Walter Levison
CONSULTING ARBORIST

ISA Qualified Tree Risk Assessor | ASCA Registered Consulting Arborist #401 | ISA Certified Arborist #WC-3172

Arborist Report for Seventy-Two (72) Trees in the Delineated Work Area at 1400 & 1450 Fashion Island Blvd. San Mateo, California

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PLANNING

Prepared at the Request of:

SANDIS Civil Engineers
936 E. Duane
Sunnyvale, CA

Site Visit:

Walter Levison, Consulting Arborist (WLCA)

9/29/2014

Report:

WLCA

9/29/2014
Revised 12/15/2014

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1.0 Background and Assignment 3
2.0 Summary and Discussion 4
3.0 Maintenance and Protection Recommendations 5
4.0 Consultant's Qualifications 12
5.0 Bay Area Vendors 13
6.0 Assumptions and Limiting Conditions 14
7.0 Certification 14
8.0 Digital Images 9/29/2014 15
9.0 Attached: Tree Data Table (WLCA) 17
10.0 Attached: LU Value Calculation Table (WLCA) 17
11.0 Attached: Tree Location Map Mark-up (Rev 12/15/2014) 17

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1.0 Background and Assignment

Walter Levison (WLCA) was requested by Sandis Civil Engineers of Sunnyvale, California and Watry Design, Inc. of San Jose, California, to assess trees inside and adjacent to the proposed footprint of a parking garage area at 1400 and 1450 Fashion Island Blvd. in San Mateo (see attached tree location map mark-up by WLCA).

WLCA was also requested to prepare a written report document with a tree data table, landscape unit calculation table ("LU" values), discussion of projected impacts to trees related to proposed construction, recommendations for tree protection and maintenance to support preservation of trees being retained in close proximity to proposed work items, tree location map mark-up and digital images of some trees or tree groupings.

Trees were tagged by WLCA using racetrack shaped aluminum numbered tags numbering "1" through "72", affixed to a vertical mainstem on each tree at approximately eye level. Tags are on the south sides of the tree stems.

The tree data table, LU calculation table, and the tree location map mark-up are attached to the end of this document. These three attached documents were revised on 11/11/2014 to account for changes in tree disposition per my discussions with the project team.

Digital images of some trees or tree groupings are located in section 8.0 of this report.

Note that all trees in this initial study, except for three (3) trees #1, 2, 3 being retained per my discussions with the project team on 11/10/2014, are expected to be removed outright due to direct conflicts with the proposed excavation work within the dashed heavy gray line work area delineation shown on the attached tree protection map mark-up.

WLCA reviewed the proposed new garage footprint overlay for the 12/15/2014 version of this report.

On 12/15/2014, WLCA was requested to update the tree map and the tree protection and maintenance recommendations on 12/15/2014 to comply with City of San Mateo Staff letter dated 12/10/2014 by Tricia Schimpp, Planner, which states the following:

> **Item #3**: "Please update the tree location map mark-up so that it matches the current sheet L2, showing the parking structure".
>
> The map was subsequently updated to show the parking structure and attached to the end of this 12/15/2014 revision of the arborist report.
>
> **Item #7**: "Provide specific tree protection recommendations for heritage trees 1, 2, and 3 to mitigate construction impacts associated with the.....bioretention area. The recommendations may include recommended design changes....." ".....(and) to mitigate construction impacts associated with the construction of the parking structure possibly within the dripline of tree 1".
>
> Recommendations were revised in section 3.0 below in this 12/15/2014 version of the arborist report to comply with this request.

Note: It is WLCA's understanding that an initial tree protection verification letter will be required by the City planning department as a project condition of approval (COA) prior to start of construction at this site. WLCA has been retained by Watry Design Inc., the project architect of record, to perform this initial assessment and prepare the verification letter to verify that trunk buffer materials and steel chain link fencing have been erected

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per the recommendations noted below in this report. Monthly arborist inspections and monthly arborist letter reports will also be required.

2.0 Summary and Discussion

Parking garage work proposed for this site will remove a roughly rectangular area of existing younger coast redwood, white alder, and carob tree specimens located in planting strips that range in width from approximately 20 feet or more, to as little as 3 or 4 feet (see images below in this report). Most of the surveyed 72 trees will be either removed or potentially negatively impacted by proposed work, with only redwoods #1, 2, and #3 being retained and protected. The following is an overview of these three tree species surveyed in this initial assignment:

Coast redwood (*Sequoia sempervirens*):

Although some of the redwood specimens to be removed rise to as much as 50 feet in height, coast redwood is considered a very fast growing tree species relative to other trees grown in the peninsula area. Therefore, many of these larger trees may only be 35 to 45 years old, though this age has not been verified.

