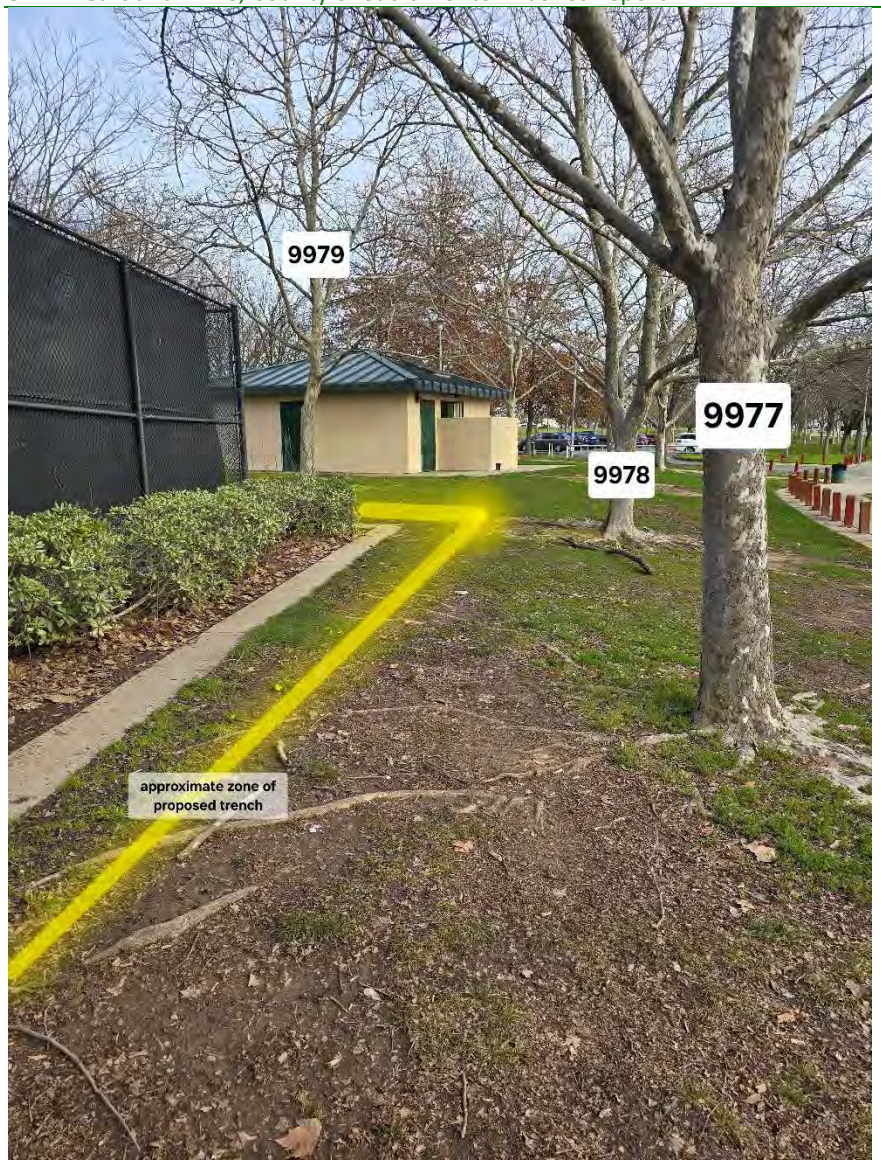

Photo #5, Shows Trees #9979, #9978 & #9977, from left to right and proximity to approximate zone of proposed trench

