APPENDIX E

ARBORIST REPORT

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ARBOR RESOURCES
professional consulting arborists and tree care

ARBORIST REPORT

PACIFIC & LIVERMORE CENTER

2930 PACIFIC AVENUE
LIVERMORE, CALIFORNIA

Submitted to:

SWENSON
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Prepared by:

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June 7, 2023

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EXHIBITS

EXHIBIT	TITLE
A	TREE INVENTORY TABLE (10 sheets)
B	SITE MAP (1 sheet)
C	PHOTOGRAPHS (11 sheets)

1.0 INTRODUCTION

SWENSON is planning a mixed-use development for 2930 Pacific Avenue, Livermore. The project site is located along the north side of Pacific Avenue, bordered by S. Livermore Avenue to the southwest, Dolores Street to the east, and a residential neighborhood to the north (along Cabrillo Avenue). The scope of work includes demolishing two existing buildings and constructing 115 townhomes. As part of their planning submittal to the City of Livermore, SWENSON has retained me to prepare this *Arborist Report*, and specific tasks assigned to execute are as follows:

- Visit the site on 2/28/22, 3/1/22 and 3/4/22 to identify 71 trees within the property and along adjoining street frontages.
- Determine each tree's trunk diameter at 54 inches above grade, or for appraisal purposes, where needed to best represent trunk size; diameters are round to the nearest tenth-of-an-inch. Also, calculate the trunk circumference of each tree pursuant to City Code Section 12.20.160(E) and round to the nearest whole number.
- Estimate each tree's height and average canopy spread (rounded to the nearest fifth).
- Ascertain each tree's health, structural integrity and form, and assign an overall condition percentage (100%=best, 0%=worst) and description (e.g. good, fair or poor).
- Rate each tree's suitability for preservation (e.g. high, moderate or low).
- Obtain photographs; see Exhibit C.
- Identify which are defined as street trees, protected trees, and/or California natives pursuant to the Livermore Municipal Code.
- Assign numbers in a sequential pattern from #1 thru 71, and plot onto the site map in Exhibit B (base map is the *Existing Conditions & Demolition Plan*, dated 6/15/21, prepared by Civil Engineering Associates).
- Affix round metal tags with corresponding numbers onto each tree.[1]
- Review the two *Arborist Coordination* plan sheets, dated 5/31/23, to help ascertain the project scope and potential impacts.
- Provide design guidelines and protection measures to help mitigate or avoid potential impacts to retained trees.
- Prepare a written report presenting the above information, and submit via email as a PDF document.

[1] In the case of #42, the tag was tied onto the adjacent gate due to its trunk being inaccessible.

2.0 TREE COUNT AND COMPOSITION

Seventy-one (71) trees of seven various species were inventoried for this report. They are sequentially numbered as 1 thru 71, and the table below identifies their common names, assigned numbers, counts and overall percentages.

Table 1 - Tree Count and Composition

NAME	TREE NUMBER(S)	COUNT	% OF TOTAL
Chinese pistache	42	1	1%
Crape myrtle	5-7, 10, 13, 16-24, 28-35, 44, 48, 69-71	27	38%
Deodar cedar	14, 15, 25-27, 36-38, 43, 46, 47, 49-68	31	44%
Japanese flowering cherry	45	1	1%
Pepper tree	1	1	1%
Sawleaf Zelkova	4, 8, 9, 11, 12, 39-41	8	11%
Tree-of-Heaven	2, 3	2	3%
	Total	**71**	**100%**

Specific information regarding each tree is presented within the table in Exhibit A. The trees' assigned numbers and approximate locations can be viewed on the site map in Exhibit B, and photographs are presented in Exhibit C.

As illustrated in the table above, Deodar cedars and crape myrtles are the most frequently encountered trees, comprising at total of 82%. All inventoried species are regarded as ornamental and not native to the local geographical region, and none are defined as California natives pursuant to Section 12.20.160(B) of the Livermore Municipal Code.

Twenty-two (22) trees are situated within the public right-of-way and defined as street trees pursuant to Section 12.20.010(G) of the Livermore Municipal Code; they include #45-47, 49-63 and 65-68. Trees #45-47 and 49-51 align Dolores St., #52-63 align Pacific Ave., and #65-68 align S. Livermore Ave. All others are within private property.

The following 39 are defined as protected trees pursuant to Code Section 12.20.160(M)(2) due to having trunk circumferences of ≥24 inches: #1, 2, 4-10, 15, 22, 23, 27, 36, 37, 43, 45-47 and 49-68.

Except for #3, which is a volunteer (i.e. not planted), all others with trunk diameters <24 inches can also be regarded as protected trees pursuant to the following language from Code Section 12.20.160(5): "Any tree approved as part of a site plan approval, or required as a condition of approval for a development project, zoning use permit, use permit or other site development review."

Tree #1 originates from the neighboring western property, and a portion of its base extends into the project site. All other trees originate from within the project site or along the immediate street frontages.

The trunks of two trees, #3 and 10, are not shown on Sheet C1. I have denoted their locations onto the map in Exhibit B, but note those locations are only roughly approximate and should not be construed as being surveyed.

There are several tree locations shown on the plans but do not exist. I identify them on the map in Exhibit B, and one is immediately southwest of #5, and two others adjacent to #36 and 41.

3.0 SUITABILITY FOR TREE PRESERVATION

Each tree has been assigned either a high, moderate or low suitability for preservation rating as a means to cumulatively measure its health, structural integrity, anticipated life span, remaining life expectancy, location, size, particular species, tolerance to construction impacts, growing space, and safety to property and persons within striking distance. Descriptions of these ratings are presented below, and of these, the high category comprises 5 trees (7%), the moderate category 52 (73%), and the low category 14 (20%).

High: Applies to #52, 58, 61, 63 and 68.

These trees appear healthy and structurally stable; have no obvious, significant health issues or structural defects; present a good potential for contributing long-term to the site; and seemingly require only periodic or regular care and monitoring to maintain their longevity and structural integrity. They are typically the most suitable for retaining and incorporating into the future landscape.