These trees, although highly desired by homeowners and municipalities along the peninsula, are very inappropriate for the coastal-influenced peninsula area, due to small site square footage inadequate for maintaining these very large trees, lack of available fog drip and other airborne moisture upon which these trees depend for a large percentage of their daily water uptake, and droughty conditions in summer. The trees are best suited for installation along the summer rain influenced Northern California and Oregon coastlines, and should not be installed in peninsula locations where heavy water use type trees such as redwoods are a burden on scarce municipal water resources. Use of recycled water for irrigation of these trees can be performed, but the ionic content of the water needs to be carefully managed, as redwoods are very sensitive to most ions in irrigation water.

Larger specimens of this species in the survey area are mainly in good overall condition, while smaller specimens along the narrow planting strip of the southwest portion of our proposed work area exhibit soil moisture deficit-caused twig and needle dieback, and are mainly in poor to very poor condition (see images below in this report).

White alder (*Alnus rhombifolia*):

White alder is low value colonizer-type species that is relatively very fast-growing, weak-wooded, and short-lived, and is genetically designed to start initial forest growth along with willows and other similar species.

The tree is accustomed to periodically-flooded riparian areas along streams and rivers.

Our specimens at this site range in overall condition from (dead) to "good". Irrigation appears to be heavy in the root zone areas where these specimens are located.

Some of these trees may be retainable if provided with trunk buffer and fencing protection, depending on the actual extend of project work (e.g. tree #14 located at the extreme edge of the delineated work area). However, given the species' short lifespan and the existing relatively poor condition of the trees in some cases, protection and retention may not be warranted.

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Carob Tree (*Ceratonia siliqua*):

Carob tree was a commonly-used tree species in 1970's era (+/-) commercial plantings. Our project area contains a large percentage of carob plantings in very narrow planting strips between parking stall runs, with only three to four feet of soil area width, which has resulted in many of these trees becoming stunted or diseased. In many cases, the carob specimens at our site exhibit one of more of the following:

- Trunk wood tissue decay.
- Limb and branch dieback.
- Yellowing foliage.
- Sunscald damage to the bark of the south sides of the trunks due to overpruning.
- Girdling roots and/or sweeping (circular) roots.
- Stunted form.

Most of these issues are probably due to soil rooting volume inadequate for normal tree root system extension, water uptake, and nutrient mining. Some of these issues may also be due to overpruning, underwatering, overwatering, and/or heavy clay-based soils that lack proper drainage or oxygen-bearing capacity.

Average overall condition of the carob specimens in our study area is "poor" on a scale from "very poor" to "excellent".

3.0 Maintenance and Protection Recommendations

1. Arborist of Record (AOR):

   It is suggested that the arborist of record Walter Levison be retained to perform periodic monitoring of site trees to be retained during construction to verify that tree protection and maintenance suggested in this report is performed and adhered to.

   Soil moisture monitoring may be performed by the AOR using a Lincoln soil moisture probe to determine supplemental irrigation needs, as applicable.

   Per the City of San Mateo planning division, regular monthly arborist inspections will be required starting with an initial tree protection verification letter prior to start of the project and continuing throughout the life of the site plan work. Monthly arborist letter reports prepared with digital images of site trees and tree protection are to be emailed to Staff (Tricia Schimpp, Staff Planner).

2. Pre-Construction Meeting:

   Project team shall meet with the AOR on-site prior to commencement of site work/demolition/etc., to go over items such as, but not limited to, final root protection zone fence routes for trees being retained, trunk buffer specifications, pruning prescriptions for specific trees, root pruning protocols, landscape installation and permanent irrigation types and limitations, temporary irrigation methods/locations for the construction period, and utility hand-trenching methods and locations.

   Utility trench routing and new landscape irrigation pipe trench routes will need to be verified at this time, such that alternative routes can be determined for optimal root zone preservation around trees being retained both inside and outside the project work area delineation as shown on the tree map.

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3. Bio-Retention Area:

   Per the project architect Watry Design, the location of the proposed bio-retention area has been adjusted on the construction set of plans such that construction of this area will not negatively impact the root zones of heritage trees 1, 2, and 3 being retained.

4. Pruning / Tree Maintenance:

   Retain a qualified ISA-Certified Arborist (see vendor list below) to personally monitor or perform deadwood removal, structural renovation pruning, airspace clearance pruning, and/or endweight reduction pruning as needed on trees being retained, per American National Standard Institute (ANSI)-A300 Tree Shrub and Other Woody Plant Maintenance / Standard Practices.

