



March 5, 2020

Aubree Scheideman
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Re: Arborist Report for 3315 Almaden Expressway, San Jose

Dear Aubree,

This arborist report addresses the proposed project at 3315 Almaden Expressway. Per the City of San Jose's Tree Removal Ordinance Chapter 13.32, the scope of work includes:

- Tag, identify and measure all trees on or overhanging the project area that may be affected by proposed construction.
- Note any ordinance-sized or heritage trees, if present. Ordinance-sized trees are single-trunked trees with circumferences $\geq 38''$ (~12" diameter) at 4.5' above grade and multi-stemmed trees with a combined trunk circumference $\geq 38''$.
- Identify dripline locations and tree numbers on site plan.
- Assess individual tree health and structural condition.
- Assess proposed improvements for potential encroachment.
- Based on proposed encroachment, tree health, structure, and species susceptibility, make recommendations for preservation.



Figure 1. The property is developed with a commercial complex. Nearly all existing structures, landscaping, and hardscape will be demolished to construct a new assisted living facility.

Project Summary

The project site is located at the northwest corner of the Almaden Expressway & Newberry Drive intersections. It is currently developed with a commercial complex, which is anchored by a credit union and several smaller businesses (Figure 1). The building sits in the center of the lot; parking lots & drive aisles completely surround it. Existing landscaping is limited to planting strips in the parking lot and by the buildings. The proposed project will demolish the majority of the existing structures, hardscape and landscape to construct an assisted living facility. The facility will also feature outdoor spaces and walkways. Parking lots and driveways will be shifted to the north and west property lines (Figure 2).

I included forty-seven (47) trees in my tree inventory, thirty-one (31) of which are considered Ordinance-sized trees. The species include olive, Brazilian pepper, crape myrtle, redwood, eucalyptus, privet, ash, and Indian hawthorn (Figure 3). Some of the inventoried trees are more like shrubs, but their species (crape myrtle & privet) have the potential to become small trees. Since the building footprints & parking lots will be reoriented, the project's impact on the existing trees is high and will require the removal of the majority of the trees – including off-site trees.



Figure 2. The new driveway will likely result in significant root loss for the eucalyptuses (#70 & 71, left) and the ash (#69, center). I recommend exploratory trenching by the ash to assess root encroachment & to inform design.

It is my opinion that a total of thirty-eight (38) trees will need to be removed to accommodate the proposed project. The remaining nine (9) trees can be retained given that the protection measures within this report are followed, though one will require design changes to preserve. If off-site trees cannot be approved for removal by their respective property owners, the proposed design will need to be adjusted to reduce encroachment.

Assumptions & Limitations

This report is based on my site visit on 3/2/20, survey by Partner Engineering and Science, Inc. (copyright 2016), and conceptual landscape plan by JETT Landscape Architecture (dated 1/6/20). It was assumed that the trees and the proposed improvements were accurately surveyed. Most of the trees were not surveyed but were easy to locate based on satellite imagery and existing conditions. My assessment of construction encroachment & tree protection recommendations are only as accurate as my estimate of the trees' locations.

The health and structure of the trees were assessed visually from ground level. No drilling, root excavation, or aerial inspections were performed. Internal or non-detectable defects may exist and could lead to part or whole tree failures. Due to the dynamic nature of trees and their environment, it is not possible for arborists to guarantee that trees will not fail in the future.

Tree Inventory & Assessment Table

#s: Each tree was given a square metal tag with numbers ranging from #30-76; off-site inaccessible trees were not tagged. Their locations are given in the tree protection plan.

DBH (Diameter at Breast Height): Trunk diameters in inches were measured at 4.5' above average grade with a diameter tape. Height of measurement may deviate from the standard on atypical trunks; deviations are noted under the "Comments" section.

Health & Structural Condition Rating

Dead: Dead or declining past chance of recovery.

Poor (P): Stunted or declining canopy, poor foliar color, possible disease or insect issues. Severe structural defects that may or may not be correctable. Usually not a reliable specimen for preservation.