Moderate: Applies to #1, 4-10, 12-28, 30, 32-37, 42-44, 46, 48-51, 54, 55, 57, 59, 60, 62-67, 69 and 71.

These trees contribute to the site, but at levels less than those assigned a high suitability; might have health and/or structural issues which may or may not be reasonably addressed and properly mitigated; and frequent care is typically required for their remaining lifespan. They may be worth retaining if provided proper care, but not seemingly at significant expense or major design revisions.

Low: Applies to #2, 3, 11, 29, 31, 38-41, 45, 47, 53, 56 and 70.

These trees have significant health and/or structural issues expected to worsen regardless of tree care measures employed (i.e. beyond likely recovery). As a general guideline, they are not suitable to incorporate into the future landscape, and removal is the appropriate action regardless of future development. Any living trees retained require highly frequent pruning, monitoring and/or care throughout their remaining lifespans to minimize any safety threat they present to persons and property within striking distance.

4.0 POTENTIAL TREE DISPOSITION

4.1 Tree Disposition Summary

The following disposition is anticipated based on the proposed design and my assessment of the trees' conditions:

- **Remove** (53 in total): #2-45, 47, 48, 51, 53, 64 and 68-71.
- **Retain** (18 in total): #1, 46, 49, 50, 52, 54-63 and 65-67.

4.2 Proposed Removals

Of the proposed 53 removals, the following 49 have trunks situated inside the property boundaries and are in direct conflict with site grading, buildings, drive aisles, utilities, walkways, etc.: #2-44, 48, 51, 64 and 69-71.

The other five are street trees, namely #45, 47, 51, 53 and 68. Tree #51 is within a proposed driveway apron; #68 would sustain severe root loss during grading and utility installation; and #45, 47 and 53 have highly degraded structures and/or health conditions warranting removal regardless of site development.

4.3 Retained Trees

The 18 trees planned for retention include #1, which originates from the neighboring western property, and the following 17 street trees: #46, 49, 50, 52, 54-63 and 65-67. My review of plans and site analysis reveal these 18 can be retained with a reasonable assurance of survival and minimized root loss provided the following can be achieved: [1] the proposed sidewalk and grading design can be revised to omit any walkways, excavation, overexcavation, subexcavation, trenching and compaction within their Tree Protection Zones (TPZs) - see Section 6.1(1), and [2] all additional recommendations presented within Section 6.0 of this report can be followed. Highly selective and professional tree work is also required to adequately limit canopy loss for establishing building and construction clearances along the trees' north sides.

5.0 APPRAISED TREE VALUES

The monetary value of each tree was appraised, and those individual values are listed within the last column in Exhibit A. Combined, the value is $44,100 for trees proposed to remove, and $71,300 for trees planned to remain.

Values are calculated using the *Trunk Formula Technique* derived from the *Guide for Plant Appraisal*, *10th Edition*,[2] and in conjunction with the *Species Classification and Group Assignment*, 2004 (published by the Western Chapter of the ISA). This method considers the cost of the largest commonly tree available from a nursery, plus the increase in value due to the larger size of the tree being appraised. The amount is then adjusted or depreciated by the tree's condition, functional limitations and external limitations.

6.0 TREE PROTECTION MEASURES

Recommendations presented within this section consider plans reviewed, and serve as protection measures to help mitigate or avoid impacts to trees being retained. They should be carefully followed and incorporated into project plans, and I (hereinafter "project arborist") should be consulted in the event any cannot be feasibly implemented.

6.1 Design Guidelines

1. Consider each TPZ as follows, and consider distances projecting in all directions from the trunk: where within existing planters, a minimum distance of 10 times the trunk diameter, and where beyond planters, a minimum distance of 4 times the trunk diameter; for trees with multiple trunks, utilize the largest diameter. The TPZs are areas where the following activities, and not necessarily limited to, should be avoided: trenching, soil scraping, compaction, mass/finish-grading, overexcavation, subexcavation, tilling, ripping, swales, bioswales, storm drains, dissipaters, equipment cleaning, removal of underground utilities and vaults, altering existing

[2] Authored by the Council of Tree & Landscape Appraisers, and published by the International Society of Arboriculture (ISA), 2019.

water/drainage flows, stockpiling and dumping of materials, and equipment and vehicle operation. Where an impact encroaches slightly within a setback, it can be reviewed on a case-by-case basis by the project arborist to potentially determine appropriate mitigation measures.

2. On all architectural, civil, landscape and electrical site-related plans, show the trunk locations, trunk diameters (circles to scale), and assigned numbers of all inventoried trees (including omitting those no longer there, as well as add missing ones). Also, include notes instructing that contractors comply with recommendations presented in this report, and to contact the project arborist prior to permitted work being performed within a TPZ. Furthermore, on C1, identify which trees are proposed for removal by placing an "X" across their trunks.

3. Specify on the demolition plan to abandon and cut off at existing soil grade all existing, unused lines, pipes and manholes within a TPZ.

4. Ensure the proposed grading design avoids walkways, excavation, overexcavation, subexcavation, trenching and compaction within TPZs.

5. Should a walkway be required on existing unpaved ground within a TPZ, it shall be constructed entirely above existing soil grade and surface roots (i.e. a no-dig design), including for base material, edging and forms. Also, direct compaction of soil shall be avoided (levels comparable to foot-tamping are acceptable), and soil fill used to bevel the top of walk to existing grade should not exceed 18 to 24 inches from the walk's edge, not compacted, and placed no closer than 5 plus feet from a trunk. Tensar® BX Geogrid *(www.tensarcorp.com)* is a material that can be utilized to help achieve these limited excavation and compaction requirements.

6. Route all underground utilities and services (e.g. electrical) beyond TPZs. Where this is not feasible, the section of line(s) within a TPZ should be directionally-bored by at least 4 feet below existing grade, tunneled using a pneumatic air device (such as an AirSpade®), or installed by other means (e.g. pipe-bursting) to avoid an open trench. The ground above any tunnel must remain undisturbed, and access pits and above-ground infrastructure (e.g. splice boxes, meters and vaults) established beyond TPZs.