   Pruning shall be performed prior to start of site work to raise the canopy elevations of trees 1, 2, and 3 to clear all machinery types that are proposed to be used at this site for garage construction work.

5. Trunk Buffer:

   Affix a trunk buffer around trees #1, #2, and #3 being retained.

   Best Management Practice for tree protection of trees to remain on a site is to wrap an entire roll of orange fencing around the lower 8 feet of trunk of each tree, and affix 2X4 or 1X4 boards (or waste wood of similar dimensions) around the circumference of the trunk, and secure with duct tape on the outside only (do not use wires). See image above right.

   If the proposed site work will occur only during a dry period such as June to October, then straw wattles can be used as a "dry period trunk buffer" (see image below).

6. Root Protection Zone Fence:

   Chain link

   Install chain link fence (exact locations of fence to be determined during the pre-construction field meeting). This fencing shall be known as the root protection zone or "RPZ".

   Fencing material used for all protective fences shall be either:

   - Chain link panels mounted on moveable concrete footings, or
   - Rolled chain link mounted on two-inch diameter galvanized iron posts 7-feet in length, driven a minimum of 24-inches into the ground. Posts for post and hook fencing must be mounted no wider than 6-feet on-center (O.C.). This fence must be erected prior to any heavy machinery traffic or construction material arrival on site.

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Sample images of both types of fencing described are provided below right.

The protective fencing shall not be temporarily moved during construction, unless authorized by the AOR through an email or other written form. Materials, tools, excavated soil, liquids, substances, etc. shall not be placed or dumped, even temporarily, inside the RPZ.

Storage, staging, work, and/or other activities shall not occur inside the RPZ without the expressed written (emailed) permission from the AOR. The AOR shall be contacted 48 hours advance notice when requesting that a fence section be temporarily moved or removed.

Fence routing shall be approximately 6 to 10 feet radius offset from the trunks of trees #1, #2, and #3 being retained, to allow for optimal root zone protection during demolition and construction.

If demolition is to occur within an RPZ, call the AOR immediately in order that he can monitor this work while the fencing is temporarily downed.

7. Signage:

The TPZ fencing shall have one sign affixed with UV-stabilized zip ties to the chain link at eye level for every 15-linear feet of root protection zone fencing, minimum 8"X11" size each, plastic laminated or otherwise waterproofed, stating (see page 7 below for sample wordage):

ROOT PROTECTION ZONE FENCE
ZONA DE PROTECCION PARA ARBOLES

-NO ENTRE SIN PERMISO. LLAME EL ARBOLISTA WALTER LEVISON-

DO NOT MOVE OR REMOVE WITHOUT AUTHORIZATION FROM
WALTER LEVISON, CONSULTING ARBORIST

CALL OR EMAIL 48-HRS ADVANCE FOR PERMISSION

TELEFONO CELL 415-203-0990 / EMAIL drtree@sbcglobal.net

8. Site Plan Adjustments / Suggested:

Trench Locations:

Keep all new utility trenches and new landscape irrigation pipe trenches as far offset from the trunk edges of trees being retained. Bundle all utilities into a single joint trench where possible.

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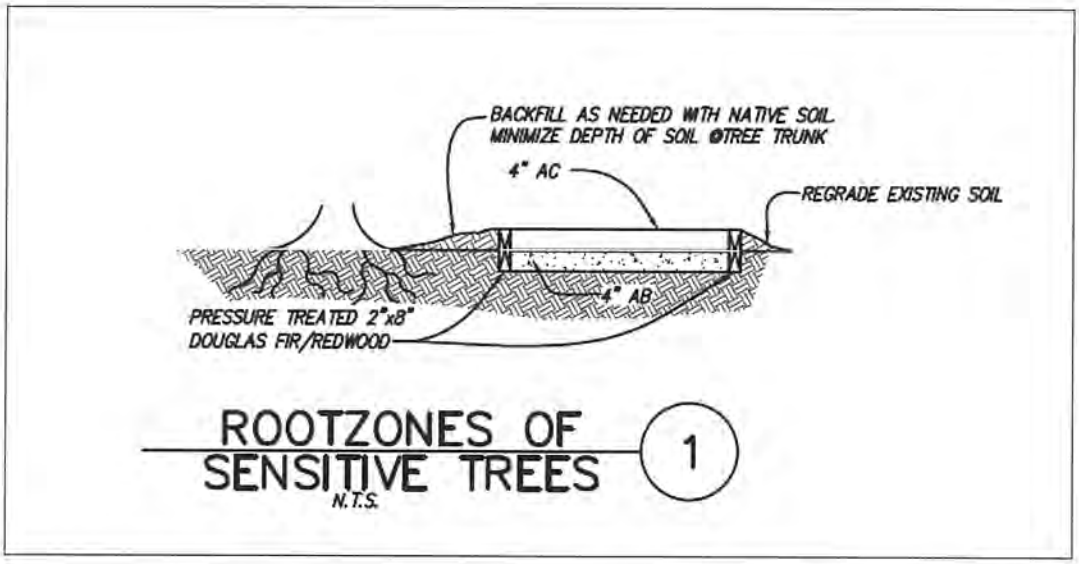
Push trench locations as far east as possible to the existing parking lot curb line, or farther east if possible.