Fair (F): Fair to moderate vigor. Minor structural defects that can be corrected. More susceptible to construction impacts than a tree in good condition.

Good (G): Good vigor and color, with no obvious problems or defects. Generally more resilient to impacts.

Very Good (VG): Exceptional specimen with excellent vigor and structure. Unusually nice.

Dripline: Canopy radius was visually estimated in each cardinal direction.

Age

Young (Y): Within the first 20% of expected life span. High resiliency to encroachment.

Mature (M): Between 20% - 80% of expected life span. Moderate resiliency to encroachment.

Overmature (OM): In >80% of expected life span. Low resiliency to encroachment.

DE: Dripline Encroachment (X indicates encroachment)

CI: Anticipated Construction Impact (L = Low, M = Moderate, H = High)

OS: X notes Ordinance sized trees per the Tree Removal Ordinance

Tree Encroachment Summary

- Trees that will need to be removed: #31-44, 46-60, 62-64, 68 & 70-74 (38 trees).
 - Ordinance sized trees to be removed: 32, 34-36, 40, 41, 43, 44, 46, 48, 53-55, 59, 60, 62-64, 70-74 (23 trees)
 - Off-site trees to be removed (requires owner approval): #62-64 & 70-71 (5 trees)
- Trees that may need to be removed if design is not changed: #69 (1 tree)
- Trees to be saved that will be subjected to dripline encroachment: #30, 45, 61, 67, 75 (5 trees)
- Trees to be saved that will not be encroached: #65, 66, 76 (3 trees)

#	Species	DBH	Health	Structure	Dripline				Age	DE	Ci	OS	Comments	Action
					N	E	S	W						
30	Olive (<i>Olea europea</i>)	7, 9, 7, 5.5	G	G	10	8	10	10	M	X	L	X	Co-dominant trunks. Proposed parking ~10'-13' from trunk.	Apply 4" thick layer of mulch & install 6' chain-link fencing.
31	Olive	3, 3, 3, 2, 1	G	G-F	7	7	7	7	Y	X	H		Diameter measured at 3' due to multiple trunks, does not include 3 additional <1" stems. In proposed parking.	Remove.
32	Olive	7, 6.5, 6.5, 6.5	G	G	10	10	10	8	M	X	H	X	Multiple trunks. Canopy slightly sparse compared to other olives. In proposed parking.	Remove.
33	Olive	6, 6	G	G	8	8	10	6	M	X	H		Multiple trunks. Canopy slightly sparse compared to other olives; canopy & roof conflict. In proposed parking.	Remove.
34	Olive	5, 5, 4.5, 5.5	G	G	10	10	10	6	M	X	H	X	Multiple trunks. Canopy slightly sparse compared to other olives; canopy & roof conflict. In proposed grading.	Remove.
35	Olive	6, 4, 5	G	G	6	10	10	6	M	X	H	X	Multi-trunked. In proposed walkway.	Remove.
36	Olive	5.5, 7, 8, 8, 8.5	G	G	10	10	10	10	M	X	H	X	South base of trunk decayed. In proposed building.	Remove.
37	Indian hawthorn (<i>Rhaphiolepis indica</i>)	1	G-F	F	2	2	2	2	Y	X	H		New tree; tag on stake. Thrips damage to leaves. Poorly tapered trunk with 2 levels of stake ties. In proposed building.	Remove.
38	Indian hawthorn	1	F	F	2	2	2	2	Y	X	H		New tree; tag on stake. Thrips damage to leaves. Poorly tapered trunk with 2 levels of stake ties. In proposed building.	Remove.
39	Crape myrtle (<i>Lagerstroemia</i> CV)	3, 3, 2, 2	F	F	3	3	3	3	M	X	H		Tag/measured at base. Topped multi-stemmed shrub (6 stems x 1.5", 4 stems x 1"). In proposed building.	Remove.
40	Olive	7, 5.5, 6	G	G	8	10	8	10	M	X	H	X	Multi-trunked. In proposed grading.	Remove.
41	Olive	11, 7	G	G	8	8	10	8	M	X	H	X	In proposed grading.	Remove.
42	Olive	1.5, 2, 1.5, 2, 1.5, 1.5, 1, 1, 1	F-P	G	8	8	8	8	Y-M	X	H		Canopy moderately sparse with yellow/brown new foliage. In proposed garden area.	Remove.