7. Where within 10 feet from a TPZ, overexcavation, subexcavation and compaction shall not exceed 24 inches beyond foundations and retaining walls, 6 inches beyond inside of curbs (including for gutters), and avoided for trenches. Where needed, shoring shall be required for any underground feature or utility trench to avoid excavation into a TPZ.

8. Ensure specifications by the geotechnical, soils and structural engineers do not require compaction, overexcavation, subexcavation or fill beyond foundations, parking lots or other features where within the above-mentioned distance.

9. The permanent and temporary drainage design, including downspouts, should not require water being discharged within the trees' driplines.

10. Bioswales, storm drains and swales shall be established well-beyond TPZs.

11. The erosion control design for demolition and construction should represent silt fence and/or straw rolls away from a tree's trunk (not against it), and as close to the canopy edges as possible. Additionally, where within a TPZ, the material should be embedded into the ground by no more than 2 inches deep, and not require the severance of shallow roots.

12. On the final site plan, represent the future staging area and route(s) of access beyond unpaved areas beneath or near canopies.

13. Avoid specifying the use of herbicides use within a TPZ; where used on site, they should be labeled for safe use near trees. Also, liming shall not occur within 50 feet from a tree's canopy.

14. Adhere to the following additional landscape guidelines:
    a. Plant material installed beneath canopies should be limited in amount and placed 3 plus feet from their trunks.
    b. The trees' root zones require water if expected to survive, and should consist of applying irrigation throughout the sections of existing planters within the TPZs.

This can likely be most efficiently structured through Netafim soaker hoses placed on soil grade at 12 inches apart, and can be covered by mulch. Irrigation should not strike within 6 inches from the trees' trunks. This irrigation method can also function to irrigate new plant material.

c. Establish irrigation and lighting features (e.g. main line, lateral lines, valve boxes, wiring and controllers) to avoid trenching within a TPZ. In the event this is not feasible, route them in a radial direction to a tree's trunk, and terminate a specific distance from a trunk (versus crossing past it). In certain instances, an AirSpade® may be required to avoid root damage, and any Netafim tubing used should be placed on grade, and header lines installed as mentioned above. Note that routes shall be reviewed with the project arborist prior to any trenching occurring.
d. Design any new site fencing or fence posts to be at least 2 to 5 feet from a tree's trunk (depends on trunk size, growth pattern and prior impacts).
e. Avoid tilling, ripping and compaction within TPZs.
f. Establish any bender board or other edging material within TPZs to be on top of existing soil grade (such as by using vertical stakes).
g. Utilize a 3- to 4-inch maximum layer of coarse wood chips or other high-quality mulch for new ground cover beneath canopies (gorilla hair, bark or rock, stone, gravel, black plastic or other synthetic ground cover should be avoided).

6.2 Before Demolition, Grading and Construction

15. Apply water to the root zones of trees being retained, ideally at this time and continue through all dry months of the year. The methodology, frequency and amounts can be reviewed with the project arborist, and several possible methodologies including flooding the ground inside an 8-inch tall berm, soaker hoses, or deep-root injection. Note in the event dewatering is required, the watering program shall be more intensive than otherwise needed (i.e. will require greater frequency and/or volume).

16. Stake the limits of grading, utility routes, irrigation routes, etc. (whether all at once or various phases) for review by the project arborist prior to ground disturbance.

17. Prior to demolition, install tree protection fencing to enclose all existing unpaved areas within the entire TPZs. Fencing should consist of 6-foot tall chain link

mounted on 2-inch diameter, galvanized iron posts driven at least 2 feet into the ground and kept in place throughout construction. Fencing shall be expanded within the same day following removal of existing asphalt and concrete within a TPZ.

18. Prune retained trees prior to demolition for purposes of establishing vertical clearances above equipment and vehicles, pedestrian clearance along the existing sidewalk, and excessive limb weight and broken branches. Additional pruning will be necessary to establish clearances from future buildings (after the building locations becomes surveyed). Additionally, the work shall be conducted in accordance with the most recent ANSI A300 standards, and by a California state-licensed tree service contractor (D-49) which has an ISA certified arborist in a supervisory role, carries General Liability and Worker's Compensation insurance, and abides by ANSI Safety Operations.

19. Establish staging, cleanout areas, and all routes of access to be beyond unpaved areas beneath tree canopies. Where challenges arise, review them beforehand with the project arborist to determine whether any measures can be employed to sufficiently mitigate the potential impacts.

20. Spread, and replenish as needed throughout the entire construction process, a 4- to 5-inch layer of coarse wood chips (¼- to ¾-inch in size) from a tree-service company over unpaved ground within designated-fenced areas.

21. The removal of stumps, whether old or new, located within TPZs shall be performed with a stump grinder (versus being extracted with heavy equipment and inadvertently damaging roots of trees otherwise being retained).

22. Remove existing groundcover, ivy, plants, shrubs, etc. within TPZs by hand only.

23. Fertilization may benefit a tree's health, vigor and appearance. If applied, however, soil samples should first be obtained to identify the pH levels and nutrient levels so a proper fertilization program can be established. I further recommend any fertilization is performed under the direction and supervision of a certified arborist, and in accordance with the most recent ANSI A300 Fertilization standards.

6.3 During Demolition, Grading and Construction

24. Any authorized access, digging or trenching within designated-fenced areas shall be by foot-traffic only and without the use of heavy equipment or tractors.

25. Avoid any soil and disturbance inside backs of curbs bordering planter areas.

26. Take great care during demolition of the existing parking lot, curbs, gutters, light pole footings and other equipment/features to avoid damaging a tree's trunk, canopy, soil and roots within a TPZ, including underlying ground.

27. Great care must also be taken by equipment operators to avoid trunks and branches, including the scorching of foliage. Any tree damage or injury should be reported to the project arborist for review of treatment.

28. Avoid using tree trunks as winch supports for moving or lifting heavy loads, as well as for tying rope, cables, chains or other items around.

29. Spoils generated during digging shall not be piled or spread on unpaved ground within a TPZ, rather temporarily pile them on plywood or a tarp.

