

January 17,2020

John Youmans Debbie Siembida Hallmark Properties 1080 Olive Drive Davis, CA 95616

RE: Arborist Report, Hallmark Micro, Olive Drive, Davis

Dear John and Debbie,

Attached is the Arborist Report you requested. I appreciate the opportunity to work with you. Please do not hesitate to contact me should you have questions regarding this report.

Sincerely,

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John M. Lichter, M.S. ASCA Registered Consulting Arborist #375 ISA Certified Arborist #863 ISA Qualified Tree Risk Assessor ASCA Qualified Tree and Plant Appraiser





ARBORIST REPORT HALLMARK MICRO PROJECT, OLIVE DRIVE DAVIS, CALIFORNIA

Prepared for HALLMARK PROPERTIES Davis, California

Prepared by TREE ASSOCIATES John M. Lichter, M.S. ASCA Registered Consulting Arborist #375 ISA Certified Arborist #863 ISA Qualified Tree Risk Assessor ASCA Qualified Tree and Plant Appraiser

January 17, 2020

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Assignment

Hallmark Properties of Davis requested an Arborist Report concerning trees on the Hallmark Micro development project site on Olive Drive in Davis. This Arborist Report includes a tree evaluation, a development impact assessment, an appraisal of tree values, and preservation guidelines for all City of Davis ordinance-protected trees on site.

Limits of the Assignment

- This evaluation reports on the condition of the subject trees at the time of my site visit. Tree conditions change over time and, as they change, this report may need to be revised.
- The result of the evaluations for trees for which more detailed examination and/or testing and risk assessment is recommended (including aerial inspection, decay mapping and/or root examination) is provisional, pending the outcome of these studies.
- This evaluation was based on a visual inspection from the ground. In some cases, my access and vantage point to examine the trees was limited due to the location of the trees.



Tree Evaluation

I identified, tagged in the field, measured and evaluated the ordinance-protected trees on January 3-6, 2020.¹ For each of these trees, the following data were collected.

- Tree Number corresponds to a round aluminum tag affixed to each protected tree (I used tags 901-930). Lettered trees were located adjacent to the project, off site.
- Species common and scientific name of the tree.
- Trunk Diameter the diameter of the tree (in inches) at 4.5' above grade, unless measurement at another location between 1 and 5 feet above grade provided a more accurate reflection of the size of the tree.
- Dripline the approximate maximum distance from the trunk to the edge of the branches, in feet.
- Tree Protection Zone (TPZ) the radius in feet of a circular tree protection zone (centered at the trunk) recommended by the author.
- Comments comments regarding tree and landscape features that influenced health, structure and condition ratings.
- Health Rating rating between very poor and excellent considering the overall health of the tree. A rating of fair-good or good indicates no significant health concerns.
- Structural Rating- rating between very poor and excellent considering the overall structure of the tree. A rating of fair-good or good indicates no significant structural concerns.
- Form Rating rating between very poor and excellent concerning the habit shape or silhouette of the tree.
- Recommendations recommendations for tree work or treatments to improve tree structure or health or for further evaluation, where necessary. Note: recommendations are indicated in red where removal was recommended.

Exhibit 1, entitled "Tree Evaluation" summarizes the results of the tree evaluation for all protected trees and two adjacent, off site trees. The locations of the trees can be found attached on a copy of the topographic plan.

¹ I included all trees with trunk diameters of five inches or greater (defined as trees of significance in the City of Davis Code). I included multiple trunked trees if the sum of their largest diameter stem plus half the diameter of the remaining stems was equal to five inches or greater. I did not include palms or glossy privet (*Ligustrum lucidum*) trees based on personal communication with the City Arborist.



Summary of Tree Evaluation

Number of Trees, Species Makeup, Size, Age, Location:

The project site included four residences and an auto repair shop fronting Olive Drive. There were thirty protected trees on site. Five of the trees were street trees located behind the curb-abutted sidewalk on the north side of Olive Drive. Two of these trees were old cork oaks (66 and 54-inch trunk diameters, Figures 4,5), one was a mature valley oak (40-inch trunk diameter) and the remaining two street trees were black locust. A mature deodar cedar was located in the front yard of one of the residences (Figure 6).

A total of ten different species were represented on site (Figure 1). The majority of the trees (17 or 57%) were relatively young tree of heaven (*Ailanthus altissima*). Many of the remaining trees other than those near the street were relatively young volunteers (not planted).

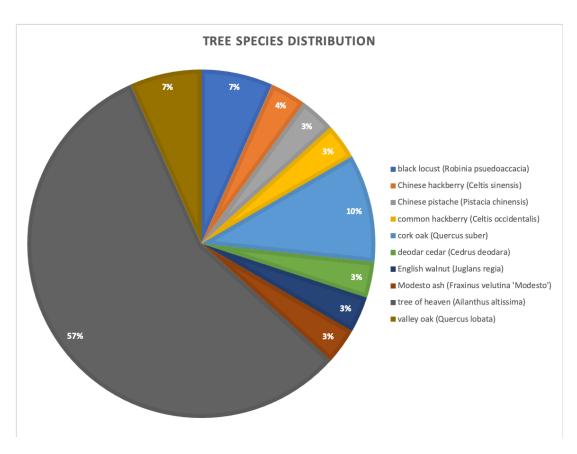


Figure 1. Tree species distribution.



Tree Health:

I rated the health of the trees from very poor to good (on a scale of very poor to excellent) (Figure 2). Seventy percent of the trees (21 trees) were in fair-good or good health with no significant health concerns. Twenty percent were in fair condition and ten percent (3 trees) were in very poor or poorfair health. The mature deodar cedar (tree #918) was in poor-fair and declining health (Figure 6). An old English walnut in the back yard of one residence (tree #909) was in very poor health.

Tree Structure, Form

I rated the health of the trees from very poor to fair-good (same scale as above) (Figure 3). Only two trees (7% of the total) had fair-good structure. Forty and thirty percent of the trees had fair and poor-fair structure, respectively. The remaining thirteen percent of the trees were in poor or very poor structure.

The relatively poor structure of this population of trees was in large part due to the fact that most of the trees were volunteers which had not been pruned. Many of the trees were located close to walls or fences or other trees; this also influenced their structure and form.