#	Species	DBH	Health	Structure	Dripline				Age	DE	Ci	OS	Comments	Action
					N	E	S	W						
43	Olive	13	G	G	10	10	8	12	M	X	H	X	Trunk/root to S dead but stable. Within 2' of proposed building.	Remove.
44	Brazilian pepper (<i>Schinus terebinthifolia</i>)	25	G	F	15	15	15	15	M	X	H	X	Co-dominant stems at 3.5', flush till 5'. Usual messy structure. Ramp to parking with 2 replaced panels (not sure if root related). In proposed grading.	Remove.
45	Brazilian pepper	7.5, 8, 5, 6	G	F	15	15	15	15	M	X	M	X	Multiple stems arising from different levels. Typical messy structure. 6' from proposed walkway.	Apply 4" thick layer of mulch & install 6' chain-link fencing. Cleanly prune roots \geq 2" diameter. Provide supplemental irrigation.
46	Olive	10.5, 9, 7.5	G	G	12	12	12	12	M	X	H	X	Second largest stem girdled by old guying wire. Minor decay in canker on S side of trunk. Over existing water line.	Remove.
47	Crape myrtle	9 stems x 1.5"	F	F	2	2	2	2	Y	X	H		5' multi-stemmed shrub. Girdling root on S of trunk. In proposed building.	Remove.
48	Mexican fan palm (<i>Washingtonia robusta</i>)	19	G-F	G	3	3	3	3	M	X	H	X	Minor chlorosis. In proposed building.	Remove.
49	Crape myrtle	14 stems x 0.5"	F	F	2	2	2	2	Y	X	H		5' multi-stemmed shrub. In proposed building.	Remove.
50	Crape myrtle	11 stems x 0.5"	F	F	2	2	2	2	Y	X	H		5' multi-stemmed shrub. In proposed building.	Remove.
51	Crape myrtle	5 stems x 1"; 5 stems x 0.5"	F	F	2	2	2	2	Y	X	H		6' multi-stemmed shrub. In proposed building.	Remove.
52	Crape myrtle	4 stems x 1"; 4 stems x 0.5"	F	F	2	2	2	2	Y	X	H		6' multi-stemmed shrub. In proposed building.	Remove.