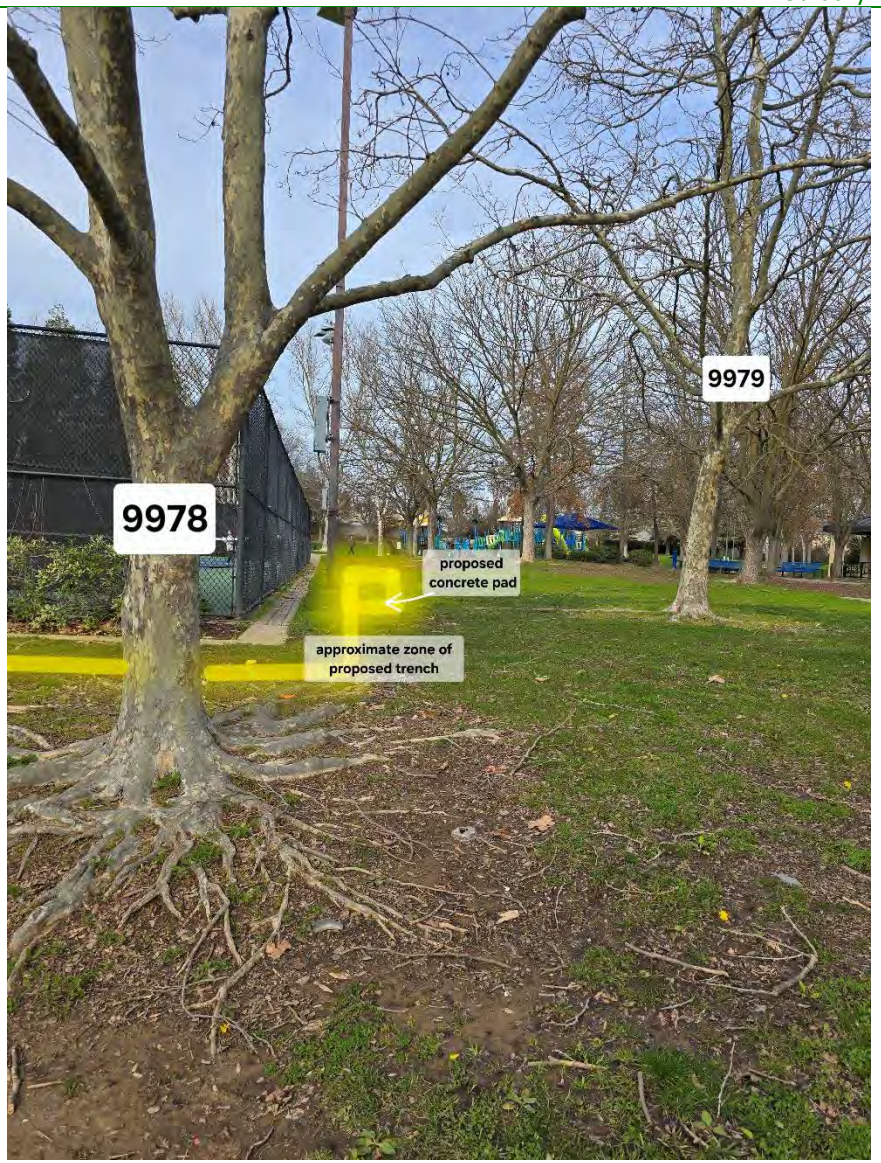

Photo #6, Shows Trees #9978 & #9979, from left to right, and proximity to approximate zone of proposed trench and proposed concrete pad



Photo #7, Shows Tree #9979, large elevated roots all directions, approximately 12 feet from proposed trench



Photo #8, Shows Tree #3850



Photo #9, Shows Tree #3851



Photo #10, Shows Tree #500 (dead)