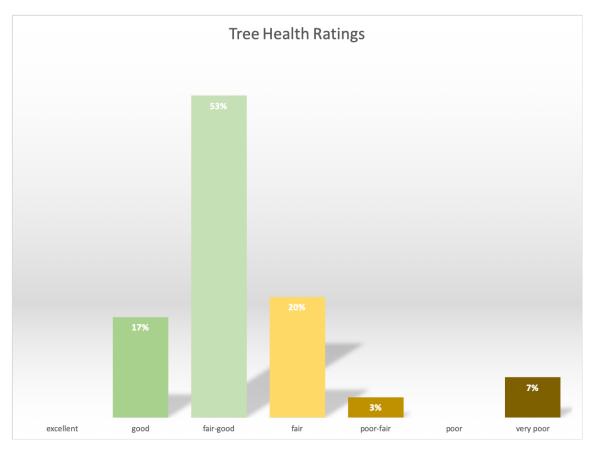




Figure 2. Health ratings of on-site trees.

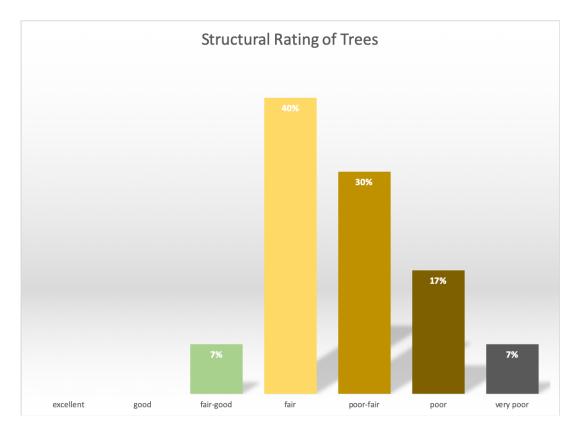


Figure 3. Structural rating of on-site trees.

Removal Recommendations, Recommendations to Improve Tree Condition

I recommended that roughly three quarters of on-site trees be removed (23 trees or 77%). I recommended that the mature deodar cedar (#918) be removed due to its declining health (Figure 6).

I also recommended that all 17 of the tree of heaven (57% of the trees on site) be removed. There were several reasons I recommended that they be removed. Tree of heaven is a particularly invasive species which spreads quickly by root suckers and seedlings. The tree and its large, relatively shallow root system grow vigorously and the tree produces copious amounts of seeds (up to 300,000 per tree). Indeed, the trees have created a thicket over portions of the site (Figure 7).

The tree of heaven on site were apparently all volunteers and many were located adjacent to walls, fences and property lines or adjacent to other trees. For these reasons and due to a lack of maintenance (pruning), most of the tree of heaven were structurally compromised. Exhibit 1 contains recommendations to improve the health or structure of trees (if they are to be preserved) where appropriate.





Figure 4. Tree #901.



Figure 5. Tree #917.



Arborist Report: Hallmark Micro Project, Olive Drive, Davis, CA January 17, 2020



Figure 6. Tree #918. Note dead top, limb dieback and declining health.



Figure 7. Tree of heaven volunteers.



Preliminary Development Impact Assessment

I reviewed the site layout plan dated December 13, 2019 by NorthStar in order to determine, preliminarily, the potential impact of development on the trees and provide possible design modifications and construction techniques to lessen development impacts to the trees. The following data was provided for the subject trees. The results may be found in Exhibit 2, attached.

- Tree Number, Species, Diameter, TPZ see description above.
- Development within TPZ a description of infrastructure proposed within the TPZ.
- Impact Rating a rating low, moderate, high or severe considering the *possible* impact to tree condition from construction of the proposed plan.² Impact ratings assumed that 1) my description of construction was accurate; 2) the extent of excavation was limited to 5' off buildings and 1' off drives, parking and walkways (except where noted in the table); utility trenches were not laid back; and there was no grading within protection zones outside of these areas. The actual impact of construction will be dictated by the amount of injury and environmental changes which occur in the field.
- Possible Design Modifications/Construction Methods possible adjustments to the design and/or construction methods that could decrease the impact of the development on the trees. I did not indicate all possible design modifications (such as moving buildings). Changes to the site plan other than those I mention in this table could result in preserving additional trees and/or modifying potential impacts.

Summary of Preliminary Development Impact Assessment:

I recommended that 23 of the trees be removed for arboricultural reasons. The following is a summary of the development impacts to the 7 remaining ordinance-protected trees considering the information above.

- Trees on site other than those recommended for removal 7 trees
 - \circ $\,$ To be removed due to site layout conflicts (under footprint) 2 trees (29% of these trees)
 - To be preserved 5 trees (71% of these trees)
 - Severe impact rating 5 trees

² Note: Impact ratings were preliminary and assumed typical root locations. Once construction plans are prepared and/or updated, the impact ratings will need to be updated. The actual impact is dependent upon the amount of injury to the tree, changes in the root environment and other factors.



Once construction plans are prepared, the impact assessment should be updated. If there are changes to the location of infrastructure or there is additional disturbance and/or construction within the Tree Protection Zone (TPZ) or MTPZ (Modified TPZ – portion of TPZ without infrastructure), the prognoses for retained trees may need to be adjusted.

Appraisal

I appraised the monetary value of all protected, on site trees. The appraisal used Arborist-standard methods found in the Guide for Plant Appraisal, 10th Edition, authored by the Council of Tree and Landscape Appraisers. The results of the appraisal can be found in Exhibit 3, attached.



Tree Preservation Guidelines

The guidelines presented below should be followed for all trees to be preserved to ensure the least impact to the trees considering the existing plans.

- Tree preservation measures should be indicated on construction plans.
- Indicate surveyed trunk locations and tree protection zones (TPZ's) as described in attached table on all construction plans for trees to be preserved. Note, where infrastructure is located within protection zones, indicate modified tree protection zones (MTPZ's) and fencing as close to infrastructure as possible (minimize overbuild).
- Engage the Consulting Arborist to revise the development impact assessment as construction plans are prepared/revised.
- Conduct a meeting to discuss tree preservation guidelines with the Consulting Arborist and all contractors, subcontractors and project managers prior to the initiation of demolition and construction.
- Any pruning required for construction or recommended in this report should be performed by an ISA Certified Arborist or Tree Worker. Pruning for necessary clearance should be the minimum required for the project performed prior to demolition by an ISA Certified Arborist.
- Prior to any demolition activity, identify (tagged) trees to be preserved and install tree protection fencing as indicated on construction plans.
- Tree protection fences should be made of chain link. These fences are not to be removed or moved until construction is complete except under Arborist supervision. Avoid soil or above ground disturbances within the fenced area.
- Avoid grading, compaction, trenching, rototilling, vehicle traffic, material storage, spoil, waste or washout or any other disturbance within TPZ's/MTPZ's.
- Any work that is to occur within the protection zones of the trees should be monitored by the Consulting Arborist.
- Prior to trenching or grading within the protection zone of trees, carefully excavate, expose and mark roots >/= 2" diameter and preserve if possible or cut cleanly with a sharp saw under Arborist supervision.
- If roots >/= 2 inches or limbs larger than 3 inches in diameter are cut or damaged during construction, contact Consulting Arborist as soon as possible to inspect and recommend appropriate remedial treatments.
- All trees to be preserved should be irrigated once every week during non-Winter months to uniformly wet the soil to a depth of at least 18 inches under and beyond their canopies.