#	Species	DBH	Health	Structure	Dripline				Age	DE	Ci	OS	Comments	Action
					N	E	S	W						
53	Olive	4.5, 5.5, 4, 5.5	G	G	8	6	6	8	M	X	H	X	In proposed building.	Remove.
54	Olive	6.5, 5.5	G-F	G	6	6	6	6	M	X	H	X	New growth slightly sparse. In proposed parking.	Remove.
55	Privet (<i>Ligustrum lucidum</i>)	2, 3, 2, 3, 4	F-P	F-P	8	0	8	8	M	X	H	X	Slightly sparse/chlorotic; dominated by ivy and eucalyptus. Within 1' of proposed parking.	Remove.
56	Privet	2, 2, 2, 2, 1	F-P	F	3	2	10	4	M	X	H		Slightly sparse/chlorotic; dominated by ivy and eucalyptus. 3' from proposed parking.	Remove.
57	Privet	6, 4	F-P	F-P	0	10	10	3	M	X	M		Slightly sparse/chlorotic; dominated by ivy and eucalyptus. 4' from proposed parking.	Remove.
58	Privet	4, 3, 3	F-P	F	0	0	6	6	M	X	H		Slightly sparse/chlorotic; dominated by ivy and eucalyptus. In proposed parking.	Remove.
59	Privet	4, 3, 3, 3, 3	F-P	F	0	0	10	0	M	X	H	X	Slightly sparse/chlorotic; dominated by ivy and eucalyptus. Within 1' of proposed parking.	Remove.
60	Privet	6, 3, 6, 3, 7	F-P	F	8	10	8	6	M	X	H	X	Slightly sparse/chlorotic; dominated by ivy and eucalyptus. Within 1' of proposed parking.	Remove.
61	Unknown	11	F-P	F-P	6	6	6	6	M	X	M		Off-site tree. Large trunk scar on N. Stunted & sparse canopy with original leader overtaken by large epicormic sprouts (at 5'). Dominated by ivy. 7' from proposed parking.	Install temporary 6' chain-link fencing. Add mulch. Note tree likely to decline regardless.
62	Ironbark eucalyptus (<i>Eucalyptus sideroxylon</i>)	26	G	P	12	20	15	18	M	X	H	X	Off-site. DBH estimated due to ivy & epicormic sprouts. Co-dominant stems at 20 and topped at 25' with epicormic sprouts from cuts; existing failures. Significant lift of curb and obvious root into parking lot. 6' from proposed parking.	Remove. Owner approval required.
63	Ironbark eucalyptus	16	F	P	18	8	8	10	M	X	H	X	Off-site. Topped at 20' with epicormic sprouts from cuts. 5' from proposed parking.	Remove. Owner approval required.

#	Species	DBH	Health	Structure	Dripline				Age	DE	Ci	OS	Comments	Action
					N	E	S	W						
64	Ironbark eucalyptus	27.5	F-P	VP	20	20	10	10	M	X	H	X	Off-site. Topped at 20' with very elongated shoots and obvious failures; canopy sparse. Co-dominant stems at 6' above grade. Obvious root shaped asphalt damage. 5' from proposed parking.	Remove. Owner approval required.
65	Ironbark eucalyptus	28	F	P	18	15	18	18	M		L	X	Off-site. Topped at 20'. ~23' from proposed parking.	Install temporary protection fencing. Keep proposed irrigation as far as possible to reduce root disturbance.
66	Oleander (<i>Nerium oleander</i>)	4, 2, 2.5, 2, 2, 1	F	F	3	3	8	8	M		L	X	Essentially a shrub. Clear of construction, in proposed landscape area. Not great specimen for preservation but may be retained for minor screening.	Install temporary protection fencing. Keep proposed irrigation as far as possible to reduce root disturbance.
67	Privet	8, 7, 4, 4, 3, 7	F	F	15	15	10	6	M	X	L	X	Multiple crossing stems. 14' from proposed parking. Not great specimen for preservation but may be retained for minor screening.	Install temporary protection fencing. Keep proposed irrigation as far as possible to reduce root disturbance.
68	Privet	2, 3, 2, 3, 2, 1, 1	F-P	F	5	6	4	6	M	X	H		Encompasses 3 semi-separate clusters of trunks. Sparse drought stressed (chlorotic foliage). In proposed parking.	Remove.
69	Ash (<i>Fraxinus</i> sp)	32	F-P	F-P	30	25	30	25	M	X	H	X	Off-site; DBH estimated; tag on fence. Clear root damage in parking lot and adjacent property - asphalt cracked to 20' from tree (part of damage may not be related to roots). Multiple co-dominant stems at 6' with narrow attachments. 7'-8' from proposed curb/driveway.	Perform exploratory trenching along property line to determine root encroachment. If root loss will be excessive, adjust design & recommendations based on trench findings. Alternatively, remove tree if owner is amenable.
70	Ironbark eucalyptus	20	G-F	F-P	20	20	3	20	M	X	H	X	Off-site; DBH estimated at base due to swelling; no tag. Multiple stems at 4'. Slightly sparse canopy with elongated branches. ~6' W of curb. Minor crack/lift of parking at ~1' east of curb; may not be tree related. 1' from proposed curb.	Remove. Owner approval required. To save, keep proposed driveway and curb in same footprint as existing.
71	Ironbark eucalyptus	36	F	F-P	10	15	18	15	M	X	H	X	Off-site; DBH estimated at base due to swelling; no tag. ~8'-9' from curb. Slightly sparse canopy. Crossing multiple branches at 4'. Minor hardscape damage. 4' from proposed curb.	Remove. Owner approval required. To save, keep proposed driveway and curb in same footprint as existing.