Photo #11, Shows Tree #3853

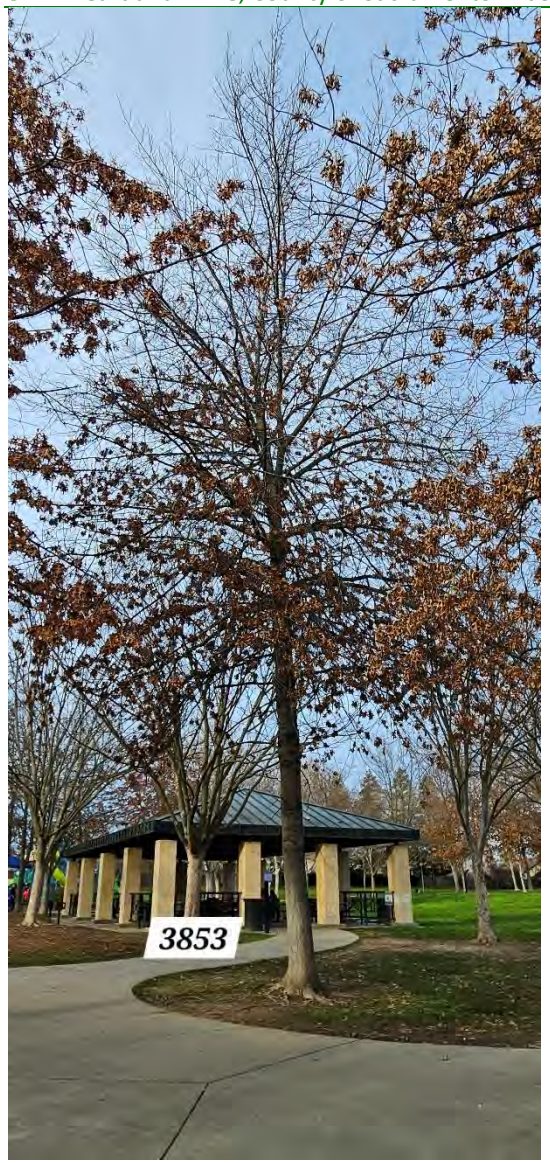

Photo #12, Shows Tree #3853



Photo #13, Shows Tree #3854



Photo #14, Shows Tree #3855



Photo #15, Shows Tree #501 (dead)



Photo #16, Shows Trees #3858, #3857 & #3856, from left to right



Photo #17, Shows Tree #3859



Photo #18, Shows Tree #3764



Photo #19, Shows Tree #3766

APPENDIX 4 - GENERAL PRACTICES FOR TREE PROTECTION



Aerial image showing tree protection in approximate locations to protect trees to be retained on site

Definitions

Root zone: The roots of trees grow fairly close to the surface of the soil, and spread out in a radial direction from the trunk of tree. A general rule of thumb is that they spread 2 to 3 times the radius of the canopy, or 1 to 1 ½ times the height of the tree. It is generally accepted that disturbance to root zones should be kept as far as possible from the trunk of a tree.

Inner Bark: The bark on large valley oaks and coast live oaks is quite thick, usually 1" to 2". If the bark is knocked off a tree, the inner bark, or cambial region, is exposed or removed. The cambial zone is the area of tissue responsible for adding new layers to the tree each year, so by removing it, the tree can only grow new tissue from the edges of the wound. In addition, the wood of the tree is exposed to decay fungi, so the trunk present at the time of the injury becomes susceptible to decay. Tree protection measures require that no activities occur which can knock the bark off the trees.

Methods Used in Tree Protection:

No matter how detailed Tree Protection Measures are in the initial Arborist Report, they will not accomplish their stated purpose unless they are applied to individual trees and a Project Arborist is hired to oversee the construction. The Project Arborist should have the ability to enforce the Protection Measures. The Project Arborist should be hired as soon as possible to assist in design and to become familiar with the project. He must be able to read and understand the project drawings and interpret the specifications. He should also have the ability to cooperate with the contractor, incorporating the contractor's ideas on how to accomplish the protection measures, wherever possible. It is advisable for the Project Arborist to be present at the Pre-Bid tour of the site, to answer questions the contractors may have about Tree Protection Measures. This also lets the contractors know how important tree preservation is to the developer.

Root Protection Zone (RPZ): Since in most construction projects it is not possible to protect the entire root zone of a tree, a Root Protection Zone is established for each tree to be preserved. The minimum Root Protection Zone is the area underneath the tree's canopy (out to the dripline, or edge of the canopy), plus 1'. The Project Arborist must approve work within the RPZ.

Irrigate, Mulch: Prior to grading on the site near any tree, the area within the Tree Protection fence should be irrigated. The irrigation should percolate at least 24" into the soil. This should be done no less than 2 weeks prior to grading or other root disturbing activities. After irrigating, cover the RPZ with at least 12" of leaf and twig mulch. Such mulch can be obtained from chipping or grinding the limbs of any trees removed on the site. Acceptable mulches can be obtained from nurseries or other commercial sources. Fibrous or shredded redwood or cedar bark mulch shall not be used anywhere on site.