Arborist Disclosure Statement

The following statement pertains to my work and this report.

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 provided.

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.



Glossary³

- Bow the gradual curve of a branch or stem.
- Callus growth resulting from and found at the margin of wounds.
- Canker a localized area of dead tissue on a stem or branch, caused by fungal or bacterial organisms.
- Central Leader the main stem of the tree.
- Chlorotic yellow.
- *Codominant* equal in size and relative importance.
- *Crown* parts of the tree above the trunk.
- *Crown Clean* the removal of dead, dying, diseased, broken, and weakly attached branches and watersprouts from a tree's crown.
- Decay process of degradation of woody tissues by fungi and bacteria.
- *Dieback* death of shoots and branches, generally from tip to base.
- Dropcrotch the process of shortening trunks or limbs by pruning back to dominant lateral limbs.
- *End Weight* the concentration of foliage at the distal ends of branches.
- *Epicormic* shoots which result from adventitious or latent buds; often indicates poor vigor.
- *Included bark* pattern of development at branch junctions where bark is turned inward rather than pushed out.
- *Primary limb* limb attached directly to the trunk.
- *Reduction cut* shortening the length of a branch or stem by cutting it back to a lateral branch of at least one-third the diameter of the cut stem.
- *Root crown* area at the base of a tree where the roots and stem merge.
- Secondary limb limb attached directly to a primary limb.
- *Sound wood* undecayed wood.
- *Suppressed* trees which have been overtopped and whose crown development is restricted from above.
- *Target* people or property potentially affected by tree failure.
- *Topped* Pruned to reduce height by cutting large branches back to stubs.
- *Train* to prune a young tree to establish a strong structure.
- Vigor overall health.
- Watersprouts vigorous, upright, epicormic shoots that grow from latent buds in older wood.

³ Definitions from author or Matheny and Clark, Evaluation of Hazard Trees in Urban Areas, 2nd Edition c 1994, ISA.



Certification of Performance

I, John M. Lichter, certify:

- That I have personally inspected the tree(s) and/or the property referred to in this report, and have stated my findings accurately. The extent of the evaluation and/or appraisal is stated in the attached report and the Terms and Conditions;
- That I have no current or prospective interest in the vegetation or the property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved;
- That the analysis, opinions and conclusions stated herein are my own, and are based on current scientific procedures and facts;
- That 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;
- That my analysis, opinions, and conclusions were developed and this report has been prepared according to commonly accepted Arboricultural practices;
- That no one provided significant professional assistance to the consultant, except as indicated within the report.

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John M. Lichter, M.S. ASCA Registered Consulting Arborist #375 ISA Certified Arborist #863 ISA Qualified Tree Risk Assessor ASCA Qualified Tree and Plant Appraiser



ASSUMPTIONS AND LIMITING CONDITIONS: TREE ASSOCIATES, INC.

1. Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.

2. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes or other governmental regulations.

3. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant/appraiser can neither guarantee nor be responsible for the accuracy of information provided by others.

4. The consultant/appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

5. Unless required by law otherwise, possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consultant/appraiser.

6. Unless required by law otherwise, neither all nor any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of the consultant/appraiser - particularly as to value conclusions, identity of the consultant/appraiser, or any reference to any professional society or institute or to any initialed designation conferred upon the consultant/appraiser as stated in his qualifications.

7. This report and any values expressed herein represent the opinion of the consultant/appraiser, and the consultant's/appraiser's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor 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 unless expressed otherwise. The reproduction of any information generated by architects, engineers, or other consultants on any sketches, drawings, or photographs is for the express purpose or coordination and ease of reference only. Inclusion of said information on any drawings or other documents does not constitute a representation by John M. Lichter or TREE ASSOCIATES as to the sufficiency or accuracy of said information.

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

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



Tree Evaluation Hallmark Micro Project, Olive Drive, Davis

Tree #	Species	Trunk Dia.	Max. Drip (radius, ft.)	TPZ (radius , ft.)	Comments	Health Rating	Structural Rating	Form Rating	Recommendations
901	cork oak (Quercus suber)	66	56	66	multiple trunks; deadwood to 5" diameter; adjacent to and lifting sidewalk and roadway	good	fair-good	good	crown clean.
902	tree of heaven (Ailanthus altissima)	5,3	14	7	suppressed by 901; bowed, unbalanced; adjacent to property line; displacing small wall; invasive species	fair-good	poor	poor	remove tree.
903	tree of heaven (Ailanthus altissima)	11	24		trunk lean; unbalanced crown; under edge of dripline of 901; invasive; near property line	good	fair	poor-fair	remove tree.
904	Chinese pistache (Pistacia chinensis)	13	20	13	trunk and lower 22 feet of tree covered with ivy; trunk obscured from view; unbalanced crown; codominant trunks; low vigor; 5' from property line	fair	fair	fair	remove ivy. select leader, drop crotch competing trunks or primary limbs.
905	tree of heaven (Ailanthus altissima)	10	24	10	immediately adjacent to 906; unbalanced crown; adjacent to property line and damaging wall; invasive species	good	poor	poor	remove tree.

Tree Evaluation Hallmark Micro Project, Olive Drive, Davis

Tree #	Species	Trunk Dia.	Max. Drip (radius, ft.)	TPZ (radius , ft.)	Comments	Health Rating	Structural Rating	Form Rating	Recommendations
906	tree of heaven (Ailanthus altissima)	13,10	28	18	codominant trunks near base; immediately adjacent to 905; adjacent to property line and damaging wall; invasive species	fair	poor-fair	fair-good	remove tree.
907	cork oak (Quercus suber)	7	12	7	trunk bowed; 1 foot from 908 and property line; canopies intertwined	fair-good	fair	fair	
908	valley oak (Quercus lobata)	5	18	5	one foot from 907; codominant trunks, will have included bark in future; 1' from property line	fair-good	fair	fair	remove tree
909	English walnut (Juglans regia)	17	28	17	large limb breaks; limb decay; poor vigor	very poor	very poor	poor	remove tree.
910	tree of heaven (Ailanthus altissima)	8,8	28	12	did not include the two lowest primary limbs in trunk measurement; base of trunk resting on ground; low trunk has 45 degree angle; codominant trunks will soon have included bark; unbalanced crown; 5 feet from 911	fair-good	poor	poor-fair	remove tree.
911	tree of heaven (Ailanthus altissima)	8	26	8	low trunk with 35 degree lean; unbalanced crown; 5' from and growing away from 910; 3 feet from property line; invasive species	fair-good	poor-fair	poor-fair	remove tree.