#	Species	DBH	Health	Structure	Dripline				Age	DE	Ci	OS	Comments	Action
					N	E	S	W						
72	Olive	7, 6, 5, 7	G	G	6	8	12	12	M	X	H	X	Tagged at 3' above grade. 1' from existing curb. In proposed driveway.	Remove.
73	Olive	7, 7, 6, 5.5, 8	G	G-F	10	10	8	10	M	X	H	X	Root flare/mass pushing out curb & lifting asphalt (minor). Trunk appears to be entirely on property (~4'). In proposed driveway.	Remove.
74	Olive	8, 7, 7.5, 7	G	G-F	8	8	8	8	M	X	H	X	Root mass pushing out curb to NE. Trunk appears to be entirely on property (~4'). In proposed driveway.	Remove.
75	Olive	6.5, 6, 6, 6	G	G	10	10	10	10	M	X	H	X	Off-site tree. ~6' from west curb. ~3' from proposed driveway/curb. Species tolerant of construction.	Install protection fencing at property line. Contractor shall hand dig along property line; arborist to review & cleanly prune roots prior to use of machinery. Provide supplemental irrigation.
76	Coast redwood (<i>Sequoia sempervirens</i>)	38.5	G-F	G-F	15	15	15	4	M		L	X	Off-site, no tag. Squat structure with elongated scaffolds. Slightly sparse & off color canopy. Clear of construction.	None.



Figure 3. (L-R) The crape myrtles, Indian hawthorn, privets, and olives (except 2) will all need to be removed.

Discussion

The proposed construction will disturb the majority of the site, which limits the areas that can be protected. Of the on-site trees, I identified an olive (#30) and Brazilian pepper (#45) that can be saved. They are both tolerant of root loss, and their existing landscape planters will remain largely intact. The pepper will be encroached by the construction of the proposed walkway, which will require excavation and soil compaction. Root loss from excavation reduces a tree's ability to absorb water, while compacted soil has less space for root growth and water storage. Drought stress from root loss can be mitigated by applications of water and mulch. Irrigation should be provided with soaker hoses, which allow for deep watering with minimal runoff. The hoses should be laid as close to the tree driplines as possible, since fibrous absorption roots are located further from the trunk. If on-site water is not available during construction, the contractors may need to find alternative methods of providing similar irrigation. Mulch further reduces stress by conserving water & providing a buffer from foot & equipment traffic. The mulch should be left in place after construction is completed – it will slowly break down & improve soil. Two off-site trees (#61 & 75) should be similarly irrigated.

The proposed driveway and parking lots will be constructed right up to the west and north property lines, which require demolition of half of the shared landscape planters. All tree roots on the subject property will be removed, including those attached to off-site trees. This root encroachment will occur within the structural root plates (SRPs) of several large eucalyptuses (#62-64, 70 & 71, Figure 4). The SRP is defined as the area adjacent to the trunk where the largest diameter supportive roots are found; significant root pruning within the SRP increases the likelihood of whole tree failure. I recommend these trees be removed, especially since eucalyptuses are notorious for branch failures.

The off-site ash (#69, Figure 2) at the northwest corner of the property is worthy of preservation efforts. I recommend digging an exploratory trench to assess the potential root loss from the proposed driveway. It

is likely to be high, based on visible asphalt damage, and design changes will likely be required to reduce encroachment on the tree. The trenching will also determine the depth of the roots causing damage – if they are sufficiently deep, I would recommend reusing as much of the existing subgrade and subbase as possible to reduce root loss. Likewise, design adjustments will be necessary if other off-site trees must be saved (i.e. pending city or owner approval).