30. Prior to mechanically excavating within 10 feet from TPZs, manually excavate a 1-foot wide trench along the perimeter of where soil excavation will occur closest to a tree's trunk (the purpose is to avoid breaking and damaging roots closer to trunks than otherwise needed). Excavation should occur down to 18 to 24 inches or required subgrade, whichever is less, and all ≥2-inch diameter roots cleanly severed by hand using a new and sharp handsaw and/or loppers at 90° to the direction of root growth against the tree side of the trench. All soil beyond the trench (i.e. away from the tree) can then be mechanically excavated using heavy equipment, remaining outside the fenced area(s). Alternatively, the use of a stump grinder could be utilized precisely where a curb/gutter and any overcut (12" max) will be established. Exposed roots surfaces should be kept continually moist, perhaps by draping burlap over the cut face and applying water daily or twice daily.

31. Except where otherwise necessitated to construct building foundations, avoid damaging or cutting roots with diameters of ≥2 inches. Should roots of this size become encountered, within one hour of exposure, they should either be covered by burlap that remains continually moist until the root is covered by soil. If they are approved for cutting, cleanly severe at 90° to the angle of root growth against the cut line (using loppers or a sharp hand saw), and then immediately after, the cut end either buried with soil or covered by a plastic sandwich bag (and secured using a rubber band, and removed just before backfilling). Roots encountered with diameters <2 inches and requiring removal can be cleanly severed at right angles to the direction of root growth.

32. Preferably, any open trenches needed for irrigation, lighting, etc. within TPZs should be achieved through utilizing an AirSpade,® and all roots (all sizes) exposed during the process retained, not damaged, and kept continually moist and covered (e.g. a burlap) until the trench is backfilled.

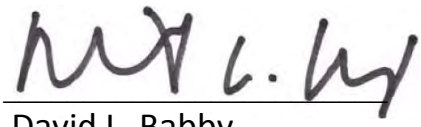
33. Digging holes for fence posts and light fixtures within a TPZ shall be manually performed using a post-hole digger, and in the event a root ≥2 inches in diameter is encountered during the process, the hole should be shifted over by 12 inches and the process repeated.

34. Dust accumulating on trunks and canopies during dry weather periods may need to be periodically washed away if directed by the project arborist (e.g. every 4 months).

35. Avoid disposing harmful products (such as cement, paint, chemicals, oil and gasoline) beneath canopies or anywhere on site that allows drainage within or near TPZs. Herbicides should not be used with a TPZ; where used on site, they should be labeled for safe use near trees. Avoid liming within 50 feet of a tree's canopy.

7.0 ASSUMPTIONS AND LIMITING CONDITIONS

- Information presented herein addresses only the inventoried trees listed in Exhibit A, and reflects their size, condition, and areas viewed from the project site, adjoining streets and sidewalks on 2/28/22, 3/1/22 and 3/4/22. I hold no opinion towards other trees on or surrounding the project area.
- The documented condition and suitability ratings of dormant trees are subject to change once they can be observed following their annual regrowth of leaves.
- Observations were performed visually without probing, coring, dissecting or excavating.
- I cannot provide a guarantee or warranty, expressed or implied, that deficiencies or problems of any trees or property in question may not arise in the future.
- No assurance can be offered that if all my recommendations and precautionary measures (verbal or in writing) are accepted and followed the desired results may be achieved.
- I cannot guarantee or be responsible for the accuracy of information provided by others.
- I assume no responsibility for the means and methods used by any person or company implementing the recommendations provided in this report.
- Information provided herein represents my opinion. Accordingly, my fee is in no way contingent upon the reporting of a specified finding, conclusion or value.
- Numbers shown on the site map in Exhibit B are solely intended to represent a tree's approximate trunk location and shall not be construed as surveyed points.
- This report is proprietary to me and may not be copied or reproduced in whole or part without prior written consent. It has been prepared for the sole and exclusive use of the parties to who submitted for the purpose of contracting services provided by David L. Babby.
- If any part of this report or copy thereof be lost or altered, the entire evaluation shall be invalid.

Prepared By:  Date: June 7, 2023

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CA Licensed Tree Service Contractor #796763 (C61/D49)

EXHIBIT A:

TREE INVENTORY TABLE

(10 sheets)

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE				CONDITION		Suitability for Preservation (High/Moderate/Low)	Removal	Street tree	Appraised Value
		Trunk Diameter (in.)	Trunk Circumference (in.)	Height (ft.)	Canopy Spread (ft.)	Overall Percentage (100%=Best, 0%=Worst)	Overall Description (Good/Fair/Poor/Dead)				
1	Pepper tree (*Schinus molle*)	~24, 24, 18	151	70	70	50%	Fair	Moderate	-	-	$12,900

Comments: Offsite, viewed from afar (along sidewalk). Root crown projects into site and bows the property fence inward - tree may or may not be considered jointly-owned. Low canopy with branches on ground. Asymmetrical form. Asphalt is beneath canopy along project side.

2	Tree-of-Heaven (*Ailanthus altissima*)	15.8	50	35	30	20%	Poor	Low	X	-	$200

Comments: Dormant. Tree leans SW away from street and base abuts sidewalk, which is raised and broken, including around a guy wire anchor for a utility pole. Trunk bifurcates into codominant leaders at 8' high and forms a weak attachment. At the attachment is a massive decayed area where a prior leader broke. History of limb failure and large decaying wounds throughout. Excessive limb weight. Weeping lesion at base.

3	Tree-of-Heaven (*Ailanthus altissima*)	~4, 3, 3, 3, 2	22	15	25	30%	Poor	Low	X	-	$100

Comments: Dormant. At rear fence and is a volunteer. Multi-trunk tree with a very weak structure.

4	Sawleaf Zelkova (*Zelkova serrata*)	9.3	29	20	25	40%	Poor	Moderate	X	-	$800

Comments: Dormant (as are all Zelkovas inventoried for this report). Within a narrow planter, and trunk is partially covered by shrubs. Trunk sweeps W at 1' high. Asymmetrical canopy due to 3+ limbs breaking from tree along drive aisle side (likely from truck damage). Deadwood.