Exhibit 1.

Tree Evaluation Hallmark Micro Project, Olive Drive, Davis

Tree #	Species	Trunk Dia.	Max. Drip (radius, ft.)	TPZ (radius , ft.)	Comments	Health Rating	Structural Rating	Form Rating	Recommendations
912	tree of heaven (Ailanthus altissima)	11	22	11	touching property line fence; codominant trunks with included bark; invasive species	fair-good	fair	fair	remove tree.
913	valley oak (Quercus lobata)	40	52	40	overextended primary limbs; lifting sidewalk and displacing curb; 4' from edge of road; edge of canopy over high voltage lines	good	fair-good	good	use redution cuts to 4" to reduce crown by removing 20-25% of the foliage/buds.
914	common hackberry (<i>Celtis</i> occidentalis)	9	30	9	trunk bowed to almost horizontal, primary limb has become leader; limb dieback; unbalanced crown; trunk recently covered with soil; codominant trunks; overextended primary limbs; 1' from property line and 3/4 of tree on adjacent property; growth modified by 910	good	poor-fair	poor-fair	select leader, drop crotch competing trunks or primary limbs. use reduction cuts to remove 25% of the foliage/buds of primary limbs > 1/3 the trunk diameter at their attachment.
915	tree of heaven (Ailanthus altissima)	5,4	15	7	codominant trunks with included bark; hatchet wounds on trunk; 4' from property line; invasive species	fair	fair	fair	remove tree.
916	Chinese hackberry (<i>Celtis</i> <i>sinensis)</i>	5,5	13	8	two trunks with included bark from base; 1' from property line fence	fair-good	poor	fair	remove tree.

Tree Evaluation Hallmark Micro Project, Olive Drive, Davis

Tree #	Species	Trunk Dia.	Max. Drip (radius, ft.)	TPZ (radius , ft.)	Comments	Health Rating	Structural Rating	Form Rating	Recommendations
917	cork oak (Quercus suber)	54	44	54	moderate amount of limb dieback; overextended primary limbs; touching and lifting walk; 5' from roadway	fair	fair	good	crown clean. use reduction cuts to remove 10- 20% of the foliage/buds of primary limbs > 1/3 the trunk diameter at their attachment.
918	deodar cedar (Cedrus deodara)	33	28	33	top dead; limb dieback; broken, hanging limbs; declining health; overextended primary limbs; poor suitability for preservation	poor-fair	fair	fair	remove tree.
919	tree of heaven (Ailanthus altissima)	12	16	12	codominant trunks; unbalanced crown; 2' from property line wall; touching and lifting shed; invasive species	fair-good	fair	fair-good	remove tree.
920	Modesto ash (<i>Fraxinus</i> <i>velutina</i> 'Modesto')	8	10	8	trunk and root growth displacing cinder block wall; at property line; codominant trunks with included bark; declining health; limb dieback; one of three trunks removed; adjacent to property line wall	very poor	very poor	poor	remove tree.
921	tree of heaven (Ailanthus altissima)	5	11	5	dogleg in trunk; large pruning cut on low trunk; invasive species	fair-good	fair	fair	remove tree.
922	tree of heaven (Ailanthus altissima)	7	17	7	extreme bow; unbalanced crown; codominant trunks; invasive species	fair-good	poor	poor	remove tree.

Tree Evaluation Hallmark Micro Project, Olive Drive, Davis

Tree		Trunk	Max. Drip (radius,	TPZ (radius		Health	Structural	Form	
#	Species	Dia.	ft.)	, ft.)	Comments	Rating	Rating	Rating	Recommendations
923	tree of heaven (Ailanthus altissima)	13,11	20	19	trunk sweep; codominant trunks with included bark; invasive species	fair-good	poor-fair	poor-fair	remove tree.
924	tree of heaven (Ailanthus altissima)	6	20	6	trunk bowed; under canopy of 923; unbalanced crown; 0.5' from property line; all of canopy on neighboring property; invasive species	fair-good	poor-fair	poor	remove tree.
925	tree of heaven (Ailanthus altissima)	4,3	11	6	previously cut to 2.5 foot stump; codominant trunks; invasive species	fair-good	poor-fair	poor-fair	remove tree.
926	tree of heaven (Ailanthus altissima)	5	13	5	trunk bowed; unbalanced crown; at edge of dripline of 923; 1' from property line fence; invasive species	fair-good	fair	fair	remove tree.
927	tree of heaven (Ailanthus altissima)	7,3,5,4	22	13	multiple trunks from near base; previously headed back; touching property line fence; invasive species	fair-good	poor-fair	fair	remove tree.
928	tree of heaven (Ailanthus altissima)	7,6	18	10	codominant trunks from near base with included bark; nearly touching property line fence; 1' from existing house; invasive species	fair-good	poor-fair	fair	remove tree.

Exhibit 1.

Tree Evaluation Hallmark Micro Project, Olive Drive, Davis

Tree #	Species	Trunk Dia.	Max. Drip (radius, ft.)	TPZ (radius , ft.)	Comments	Health Rating	Structural Rating	Form Rating	Recommendations
929	black locust (Robinia psuedoaccacia)	19	20	19	broken, hanging limbs; limb dieback; mistletoe; in small planter; 1.5' from sidewalk; 1' from parking	fair	fair	fair-good	crown clean. remove mistletoe.
930	black locust (Robinia psuedoaccacia)	15	18	15	hollow butt; codominant trunks with included bark; limb dieback; limb attachments with included bark; 10' from 929; 1' from sidewalk	fair	poor-fair	poor-fair	remove tree.
A	black locust (Robinia psuedoaccacia)	16,12, 10 est.		27 est.	on adjacent property, canopy extends 16 feet onto subject property; viewed only from subject property; not tagged; crown has been reduced; codominant trunks from base with included bark	fair-good	fair	fair	
В	cork oak (Quercus suber)	24 est.		24 est.	on adjacent property; viewed only from subject property, canopy extends 28 feet onto subject property; codominant trunks with included bark	good	fair-good	fair-good	

Exhibit 2.