Fence: Fence around the Root Protection Zone and restrict activity therein to prevent soil compaction by vehicles, foot traffic or material storage. The fenced area shall be off limits to all construction equipment, unless there is express written notification provided by the Project Arborist, and impacts are discussed and mitigated prior to work commencing.

No storage or cleaning of equipment or materials, or parking of any equipment can take place within the fenced off area, known as the RPZ.

The fence should be highly visible, and stout enough to keep vehicles and other equipment out. I recommend the fence be made of orange plastic protective fencing, kept in place by t-posts set no farther apart than 6'.

In areas of intense impact, a 6' chain link fence is preferred.

In areas with many trees, the RPZ can be fenced as one unit, rather than separately for each tree.

Where tree trunks are within 3' of the construction area, place 2" by 4" boards vertically against the tree trunks, even if fenced off. Hold the boards in place with wire. Do not nail them directly to the tree. The purpose of the boards is to protect the trunk, should any equipment stray into the RPZ.

Elevate Foliage: Where indicated, remove lower foliage from a tree to prevent limb breakage by equipment. Low foliage can usually be removed without harming the tree, unless more than 25% of the foliage is removed. Branches need to be removed at the anatomically correct location in order to prevent decay organisms from entering the trunk. For this reason, a contractor who is an ISA Certified Arborist should perform all pruning on protected trees.[2]

Expose and Cut Roots: Breaking roots with a backhoe, or crushing them with a grader, causes significant injury, which may subject the roots to decay. Ripping roots may cause them to splinter toward the base of the tree, creating much more injury than a clean cut would make. At any location where the root zone of a tree will be impacted by a trench or a cut (including a cut required for a fill and compaction), the roots shall be exposed with either a backhoe digging radially to the trunk, by hand digging, or by a hydraulic air spade, and then cut cleanly with a sharp instrument, such as chainsaw with a carbide chain. Once the roots are severed, the area behind the cut should be moistened and mulched. A root protection fence should also be erected to protect the remaining roots, if it is not already in place. Further grading or backhoe work required outside the established RPZ can then continue without further protection measures.

Protect Roots in Deeper Trenches: The location of utilities on the site can be very detrimental to trees. Design the project to use as few trenches as possible, and to keep them away from the major trees to be protected. Wherever possible, in areas where trenches will be very deep, consider boring under the roots of the trees, rather than digging the trench through the roots. This technique can be quite useful for utility trenches and pipelines.

Protect Roots in Small Trenches: After all construction is complete on a site, it is not unusual for the landscape contractor to come in and sever a large number of "preserved" roots during the installation of irrigation systems. The Project Arborist must therefore approve the landscape and irrigation plans. The irrigation system needs to be designed

[2] International Society of Arboriculture (ISA), maintains a program of Certifying individuals. Each Certified Arborist has a number and must maintain continuing education credits to remain Certified.

so the main lines are located outside the root zone of major trees, and the secondary lines are either laid on the surface (drip systems), or carefully dug with a hydraulic or air spade, and the flexible pipe fed underneath the major roots.

Design the irrigation system so it can slowly apply water (no more than ¼" to ½" of water per hour) over a longer period of time. This allows deep soaking of root zones. The system also needs to accommodate infrequent irrigation settings of once or twice a month, rather than several times a week.

Monitoring Tree Health During and After Construction: The Project Arborist should visit the site at least twice a month during construction to be certain the tree protection measures are being followed, to monitor the health of impacted trees, and make recommendations as to irrigation or other needs. After construction is complete, the arborist should monitor the site monthly for one year and make recommendations for care where needed. If longer term monitoring is required, the arborist should report this to the developer and the planning agency overseeing the project.