5	Crape myrtle (*Lagerstroemia indica*)	12.4	39	25	20	60%	Fair	Moderate	X	-	$3,000

Comments: Dormant (as are all the crape myrtles inventoried for this report). Within a raised planter. Multiple leaders emerge from trunk at 1' high. Branches grow against building.

6	Crape myrtle (*Lagerstroemia indica*)	12.7	40	25	20	50%	Fair	Moderate	X	-	$2,600

Comments: Within a raised planter. Multiple leaders emerge from trunk at 10" high.

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE				CONDITION		Suitability for Preservation (High/Moderate/Low)	Removal	Street tree	Appraised Value
		Trunk Diameter (in.)	Trunk Circumference (in.)	Height (ft.)	Canopy Spread (ft.)	Overall Percentage (100%=Best, 0%=Worst)	Overall Description (Good/Fair/Poor/Dead)				
7	Crape myrtle (*Lagerstroemia indica*)	10.7	34	20	20	50%	Fair	Moderate	X	-	$1,900
	Comments: Within a raised planter. Multiple leaders emerge from trunk at 9" high.										
8	Sawleaf Zelkova (*Zelkova serrata*)	9.4	30	25	25	40%	Poor	Moderate	X	-	$1,100
	Comments: Highly asymmetrical canopy with deadwood. Large surface roots extend up to 7' feet away.										
9	Sawleaf Zelkova (*Zelkova serrata*)	9.8	31	30	30	40%	Poor	Moderate	X	-	$1,200
	Comments: Has an old stem wound near base along trunk's S side. Surface roots throughout planter. Asymmetrical canopy.										
10	Crape myrtle (*Lagerstroemia indica*)	12.6	40	25	15	50%	Fair	Moderate	X	-	$2,100
	Comments: Within a raised planter. Multiple leaders emerge from trunk at 10" high. High canopy over the parking lot. Adjacent to a light pole.										
11	Sawleaf Zelkova (*Zelkova serrata*)	4.1	13	15	15	20%	Poor	Low	X	-	$100
	Comments: Large wound at union where leaders emerge. Highly asymmetrical canopy with deadwood.										
12	Sawleaf Zelkova (*Zelkova serrata*)	6.2	19	15	20	50%	Fair	Moderate	X	-	$600
	Comments: Asymmetrical canopy with deadwood. Shrubs surround trunk's base. Adjacent to light pole.										
13	Crape myrtle (*Lagerstroemia indica*)	4.4	14	15	10	60%	Fair	Moderate	X	-	$500
	Comments: Buried root collar.										
14	Deodar cedar (*Cedrus deodara*)	7.0	22	20	20	40%	Poor	Moderate	X	-	$400
	Comments: Canopy's top 1/2 is sparse.										

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE				CONDITION		Suitability for Preservation (High/Moderate/Low)	Removal	Street tree	Appraised Value
		Trunk Diameter (in.)	Trunk Circumference (in.)	Height (ft.)	Canopy Spread (ft.)	Overall Percentage (100%=Best, 0%=Worst)	Overall Description (Good/Fair/Poor/Dead)				
15	Deodar cedar (*Cedrus deodara*)	8.2	26	20	20	60%	Fair	Moderate	X	-	$1,700
	Comments: Chlorotic foliage. Has a small basal wound.										
16	Crape myrtle (*Lagerstroemia indica*)	5.7	18	20	20	60%	Fair	moderate	X	-	$900
	Comments:										
17	Crape myrtle (*Lagerstroemia indica*)	5.7	18	20	20	60%	Fair	Moderate	X	-	$900
	Comments: Asymmetrical canopy.										
18	Crape myrtle (*Lagerstroemia indica*)	5.5	17	20	15	60%	Fair	Moderate	X	-	$800
	Comments:										
19	Crape myrtle (*Lagerstroemia indica*)	5.7	18	20	15	60%	Fair	Moderate	X	-	$900
	Comments: Buried root collar.										
20	Crape myrtle (*Lagerstroemia indica*)	6.2	19	20	15	60%	Fair	Moderate	X	-	$1,100
	Comments:										
21	Crape myrtle (*Lagerstroemia indica*)	3.4	11	15	10	50%	Fair	Moderate	X	-	$200
	Comments: Thin canopy.										
22	Crape myrtle (*Lagerstroemia indica*)	12.7	40	25	20	40%	Poor	Moderate	X	-	$1,700
	Comments: Within a raised planter. Multiple leaders emerge from trunk at 7" high. Asymmetrical canopy.										

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE				CONDITION		Suitability for Preservation (High/Moderate/Low)	Removal	Street tree	Appraised Value
		Trunk Diameter (in.)	Trunk Circumference (in.)	Height (ft.)	Canopy Spread (ft.)	Overall Percentage (100%=Best, 0%=Worst)	Overall Description (Good/Fair/Poor/Dead)				
23	Crape myrtle (*Lagerstroemia indica*)	10.9	34	25	25	50%	Fair	Moderate	X	-	$800
	Comments: Within a raised, small and broken planter (rootball has outgrown). Adjacent to building and canopy is elevated. One leader has a wound along its entire stem.										
24	Crape myrtle (*Lagerstroemia indica*)	2.4	8	15	10	50%	Fair	Moderate	X	-	$100
	Comments: Small, double-staked tree; one stake is loose and the other is bound against its trunk.										
25	Deodar cedar (*Cedrus deodara*)	7.1	22	25	15	40%	Poor	Moderate	X	-	$400
	Comments: Leans W, then trunk sweeps to vertical. Has a small girdling root along opposite side of lean. Low canopy over drive aisle.										
26	Deodar cedar (*Cedrus deodara*)	6.4	20	20	20	40%	Poor	Moderate	X	-	$300
	Comments: Low canopy over drive aisle. Deadwood and thin canopy. Excessive branch weight.										
27	Deodar cedar (*Cedrus deodara*)	7.7	24	30	20	60%	Fair	Moderate	X	-	$600
	Comments: Low canopy over drive aisle.										
28	Crape myrtle (*Lagerstroemia indica*)	5.7	18	20	15	60%	Fair	Moderate	X	-	$900
	Comments:										
29	Crape myrtle (*Lagerstroemia indica*)	5.0	16	15	5	30%	Poor	Low	X	-	$100
	Comments: Canopy reduced in past (where mentioned, consider this pruning method having dismantled or destroyed the tree's long-term structural integrity). Large tears along ends of several branches where cuts were made. Buried root collar.										
30	Crape myrtle (*Lagerstroemia indica*)	5.7	18	20	20	60%	Fair	Moderate	X	-	$600
	Comments:										