Development Impact Assessment Hallmark Micro Project, Olive Drive, Davis

Tree #	Species	TPZ (ft.)	Mitigation Inches	Existing Conditions/ Proposed Construction within TPZ	Impact Rating	Possible Design Modifications/Construction Methods to Reduce Potential Construction Impacts
901	cork oak (<i>Quercus suber</i>)	66	66	Existing: walkway 16' NW; residence 34' NW. Proposed: sidewalk 2' SSE; storm drain 7' N; driveway 6' NE; building 44' N; landscaping under tree	Severe	Repair sidealk, curb and gutter without damaging injuring tree; use bumpout curb if necessary and ramp over roots. Install sidewalk in same location as existing and avoid disturbing native soil under existing sidewalk. Move driveway (to other end of property?). Move storm drain or bore line under roots. Avoid grubbing, scarification, tilling, grading and protect native soil from compaction in modified tree protection zone (MTPZ). Place irrigation lines as far from the trunk as possible and install using pnuematic excavator or in a manner avoiding damage to roots >1" diameter.
902	tree of heaven (Ailanthus altissima)	7	7			Removal recommended by Arborist
903	tree of heaven (Ailanthus altissima)	11	11			Removal recommended by Arborist

Exhibit 2.

Development Impact Assessment Hallmark Micro Project, Olive Drive, Davis

Tree #	Species	TPZ (ft.)	Mitigation Inches	Existing Conditions/ Proposed Construction within TPZ	Impact Rating	Possible Design Modifications/Construction Methods to Reduce Potential Construction Impacts
904	Chinese pistache (Pistacia chinensis)	13	13	Existing: residence 8' NE. Proposed: storm drain 1' NE; drain inlet 7' NE; curb and parking 4' E, 5' N; landscaping under tree	Severe	Move drain inlet. Move or bore storm drain line under roots. Create larger planter for tree (move curb and parking). Avoid grubbing, scarification, grading and protect native soil from compaction in modified tree protection zone (MTPZ). Place irrigation lines as far from the trunk as possible and install using pnuematic excavator or in a manner avoiding damage to roots >1" diameter.
905	tree of heaven (Ailanthus altissima)	10	10			Removal recommended by Arborist
906	tree of heaven (Ailanthus altissima)	18	18			Removal recommended by Arborist
907	cork oak (Quercus suber)	7	7	Proposed: under parking or building		To be removed due to site layout conflict.
908	valley oak (Quercus lobata)	5	5			Removal recommended by Arborist
909	English walnut (Juglans regia)	17	17			Removal recommended by Arborist
910	tree of heaven (Ailanthus altissima)	12	12			Removal recommended by Arborist

Tree #	Species tree of heaven	TPZ (ft.)	Mitigation Inches	Existing Conditions/ Proposed Construction within TPZ	Impact Rating	Possible Design Modifications/Construction Methods to Reduce Potential Construction Impacts
911	(Ailanthus altissima)	8	8			Removal recommended by Arborist
912	tree of heaven (Ailanthus altissima)	11	11			Removal recommended by Arborist
913	valley oak (Quercus lobata)	40	40	Existing: driveway 9' WSW; walkway 6' NE; at edge of sidewalk; curb and roadway 4' SE. Proposed: storm drain 4' S; curb/gutter/auto pullout 4' S and 16' E; sidewalk 4' N; walk and building 19' NNW; sewer 41' WSW; DI and stormdrain 45' W; landscaping under tree	Severe	Repair sidealk, curb and gutter without damaging injuring tree; use bumpout curb if necessary and ramp over roots. Install sidewalk in same location as existing and avoid disturbing native soil under existing sidewalk. Move utilities further from trunk and install preserving roots >/=2" or bore them under roots. Remove auto pullouts. Move building further from trunk. Avoid grubbing, scarification, grading and protect native soil from compaction in modified tree protection zone (MTPZ). Place irrigation lines as far from the trunk as possible and install using pnuematic excavator or in a manner avoiding damage to roots >1" diameter.
914	common hackberry (Celtis occidentalis)	9	9	Proposed: under building or other infrastructure		To be removed due to site layout conflict.

Tree #	Species tree of heaven	TPZ (ft.)	Mitigation Inches	Existing Conditions/ Proposed Construction within TPZ	Impact Rating	Possible Design Modifications/Construction Methods to Reduce Potential Construction Impacts
915	(Ailanthus altissima)	7	7			Removal recommended by Arborist
916	Chinese hackberry (Celtis sinensis)	8	8			Removal recommended by Arborist
917	cork oak (Quercus suber)	54	54	Existing: adjacent to walk; curb/road 5' SSE; wall/concrete/parking 9' NNE Proposed: storm drain 5' SSE; sidewalk 7'W, 9'N, 31' NE; walk and building 18' NW; curb/gutter/auto pullout 29' WSW; parking space 46' NE; landscaping under tree.	Severe	Repair sidealk, curb and gutter without damaging injuring tree; use bumpout curb if necessary and ramp over roots. Install sidewalk in same location as existing and avoid disturbing native soil under existing sidewalk. Move utilities further from trunk and install preserving roots >/=2" or bore them under roots. Remove auto pullouts. Move building further from trunk. Avoid grubbing, scarification, grading and protect native soil from compaction in modified tree protection zone (MTPZ). Place irrigation lines as far from the trunk as possible and install using pnuematic excavator or in a manner avoiding damage to roots >1" diameter.
918	deodar cedar (Cedrus deodara)	33	33			Removal recommended by Arborist

Tree #	Species tree of heaven	TPZ (ft.)	Mitigation Inches	Existing Conditions/ Proposed Construction within TPZ	Impact Rating	Possible Design Modifications/Construction Methods to Reduce Potential Construction Impacts
919	(Ailanthus altissima)	12	12			Removal recommended by Arborist
920	Modesto ash (<i>Fraxinus</i> <i>velutina</i> 'Modesto')	8	8			Removal recommended by Arborist
921	tree of heaven (Ailanthus altissima)	5	5			Removal recommended by Arborist
922	tree of heaven (Ailanthus altissima)	7	7			Removal recommended by Arborist
923	tree of heaven (Ailanthus altissima)	19	19			Removal recommended by Arborist
924	tree of heaven (Ailanthus altissima)	6	6			Removal recommended by Arborist
925	tree of heaven (Ailanthus altissima)	6	6			Removal recommended by Arborist
926	tree of heaven (Ailanthus altissima)	5	5			Removal recommended by Arborist