APPENDIX 5 - TERMS

The protected trees evaluated as part of this report have a numbered tag that was placed on each one that is 1-1/8" x 1-3/8", green anodized aluminum, "acorn" shaped, and labeled: CalTLC, Auburn, CA with 1/4" pre-stamped tree number and Tree Tag. They are attached with a natural-colored aluminum 10d nail, installed at approximately 6' above ground level on the approximate north side of the tree. The tag should last ~10 – 20+ years depending on the species, before it is enveloped by the trees' normal growth cycle.

A Level 2 – Basic Visual Assessment was performed in accordance with the International Society of Arboriculture's best management practices. This assessment level is limited to the observation of conditions and defects which are readily visible. Additional limiting factors, such as blackberries, poison oak, and/or debris piled at the base of a tree can inhibit the visual assessment.

Tree Location: The GPS location of each tree was collected using the ESRI's ArcGIS collector application on an Apple iPhone or Samsung. The data was then processed in ESRI's ArcMap to produce the tree location map.

Tree Measurements: DBH (diameter breast high) is normally measured at 4'6" (above the average ground height for "Urban Forestry"), but if that varies then the location where it is measured is noted. A diameter tape was used to measure the DBH for all trees. The crown was paced to measure the canopy radius distances. Canopy radius measurements were estimated on trees inside the locked fenced yard.

Terms

Field Tag #	The pre-stamped tree number on the tag which is installed at approximately 6' above ground level on the north side of the tree.
Species	The species of a tree is listed by our local and correct common name and botanical name by genus (capitalized) and species (lower case). Oaks frequently cross-pollinate and hybridize, but the identification is towards the strongest characteristics.
DBH	Diameter breast high' is normally measured at 4'6" (above the average ground height for "Urban Forestry"), but if that varies then the location where it is measured is noted in the next column "measured at"
Canopy radius and Protection Zone Area	The farthest extent of the crown composed of leaves and small twigs. Most trees are not evenly balanced. This measurement represents the longest extension from the trunk to the outer canopy. The dripline measurement is from the center point of the tree and is shown on the Tree Location Map as a circle. This measurement further defines the radius of the protection zone to be specified on any development plans unless otherwise indicated in the arborist recommendations, Appendix 2.
Critical Root Zone	The radius of the critical root zone is a circle equal to the trunk diameter" converted to' and factored by tree age, condition and health pursuant to the industry standard. Best Management Practices: Managing Trees During Construction, the companion publication to the Approved American National Standard, provides guidance regarding minimum tree root protection zones for long term survival. In instances where a tree is multi-stemmed the protected root zone is equal to the extrapolated diameter (sum of the area of each stem converted to a single stem) factored by tree age, condition and health.
Arborist Rating	Subjective to condition and is based on both the health and structure of the tree. All of the trees were rated for condition, per the recognized national standard as set up by the Council of Tree and Landscape Appraisers and the International Society of Arboriculture (ISA) on a numeric scale of 5 (being the highest) to 0 (the worst condition, dead) as in Chart A. The rating was done in the field at the time of the measuring and inspection.

Arborist Ratings		
No problem(s)	Excellent	**5**
No apparent problem(s)	Good	**4**
Minor problem(s)	Fair	**3**
Major problem(s)	Poor	**2**
Extreme problem(s)	Very Poor	**1**
Dead	Dead	**0**

Notes: Provide notable details about each tree which are factors considered in the determination of the tree rating including: (a) condition of root crown and/or roots; (b) condition of trunk; (c) condition of limbs and structure; (d) growth history and twig condition; (e) leaf appearance; and (f) dripline environment. Notes also indicate if the standard tree evaluation procedure was not followed (for example - why DBH may have been measured at a location other than the standard 54”). Additionally, notes will list any evaluation limiting factors such as debris at the base of a tree.

Arborist Classifications

There are different types of Arborists:

Tree Removal and/or Pruning Companies: These companies may be licensed by the State of California to do business, but they may lack the proper tree expertise.

Arborists: Arborist is a broad term. It is intended to mean someone with specialized knowledge of trees but is often used to imply knowledge that is not there.