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE				CONDITION		Suitability for Preservation (High/Moderate/Low)	Removal	Street tree	Appraised Value
		Trunk Diameter (in.)	Trunk Circumference (in.)	Height (ft.)	Canopy Spread (ft.)	Overall Percentage (100%=Best, 0%=Worst)	Overall Description (Good/Fair/Poor/Dead)				
31	Crape myrtle (*Lagerstroemia indica*)	4.8	15	15	10	30%	Poor	Low	X	-	$200
Comments: Canopy reduced in past. Buried root collar.											
32	Crape myrtle (*Lagerstroemia indica*)	4.3	14	15	10	40%	Poor	Moderate	X	-	$200
Comments: Canopy reduced in past.											
33	Crape myrtle (*Lagerstroemia indica*)	5.1	16	15	10	40%	Poor	Moderate	X	-	$300
Comments: Canopy reduced in past.											
34	Crape myrtle (*Lagerstroemia indica*)	5.1	16	15	15	40%	Poor	Moderate	X	-	$300
Comments: Canopy reduced in past.											
35	Crape myrtle (*Lagerstroemia indica*)	4.8	15	15	10	40%	Poor	Moderate	X	-	$200
Comments: Canopy reduced in past.											
36	Deodar cedar (*Cedrus deodara*)	8.9	28	25	20	60%	Fair	Moderate	X	-	$1,000
Comments: Trunk leans E then sweeps towards vertical. Low canopy over drive aisle. Deadwood.											
37	Deodar cedar (*Cedrus deodara*)	7.8	24	20	20	40%	Poor	Moderate	X	-	$500
Comments: Sparse top.											
38	Deodar cedar (*Cedrus deodara*)	7.6	<24	20	20	30%	Poor	Low	X	-	$400
Comments: Has a very sparse and declining top. Small deadwood.											

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE				CONDITION		Suitability for Preservation (High/Moderate/Low)	Removal	Street tree	Appraised Value
		Trunk Diameter (in.)	Trunk Circumference (in.)	Height (ft.)	Canopy Spread (ft.)	Overall Percentage (100%=Best, 0%=Worst)	Overall Description (Good/Fair/Poor/Dead)				
39	Sawleaf Zelkova (*Zelkova serrata*)	6.2	19	20	10	20%	Poor	Low	X	-	$200
	Comments: Poorly pruned, mostly one-sided canopy with deadwood. Shrubs surround lower trunk.										
40	Sawleaf Zelkova (*Zelkova serrata*)	5.4	17	20	15	20%	Poor	Low	X	-	$100
	Comments: Leans W. Poorly pruned, highly asymmetrical canopy with deadwood. Shrubs surround trunk.										
41	Sawleaf Zelkova (*Zelkova serrata*)	3.2	10	10	10	20%	Poor	Low	X	-	$100
	Comments: Poorly pruned, asymmetrical canopy with deadwood. Has an old stem wound.										
42	Chinese pistache (*Pistacia chinensis*)	~7	22	15	15	40%	Poor	Moderate	X	-	$400
	Comments: Dormant. Within an inaccessible, small gated area adjacent to storage building. Trunk bifurcates into codominants at 13" high and form a narrow attachment.										
43	Deodar cedar (*Cedrus deodara*)	15.9	50	25	30	40%	Poor	Moderate	X	-	$1,500
	Comments: Healthy, but has a poor structure due to being located beneath high-voltage wires and reduced in height. Leans slightly NE. Adjacent curb is raised. Low canopy over drive aisle and parking lot. Deadwood. Multiple leaders emerge at 6' high.										
44	Crape myrtle (*Lagerstroemia indica*)	5.8	18	15	10	60%	Fair	Moderate	X	-	$500
	Comments: Within a narrow, finger planter island.										
45	Japanese flowering cherry (*Prunus serrulata*)	8.2	26	10	10	20%	Poor	Low	X	X	$300
	Comments: Decay along entire trunk and extensive dieback and deadwood. Multiple leaders emerge at 3'.										
46	Deodar cedar (*Cedrus deodara*)	13.9	44	25	35	40%	Poor	Moderate	-	X	$2,300
	Comments: Beneath high-voltage wires and reduced in height. Has a large old basal wound, as well as a smaller one (nearly enclosed) at 5.5' high. Leans towards street. Low canopy over sidewalk. Root decay along sidewalk side.										