Tree #	Species	TPZ (ft.)	Mitigation Inches	Existing Conditions/ Proposed Construction within TPZ	Impact Rating	Possible Design Modifications/Construction Methods to Reduce Potential Construction Impacts
927	tree of heaven (Ailanthus altissima)	13	13			Removal recommended by Arborist
928	tree of heaven (Ailanthus altissima)	10	10			Removal recommended by Arborist
929	black locust (Robinia psuedoaccacia)	19	19	Existing: sidewalk 1.5' SE; curb/road 7' SE; asphalt parking 1' NW Proposed: storm drain 4' WSW, 7' SE; manhole 5' S; zip car space 15' WSW	Severe	Move storm drain and manhole away from trunk of tree and/or bore utility line under roots. Demo existing asphalt and walk with extreme care. Install sidewalk in same location as existing and avoid disturbing native soil under existing sidewalk. Avoid grubbing, scarification, grading and protect native soil from compaction in modified tree protection zone (MTPZ). Place irrigation lines as far from the trunk as possible and install using pnuematic excavator or in a manner avoiding damage to roots >1" diameter.
930	black locust (Robinia psuedoaccacia)	15	15			Removal recommended by Arborist

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To Accompany Tree Associates, Inc. Report January 17, 2020

Tree #	Species	Trunk Dia.	Area of Trunk (sq. in.)	Unit Cost Nursery Tree (\$83/sq. in.)	Basic Cost (area X unit cost)	Health Rating	Structural Rating	Form Rating	Overall Conditio n Rating	Functional Limitation Rating	External Limitatio n Rating	Depreciated Cost	Appraised Value (rounded, nearest \$10)
901	cork oak (Quercus suber)	66	3421	\$ 83.00	\$ 283,959.80	good	fair-good	good	70%	50%	100%	\$99,385.93	\$ 99,390.00
902	tree of heaven (Ailanthus altissima)	5,3	27	\$ 83.00	\$ 2,241.00	fair-good	poor	poor	30%	10%	100%	\$ 67.23	\$ 70.00
903	tree of heaven (Ailanthus altissima)	11	95	\$ 83.00	\$ 7,887.77	good	fair	poor-fair	60%	10%	100%	\$ 473.27	\$ 470.00
904	Chinese pistache (Pistacia chinensis)	13	133	\$ 83.00	\$ 11,016.81	fair	fair	fair	50%	70%	100%	\$ 3,855.88	\$ 3,860.00
905	tree of heaven (Ailanthus altissima)	10	79	\$ 83.00	\$ 6,518.82	good	poor	poor	30%	10%	100%	\$ 195.56	\$ 200.00
906	tree of heaven (Ailanthus altissima)	13,10	212	\$ 83.00	\$ 17,596.00	fair	poor-fair	fair- good	40%	10%	100%	\$ 703.84	\$ 700.00
907	cork oak (Quercus suber)	7	38	\$ 83.00	\$ 3,194.22	fair-good	fair	fair	60%	50%	100%	\$ 958.27	\$ 960.00
908	valley oak (<i>Quercus</i> Iobata)	5	20	\$ 83.00	\$ 1,629.71	fair-good	fair	fair	50%	50%	100%	\$ 407.43	\$ 400.00

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To Accompany Tree Associates, Inc. Report January 17, 2020

Tree #	Species	Trunk Dia.	Area of Trunk (sq. in.)	Unit Cost Nursery Tree (\$83/sq. in.)	Basic Cost (area X unit cost)	Health Rating	Structural Rating	Form Rating	Overall Conditio n Rating	Functional Limitation Rating	External Limitatio n Rating	Depreciated Cost	Appraised Value (rounded, nearest \$10)
909	English walnut (Juglans regia)	17	227	\$ 83.00	\$ 18,839.39	poor	poor	poor	10%	10%	100%	\$ 188.39	\$ 190.00
910	tree of heaven (Ailanthus altissima)	8,8	100	\$ 83.00	\$ 8,300.00	fair-good	poor	poor-fair	30%	10%	100%	\$ 249.00	\$ 250.00
911	tree of heaven (Ailanthus altissima)	8	50	\$ 83.00	\$ 4,172.04	fair-good	poor-fair	poor-fair	40%	10%	100%	\$ 166.88	\$ 170.00
912	tree of heaven (Ailanthus altissima)	11	95	\$ 83.00	\$ 7,887.77	fair-good	fair	fair	50%	10%	100%	\$ 394.39	\$ 390.00
913	valley oak (Quercus lobata)	40	1257	\$ 83.00	\$ 104,301.12	good	fair-good	good	70%	50%	100%	\$36,505.39	\$ 36,510.00
914	common hackberry (Celtis occidentalis)	9	64	\$ 83.00	\$ 5,280.24	good	poor-fair	poor-fair	30%	50%	100%	\$ 792.04	\$ 790.00
915	tree of heaven (Ailanthus altissima)	5,4	33	\$ 83.00	\$ 2,739.00	fair	fair	fair	50%	10%	100%	\$ 136.95	\$ 140.00
916	Chinese hackberry (Celtis sinensis)	5,5	40	\$ 83.00	\$ 3,320.00	fair-good	poor	fair	30%	90%	100%	\$ 896.40	\$ 900.00

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To Accompany Tree Associates, Inc. Report January 17, 2020