ISA Certified Arborist: An International Society of Arboriculture Certified Arborist is someone who has been trained and tested to have specialized knowledge of trees. You can look up certified arborists at the International Society of Arboriculture website: isa-arbor.org.

Consulting Arborist: An American Society of Consulting Arborists Registered Consulting Arborist is someone who has been trained and tested to have specialized knowledge of trees and trained and tested to provide high quality reports and documentation. You can look up registered consulting arborists at the American Society of Consulting Arborists website: asca-consultants.org

Assignment Assumptions and Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant‘s prior express written consent.
7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant’s fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
9. Unless otherwise agreed, (1) information contained in this report covers only the items 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. Consultant makes no warranty or guarantee, express or implied that the problems or deficiencies of the plans or property in question may not arise in the future.
10. Loss or alteration of any part of this Agreement invalidates the entire report.

Report Assumptions and Limitations:

This report provides information about the subject trees at the times of the inspection. Trees and conditions may change over time. This report is only valid for the trees with the conditions present at the times of the inspections. All observations were made while standing on the ground. The inspection consisted of visual observations, using a probe to gain additional information about decay and hollow portions of the tree, and if needed, light excavation was performed to observe shallow depth areas below grade at the base of the trees. No further examinations were requested or performed.

Sincere attempts were made to accurately locate the trees and show the trees on the pan. All tree locations were attempted to be shown as observed in the field.

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 seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that can 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.

Treatments, 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, landlord-tenant matters, etc. Arborists cannot take such issues into account unless complete and accurate information is given to the arborist. The person hiring the arborist accepts full responsibility for authorizing the recommended treatment or remedial measures.

Trees involved with sidewalk repairs, due to the limited space and work site constraints require root pruning at distances closer than required for maximum tree preservation. These exception decisions on which roots to prune are made with a first confidence that the tree will not fail due to the roots that are cut, and second a second confidence that the tree will not die from the root pruning. There may be some branch dieback, and this must be accepted to avoid the tree removal decision.

Trees can be managed, but they cannot be controlled. To live near a tree is to accept some degree of risk. The only way to eliminate all risks is to eliminate all trees. Our company goal is to help clients enjoy life with trees, and grow better trees.

California Tree and Landscape Consulting, Inc.



GORDON MANN

EDUCATION AND QUALIFICATIONS

1977	Bachelor of Science, Forestry, University of Illinois, Champaign.
1982 - 1985	Horticulture Courses, College of San Mateo, San Mateo.
1984	Certified as an Arborist, WE-0151A, by the International Society of Arboriculture (ISA).
2004	Certified as a Municipal Specialist, WE-0151AM, by the ISA.
2011	Registered Consulting Arborist, #480, by the American Society of Consulting Arborists (ASCA).
2003	Graduate of the ASCA Consulting Academy.
2006	Certified as an Urban Forester, #127, by the California Urban Forests Council (CaUFC).
2011	TRACE Tree Risk Assessment Certified, continued as an ISA Qualified Tree Risk Assessor (T.R.A.Q.).

PROFESSIONAL EXPERIENCE

2016 – Present CALIFORNIA TREE AND LANDSCAPE CONSULTING, INC (CalTLC). Vice President and Consulting Arborist. Auburn. Mr. Mann provides consultation to private and public clients in health and structure analysis, inventories, management planning for the care of trees, tree appraisal, risk assessment and management, and urban forest management plans.

1986 - Present MANN MADE RESOURCES. Owner and Consulting Arborist. Auburn. Mr. Mann provides consultation in municipal tree and risk management, public administration, and developing and marketing tree conservation products.

2015 – 2017 CITY OF RANCHO CORDOVA, CA. Contract City Arborist. Mr. Mann serves as the City's first arborist, developing the tree planting and tree maintenance programs, performing tree inspections, updating ordinances, providing public education, and creating a management plan,

1984 - 2007 CITY OF REDWOOD CITY, CA. City Arborist, Arborist, and Public Works Superintendent. Mr. Mann developed the Tree Preservation and Sidewalk Repair Program, supervised and managed the tree maintenance program, performed inspections and administered the Tree Preservation Ordinance. Additionally, he oversaw the following Public Works programs: Streets, Sidewalk, Traffic Signals and Streetlights, Parking Meters, Signs and Markings, and Trees.