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE				CONDITION		Suitability for Preservation (High/Moderate/Low)	Removal	Street tree	Appraised Value
		Trunk Diameter (in.)	Trunk Circumference (in.)	Height (ft.)	Canopy Spread (ft.)	Overall Percentage (100%=Best, 0%=Worst)	Overall Description (Good/Fair/Poor/Dead)				
47	Deodar cedar (*Cedrus deodara*)	11.4	36	20	25	30%	Poor	Low	X	X	$700
	Comments: Advanced decline, having a very sparse canopy with deadwood. Beneath high-voltage wires and reduced in height. Base is 1' from sidewalk.										
48	Crape myrtle (*Lagerstroemia indica*)	4.9	15	15	10	40%	Poor	Moderate	X	-	$200
	Comments: Canopy reduced in past.										
49	Deodar cedar (*Cedrus deodara*)	14.9	47	25	35	40%	Poor	Moderate	-	X	$1,000
	Comments: Within a narrow planter. Beneath high-voltage wires and reduced in height. Leans towards street and has a very low canopy over sidewalk. Excessive limb weight. Girdling root along the sidewalk side. Adjacent curb is cracked.										
50	Deodar cedar (*Cedrus deodara*)	18.6	58	30	30	40%	Poor	Moderate	-	X	$1,500
	Comments: Within a narrow planter. Beneath high-voltage wires and reduced in height. Adjacent walk is raised and curb is cracked. Very low canopy over sidewalk. Excessive limb weight.										
51	Deodar cedar (*Cedrus deodara*)	16.6	52	25	30	40%	Poor	Moderate	X	X	$1,200
	Comments: Within a narrow planter. Beneath high-voltage wires and reduced in height. Adjacent walk is raised and curb is cracked. Low canopy over sidewalk. Excessive limb weight. Deadwood.										
52	Deodar cedar (*Cedrus deodara*)	16.1	51	35	30	70%	Good	High	-	X	$3,900
	Comments: Within a narrow planter. Leans slightly SE. Adjacent sidewalk is raised and curb is cracked. Very low canopy over sidewalk. Excessive limb weight.										
53	Deodar cedar (*Cedrus deodara*)	13.0	41	35	30	10%	Poor	Low	X	X	$400
	Comments: Tree appears void of foliage and being dead. Up close, new growth is apparent within the lower canopy; however, overall, the tree appears well-beyond recovery and its demise imminent. Within a narrow planter. Adjacent sidewalk is raised and curb is cracked. Deadwood.										

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE				CONDITION		Suitability for Preservation (High/Moderate/Low)	Removal	Street tree	Appraised Value
		Trunk Diameter (in.)	Trunk Circumference (in.)	Height (ft.)	Canopy Spread (ft.)	Overall Percentage (100%=Best, 0%=Worst)	Overall Description (Good/Fair/Poor/Dead)				
54	Deodar cedar (*Cedrus deodara*)	13.1	41	30	30	40%	Poor	Moderate	-	X	$1,500
	Comments: Within a small rectangular planter. Adjacent curb is buckled. Very sparse canopy with small deadwood. Leans slightly SE. Has an old large basal wound along its SW side. Further decline would render the tree to have low suitability.										
55	Deodar cedar (*Cedrus deodara*)	14.3	45	35	30	50%	Fair	Moderate	-	X	$2,200
	Comments: Within a narrow planter, and adjacent sidewalk is raised and curb is cracked. Sparse top. Excessive limb weight and small deadwood. Has a large old wound near base.										
56	Deodar cedar (*Cedrus deodara*)	13.1	41	40	30	30%	Poor	Low	-	X	$1,100
	Comments: Canopy is extremely sparse. Deadwood. Within a narrow planter, and adjacent curb is cracked.										
57	Deodar cedar (*Cedrus deodara*)	18.1	57	40	40	40%	Poor	Moderate	-	X	$2,800
	Comments: Within a narrow planter, and adjacent sidewalk is raised and curb is cracked. Very sparse canopy with small deadwood, including at the very top. Leans N then sweeps towards vertical.										
58	Deodar cedar (*Cedrus deodara*)	17.3	54	30	30	70%	Good	High	-	X	$4,500
	Comments: Within a narrow planter, and adjacent sidewalk is raised and curb is cracked. Very low canopy over parking lot. Deadwood.										
59	Deodar cedar (*Cedrus deodara*)	18.7	59	40	50	50%	Fair	Moderate	-	X	$3,700
	Comments: Within a narrow planter and adjacent to light pole. Adjacent walk is raised. Sparse canopy with deadwood, including at the very top.										
60	Deodar cedar (*Cedrus deodara*)	17.8	56	40	40	50%	Fair	Moderate	-	X	$3,400
	Comments: Within a narrow planter and adjacent to light pole. Central top broke sometime ago, and there are several decaying wounds just below. Adjacent sidewalk is slightly raised. Low canopy over sidewalk. Deadwood.										

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE				CONDITION		Suitability for Preservation (High/Moderate/Low)	Removal	Street tree	Appraised Value
		Trunk Diameter (in.)	Trunk Circumference (in.)	Height (ft.)	Canopy Spread (ft.)	Overall Percentage (100%=Best, 0%=Worst)	Overall Description (Good/Fair/Poor/Dead)				
61	Deodar cedar (*Cedrus deodara*)	19.8	62	50	50	60%	Fair	High	-	X	$5,000
	Comments: Within a narrow planter. Leans slightly SE. Roots have notably raised adjacent sidewalk and form a mound in parking lot. Excessive limb weight.										
62	Deodar cedar (*Cedrus deodara*)	19.5	61	25	35	50%	Fair	Moderate	-	X	$4,100
	Comments: Within a narrow planter and adjacent sidewalk is raised. Low canopy over sidewalk and planter. History of limb failure, and there is a void of limbs along N side. There is also an old, large decaying wound along N side at 12' high (where a limb broke from). Excessive limb weight.										
63	Deodar cedar (*Cedrus deodara*)	28.0	88	55	55	60%	Fair	High	-	X	$10,100
	Comments: Adjacent to light pole. Within a narrow planter and adjacent sidewalk is raised, curb is cracked, and there is a short mound in parking lot from root(s). Sparse and low canopy over sidewalk and planter.										
64	Deodar cedar (*Cedrus deodara*)	18.4	58	35	50	40%	Poor	Moderate	X	-	$3,400
	Comments: Very sparse and low canopy over parking lot. Small deadwood and excessive limb weight. Buried root collar.										
65	Deodar cedar (*Cedrus deodara*)	19.3	61	45	50	50%	Fair	Moderate	-	X	$4,000
	Comments: Within a narrow planter. Roots have significantly raised the adjacent sidewalk and form a short mound in parking lot. Excessive limb weight. Low canopy over parking lot.										
66	Deodar cedar (*Cedrus deodara*)	19.0	60	35	30	40%	Poor	Moderate	-	X	$3,100
	Comments: Within a narrow planter. Leans slightly NE. Several feet of its top is dead. Low canopy over parking lot. Deadwood. A large limb failed over the parking lot years ago (stub remains).										
67	Deodar cedar (*Cedrus deodara*)	19.8	62	45	40	50%	Fair	Moderate	-	X	$4,200
	Comments: Within a narrow planter and adjacent to #68. Sidewalk is slightly raised. Top 5' is dead, and many branches have dead ends. The canopy elsewhere is quite dense. Low canopy over walk.										