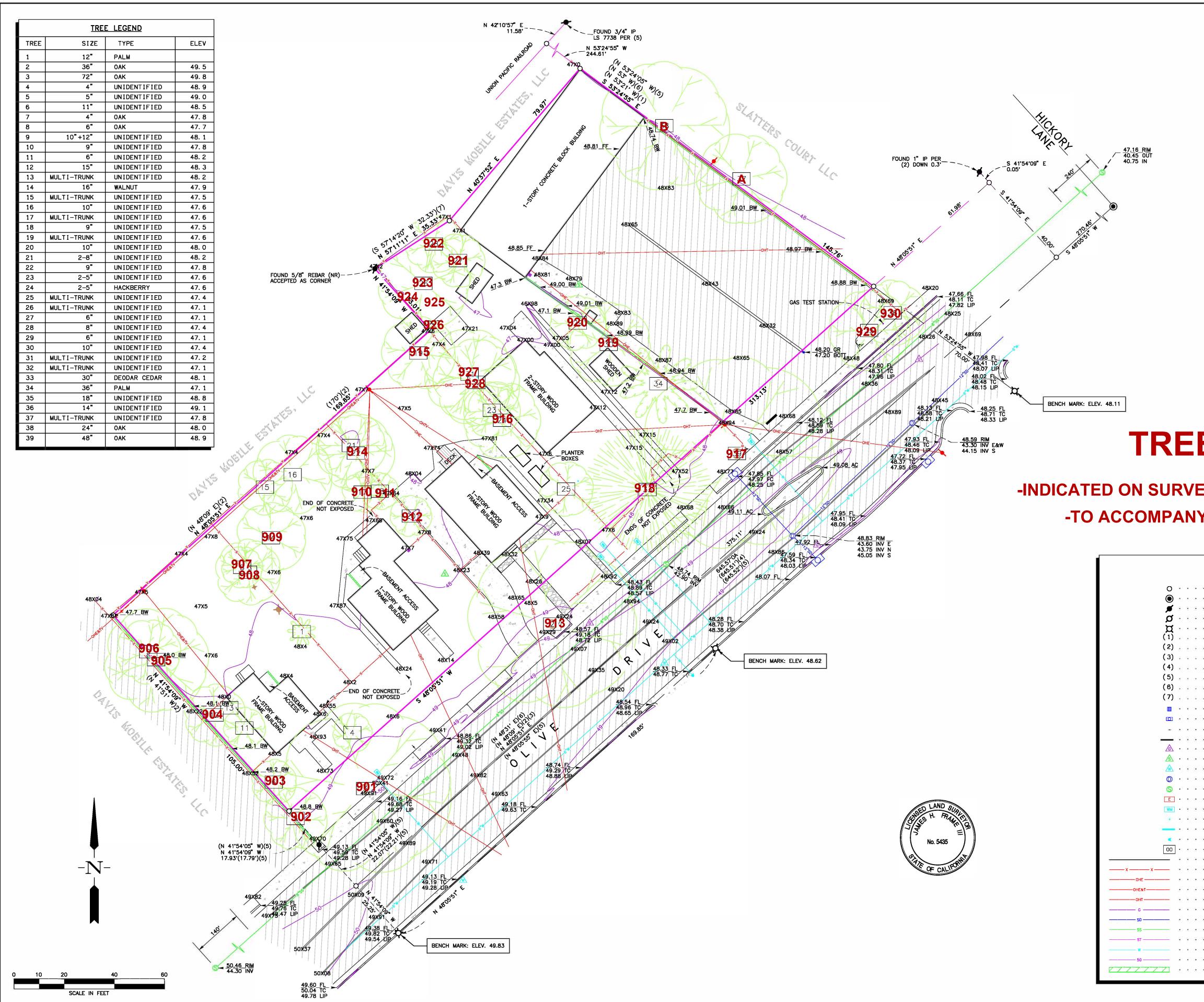
Tree #	Species	Trunk Dia.	Area of Trunk (sq. in.)	Unit Cost Nursery Tree (\$83/sq. in.)	Basic Cost (area X unit cost)	Health Rating	Structural Rating	Form Rating	Overall Conditio n Rating	Functional Limitation Rating	External Limitatio n Rating	Depreciated Cost	Appraised Value (rounded, nearest \$10)
917	cork oak (Quercus suber)	54	2290	\$ 83.00	\$ 190,088.79	fair	fair	good	50%	50%	100%	\$47,522.20	\$ 47,520.00
918	deodar cedar (Cedrus deodara)	33	855	\$ 83.00	\$ 70,989.95	fair	fair	fair	30%	50%	100%	\$10,648.49	\$ 10,650.00
919	tree of heaven (Ailanthus altissima)	12	113	\$ 83.00	\$ 9,387.10	fair-good	fair	fair- good	50%	10%	100%	\$ 469.36	\$ 470.00
920	Modesto ash (<i>Fraxinus velutina</i> 'Modesto')	8	50	\$ 83.00	\$ 4,172.04	poor	poor	poor	10%	10%	100%	\$ 41.72	\$ 40.00
921	tree of heaven (Ailanthus altissima)	5	20	\$ 83.00	\$ 1,629.71	fair-good	fair	fair	50%	10%	100%	\$ 81.49	\$ 80.00
922	tree of heaven (Ailanthus altissima)	7	38	\$ 83.00	\$ 3,194.22	fair-good	poor	poor	20%	10%	100%	\$ 63.88	\$ 60.00
923	tree of heaven (Ailanthus altissima)	13,11	228	\$ 83.00	\$ 18,924.00	fair-good	poor-fair	poor-fair	40%	10%	100%	\$ 756.96	\$ 760.00
924	tree of heaven (Ailanthus altissima)	6	28	\$ 83.00	\$ 2,346.78	fair-good	poor-fair	poor	40%	0%	100%	\$-	\$-

Exhibit 3.

To Accompany Tree Associates, Inc. Report January 17, 2020

Tree #	Species	Trunk Dia.	Area of Trunk (sq. in.)	Unit Cost Nursery Tree (\$83/sq. in.)	Basic Cost (area X unit cost)	Health Rating	Structural Rating	Form Rating	Overall Conditio n Rating	Functional Limitation Rating	External Limitatio n Rating	Depreciated Cost	Appraised Value (rounded, nearest \$10)
925	tree of heaven (Ailanthus altissima)	4,3	20	\$ 83.00	\$ 1,660.00	fair-good	fair	poor-fair	fair 40%	% 10%	100%	\$ 66.40	\$ 70.00
926	tree of heaven (Ailanthus altissima)	5	20	\$ 83.00	\$ 1,629.71	fair-good	fair	fair	50%	0%	100%	\$ -	\$-
927	tree of heaven (Ailanthus altissima)	7,3,5,4	78	\$ 83.00	\$ 6,474.00	fair-good	fair	fair	30%	10%	100%	\$ 194.22	\$ 190.00
928	tree of heaven (Ailanthus altissima)	7,6	66	\$ 83.00	\$ 5,478.00	fair-good	poor-fair	fair	30%	10%	100%	\$ 164.34	\$ 160.00
929	black locust (Robinia psuedoaccacia)	19	284	\$ 83.00	\$ 23,532.94	fair	fair	fair- good	50%	40%	100%	\$ 4,706.59	\$ 4,710.00
930	black locust (Robinia psuedoaccacia)	15	177	\$ 83.00	\$ 14,667.35	fair	poor-fair	poor-fair	40%	40%	100%	\$ 2,346.78	\$ 2,350.00

Exhibit 3.



UTILITY NOTE

UTILITY INFORMATION SHOWN WAS DEVELOPED IN ACCORDANCE WITH CI/ASCE 38-02 QUALITY LEVEL C USING OBSERVED SUR-FACE INDICATIONS AND RECORD DRAWINGS. USERS OF THIS MAP ARE CAUTIONED TO VERIFY THE LOCATIONS OF ANY UTILITY FACILITIES PRIOR TO MAKING CRITICAL DESIGN DECISIONS OR COMMENCING CONSTRUCTION ACTIVITIES.

BASIS OF BEARINGS THE CENTERLINE OF OLIVE DRIVE AS ESTABLISHED FROM MONUMENTS SHOWN HEREON, TAKEN AS NORTH 48'05'51" EAST PER 2000 M 1.