1982 - 1984 CITY OF SAN MATEO, CA. Tree Maintenance Supervisor.
For the City of San Mateo, Mr. Mann provided supervision and management of the tree maintenance program, and inspection and administration of the Heritage Tree Ordinance.

1977 - 1982 VILLAGE OF BROOKFIELD, IL. Village Forester.
Mr. Mann provided inspection of tree contractors, tree inspections, managed the response to Dutch Elm Disease. He developed an in-house urban forestry program with lead worker, supervision, and management duties to complement the contract program.

1979 INTERNATIONAL SOCIETY OF ARBORICULTURE. Member.

- Board of Directors (2015 - Present)
- True Professional of Arboriculture Award (2011) o In recognition of material and substantial contribution to the progress of arboriculture and having given unselfishly to support arboriculture.

1982 - Present WESTERN CHAPTER ISA (WCISA). Member.

- Chairman of the Student Committee (2014 - Present)
- Member of the Certification Committee (2007 - Present)
- Member of the Municipal Committee (2009 - 2014) . Award of Merit (2016) In recognition of outstanding meritorious service in advancing the principles, ideals and practices of arboriculture.
- Annual Conference Chair (2012)
- President (1992 - 1993)
- Award of Achievement and President's Award (1990)
- 1985 - Present CALIFORNIA URBAN FORESTS COUNCIL (CaUFC). Member; Board Member (2010 - Present)

1985 - Present SOCIETY OF MUNICIPAL ARBORISTS (SMA). Member. e Legacy Project of the Year (2015) o In recognition of outstanding meritorious service in advancing the principles, ideals and practices of arboriculture.

. Board Member (2005 - 2007)

2001 - Present AMERICAN SOCIETY OF CONSULTING ARBORISTS.
Member. e Board of Directors (2006 - 2013)
• President (2012)

2001 - Present CAL FIRE. Advisory Position.
• Chairman of the California Urban Forestry Advisory Committee (2014 - Present)

2007 – Present AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI): A300 TREE MAINTENANCE STANDARDS
COMMITTEE. SMA Representative and Alternate.

- Alternative Representative for SMA (2004 - 2007; 2012 - Present)
- Representative for SMA (2007 - 2012)

2007 - Present SACRAMENTO TREE FOUNDATION. Member and Employee.

- Co-chairman of the Technical Advisory Committee (2012 - 2018), member 2018- present
- Urban Forest Services Director (2007 - 2009)

- Facilitator of the Regional Ordinance Committee (2007 - 2009)

1988 - 1994 TREE CLIMBING COMPETITION. Chairman.

- Chairman for Northern California (1988 - 1992)
- Chairperson for International (1991 - 1994)

PUBLICATIONS AND LECTURES

Mr. Mann has authored numerous articles in newsletters and magazines such as Western Arborist, Arborist News, City Trees, Tree Care Industry Association, Utility Arborists Association, City Trees, and Arborists Online, covering a range of topics on Urban Forestry, Tree Care, and Tree Management. He has developed and led the training for several programs with the California Arborist Association. Additionally, Mr. Mann regularly presents at numerous professional association meetings on urban tree management topics.

Certificate of Performance

I, Gordon Mann, certify that:

The site was inspected by an ISA Certified Arborist. I have reviewed the tree and site referred to in this report, and have stated my findings accurately. The extent of the inspection is stated in the attached report under Assignment;

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 has been prepared according to commonly accepted arboricultural practices;

No one provided significant professional assistance to me, except as indicated within the report;

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 assignment, 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 International Society of Arboriculture (ISA) and an ISA Certified Arborist and Municipal Specialist. I am also a Registered Consulting Arborist member in good standing of the American Society of Consulting Arborists. I have been involved in the practice of arboriculture and the care and study of trees for over 44 years.

Signed:



Gordon Mann
Date: February 19, 2025