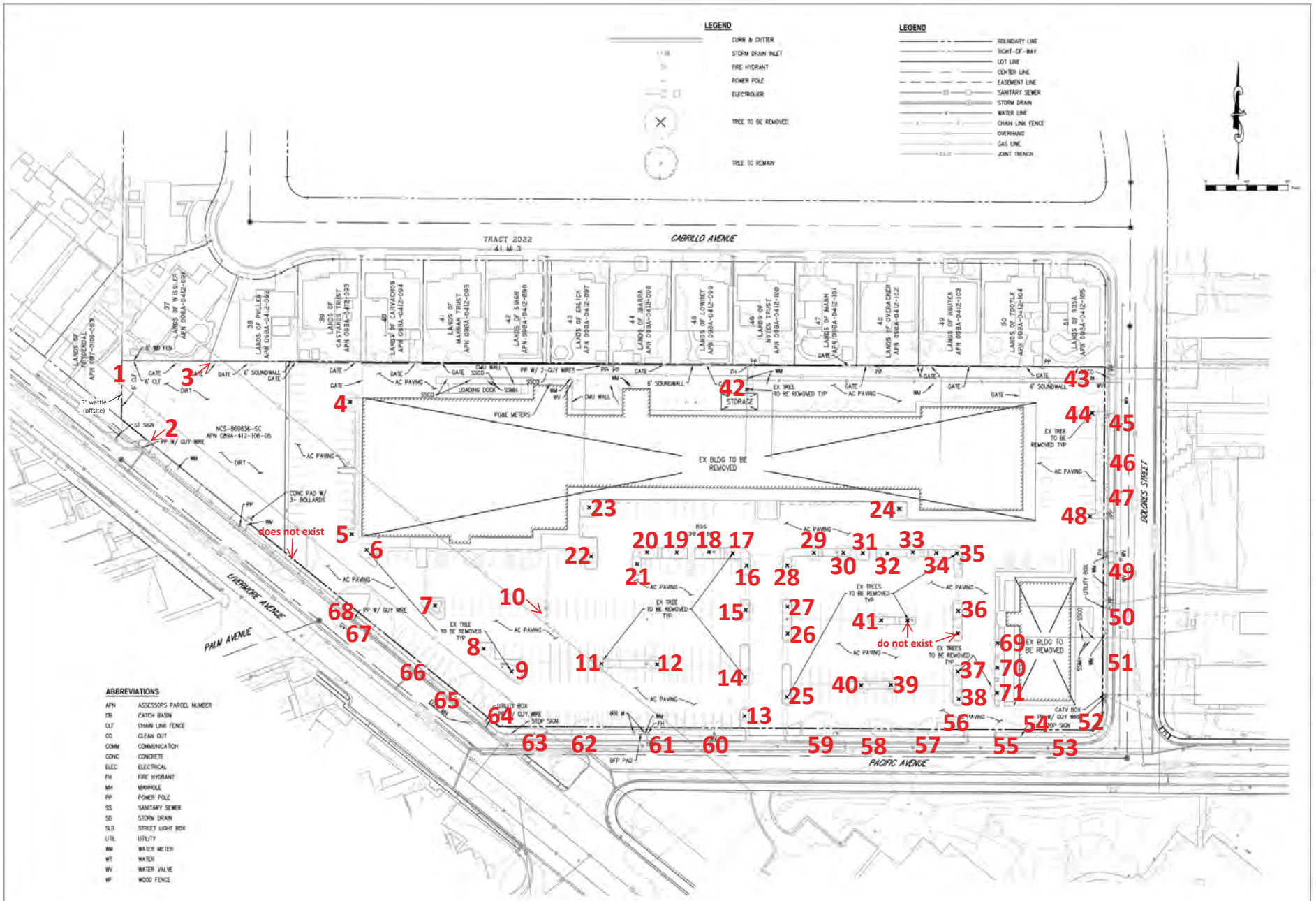
TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE				CONDITION		Suitability for Preservation (High/Moderate/Low)	Removal	Street tree	Appraised Value
		Trunk Diameter (in.)	Trunk Circumference (in.)	Height (ft.)	Canopy Spread (ft.)	Overall Percentage (100%=Best, 0%=Worst)	Overall Description (Good/Fair/Poor/Dead)				
68	Deodar cedar (*Cedrus deodara*)	22.8	72	35	55	60%	Fair	High	X	X	$4,500
	Comments: Adjacent to both transmission and distribution wires, as well as utility pole. Top reduced by several feet sometime ago. W/in a broad planter, but trunk's base is inches from sidewalk apron. Very low canopy over parking lot. Excessive limb weight.										
69	Crape myrtle (*Lagerstroemia indica*)	4.7	15	20	20	50%	Fair	Moderate	X	-	$400
	Comments: Within a narrow planter.										
70	Crape myrtle (*Lagerstroemia indica*)	4.5	14	15	15	30%	Poor	Low	X	-	$200
	Comments: Has a large decaying wound >1/2 of total circumference. Height reduced in past. Within a small square planter.										
71	Crape myrtle (*Lagerstroemia indica*)	4.1	13	15	15	60%	Fair	Moderate	X	-	$300
	Comments: Asymmetrical canopy. Within a small square planter.										

EXHIBIT B:

SITE MAP

(one sheet)



PLANNING SUBMITTAL 2021 10.01

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Revisions:

Rev #	Description	Date

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PACIFIC & LIVERMORE CENTER SITE

2978 PACIFIC AVE, LIVERMORE, CA. 94550

EXISTING CONIDTIONS & DEMOLITION PLAN

REGISTERED PROFESSIONAL ENGINEER ANDREW TURNER No. C72831 CIVIL STATE OF CALIFORNIA

Date: 06/15/2021
Scale: See Plan
Drn: A. TURNER
Job #: 17122

Sheet: C1

EXHIBIT C:

PHOTOGRAPHS

(11 sheets)

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