VERTICAL DATUM

ELEVATIONS SHOWN ON THIS MAP ARE REFERENCED TO NAVD88 BY MEANS OF REDUNDANT RTK OBSERVATIONS TAKEN AT 3 POINTS ALONG OLIVE DRIVE FROM CALIFORNIA REAL TIME NETWORK STATION UCD1 AND APPLYING NGS GEOID MODEL GEOID12B.

TREE LOCATIONS

-INDICATED ON SURVEY BY FRAME SURVEYING AND MAPPING -TO ACCOMPANY TREE ASSOCIATES, INC. REPORT

<u>LEGEND</u>

	DIMENSION POINT FOUND 1" CIP IN WELL PER 12 M&S 3 FOUND MONUMENT AS SHOWN SET 5/8"X24" REBAR LS 5435 SET 1" COPPER DISK LS 5435 REFEREN RECORD PER 5 M&S 74 RECORD PER 5 M&S 75 RECORD PER 12 M&S 3 RECORD PER 2010 M 1 RECORD PER 2018-0022691 O. R. RECORD PER 2018-0025815 O. R. DRAIN INLET DRAIN INLET SIGN SIGN GAS VALVE	AC BLDG BW CIP CE MARK EP ELEC FL FP GR INV IP RIM TEL TW TYP. UTIL				ASPHALTIC CONCRETE BUILDING BASE OF WALL CAPPED IRON PIPE EDGE OF PAVEMENT ELECTRIC FLOWLINE FINISHED PAVEMENT GRATE INVERT ELEVATION IRON PIPE RIM ELEVATION TELEPHONE TOP OF WALL TYPICAL UTILITY	TOPOGRAPHIC SUF A PORTION OF SEC. 15, T8N I OLIVE DRIVE, CITY OF DAVIS, YOL
	SEWER CLEANOUT				• •	AC PAVING	
•	WATER VALVE STORM DRAIN MANHOLE SEWER MANHOLE ELECTRIC BOX					DECOMPOSED GRANITE	ING & MAPPING DAVIS, CA 95616 framesurveying.com
	WATER METER WATER RISER ANTISIPHON FIRE HYDRANT		•		•••	CONCRETE PAVING	EYING & DAVIS, framesur
•	TREE NUMBER BUILDING OUTLINE FENCE LINE		•	•	•••	COBBLESTONES	SURVEY
•	OVERHEAD ELECTRIC OVERHEAD ELECTRIC & TELEPHONE OVERHEAD TELEPHONE		•	•	• •	BRICK PAVING	E
•	GAS LINE STORM DRAIN LINE				•••	TREE	AME A STREE 756.8584
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	WATER LINE ELEVATION CONTOUR WALL						H

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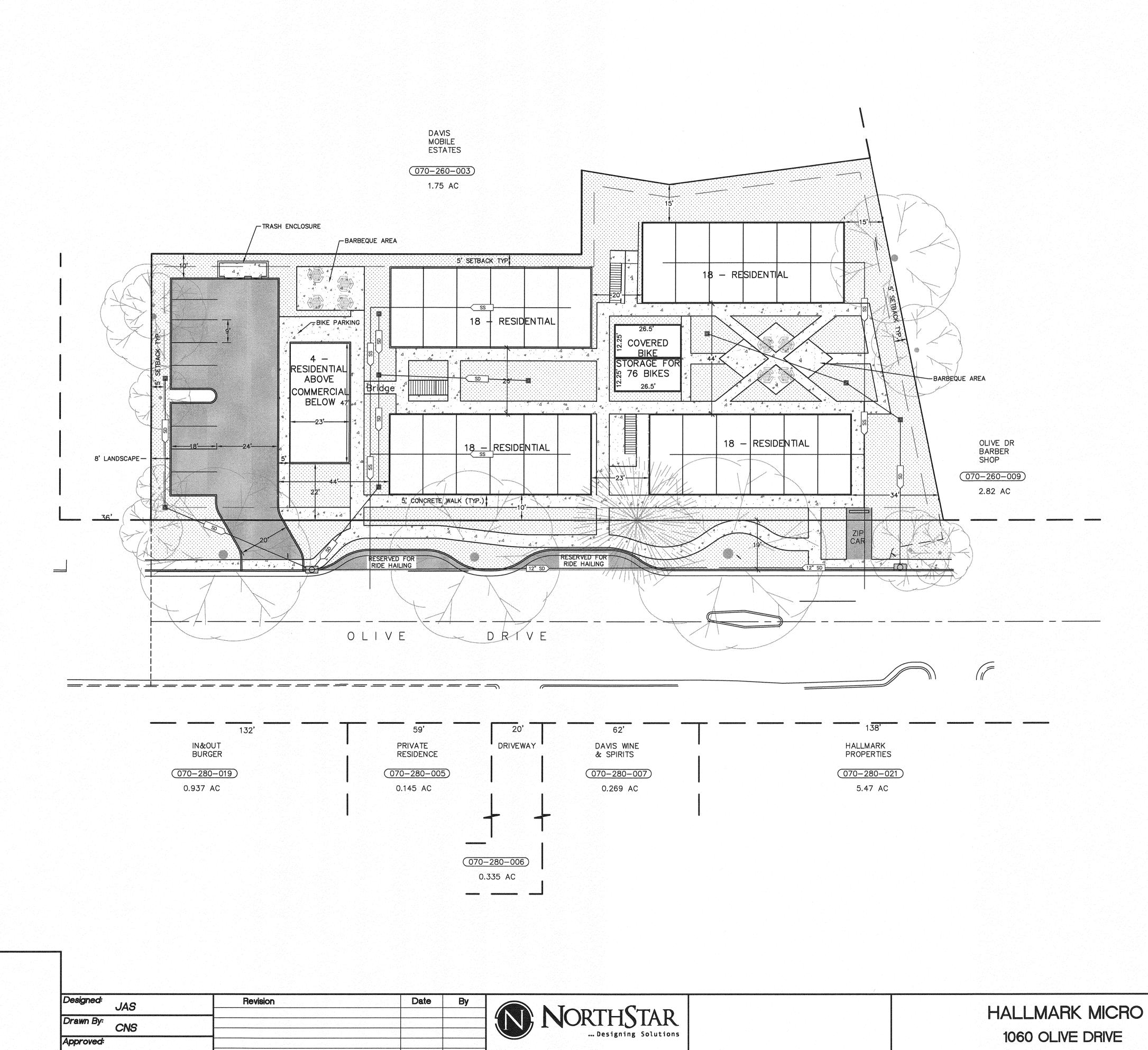
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December 13, 2019

Date:

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DAVIS, CALIFORNIA