Lastly, I also recommend that excavation first proceed by hand by olive #75. Roots can be assessed by an arborist and then cleanly pruned to avoid being fractured by heavy equipment. Although anticipated encroachment is high, I feel that the tree is likely to survive as long as it receives sufficient irrigation and care. Mature olives are easily transplanted, even when they are even larger and older than this tree.



Figure 4. The ironbark eucalyptuses (#64 above) were topped and have poor structure. I recommend their removal due to high root encroachment.

Recommendations (to be printed on site plans)Design Phase

- Dig an exploratory trench along the property line by tree #69 to review root encroachment from the proposed driveway. Trenching may be completed with an arborist air spade or with hand tools down to the anticipated depth of excavation. If root loss will be excessive, the proposed driveway will need to be adjusted to preserve the tree. Tree protection recommendations will need to be updated if the tree is retained.
 - Alternatively, the tree may be removed if the owner approves of its removal.
- In general, to save off-site trees (e.g. 70 & 71) along the north and west property lines, maintain the same footprint for the proposed driveway and curb as the existing driveway and curb. The updated plans will need to be reviewed to update the recommended tree protection
- New irrigation lines shall be located as far from trees #65-67 as possible to reduce root disturbance.

Pre-Construction Phase

- Remove trees #31-44, 46-60, 62-64, 68 & 70-74 (38 trees). Trees # 62-64 & 70-71 are off-site and require owner approval to remove.
- Mulch from tree removals shall be spread out under the driplines of trees #30 & 45 to a depth of 4', keeping at least 12" away from the trunks.
- Prior to construction or grading, contractor shall install 6' chain-link fencing to construct a temporary Tree Protection Zone (TPZ) around each tree or grove of trees as indicated on the tree protection plan.
- TPZ fencing shall remain in an upright sturdy manner from the start of grading until the completion of construction. Fencing shall not be adjusted or removed without consulting the project arborist.

Foundation, Grading, and Construction Phase

- Provide monthly supplemental irrigation to trees #45, 61 & 75 during construction. Irrigation shall be provided with soaker hoses, laid as close to the tree dripline as possible. Use the lowest water pressure that allows water to bead out of the entire length of the hose, and leave on for a minimum of 8 hours.
- The contractor shall excavate by hand along the property line by tree #75. The project arborist shall review root encroachment & cleanly prune roots with a handsaw or sawzall. The contractor shall keep the roots covered & moist until the new curb is completed.
- If roots ≥ 2 " in diameter are encountered during excavation by tree #45, they shall be cleanly pruned with a handsaw or sawzall, immediately covered, and kept moist till backfilled.
- If needed, pruning shall be performed by personnel certified by the International Society of Arboriculture (ISA). All pruning shall adhere to ISA and American National Standards Institute (ANSI) Standards and Best Management Practices.
- Should Tree Protection Zone (TPZ) encroachment be necessary, the contractor shall contact the project arborist for consultation and recommendations.
- Contractor shall keep TPZs free of all construction-related materials, debris, fill soil, equipment, etc. The only acceptable material is mulch spread out beneath the trees.
- Should any damage to the trees occur, the contractor shall promptly notify the project arborist to appropriately mitigate the damage.

Landscaping Phase

- The Tree Protection Zone (TPZ) fencing shall remain in place with the same restrictions until landscape contractor notifies and meets with the project arborist.
- Avoid all fill work, grade changes, and trenching within driplines unless it is performed by hand.
- Pipes shall be threaded under or through large roots without damaging them.

Thank you for the opportunity to provide this report, and please do not hesitate to contact me if there are any questions or concerns.

Please see attached tree protection plan.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jennifer Tso', written in a cursive style.

Jennifer Tso
Certified Arborist #WE-10270A
Tree Risk Assessor Qualified