Keep all trenches at least 25 horizontal feet offset from trunk edges of trees being retained.

New Curb and A/C Parking Lot Backup Area Within Driplines of Trees 1, 2, 3:

For all new demolition, grading, and construction within 20 horizontal feet of trees 1, 2, and 3 for new curb and asphalt surface installation, utilize only a "no dig" approach that floats all new baserock, surfacing, and curb footings over existing soil grades only with a maximum of 4 inches total cut below existing surface soil grade elevations for baserock installation. Refer to the two (2) sample spec images below as references of this type of "no dig" work that was specified for other local peninsula projects in the past (reprinted with permission).



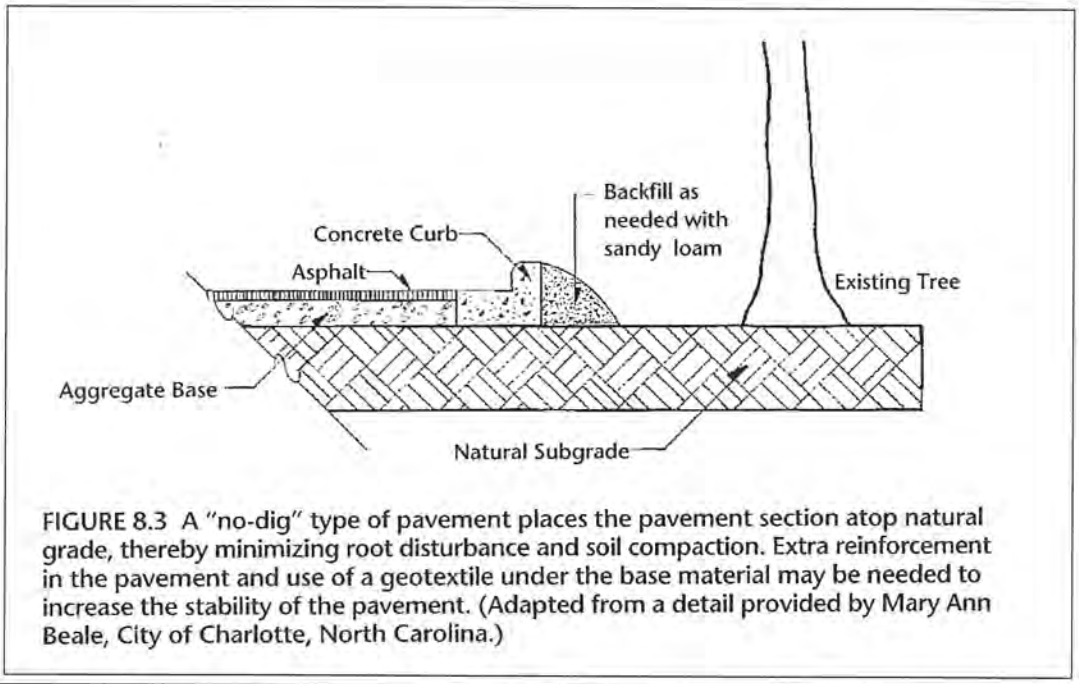


FIGURE 8.3 A "no-dig" type of pavement places the pavement section atop natural grade, thereby minimizing root disturbance and soil compaction. Extra reinforcement in the pavement and use of a geotextile under the base material may be needed to increase the stability of the pavement. (Adapted from a detail provided by Mary Ann Beale, City of Charlotte, North Carolina.)

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9. Trench Excavation Method:

   Avoid use of any machinery for trench excavation when working within 25 feet of trees 1, 2, and 3.

   Use hand-digging methods with small hand tools (pick mattock, shovel, trench shovel, etc.) under direct site monitoring and guidance by the AOR.

   When roots measuring 1" diameter or larger are encountered in trenches within 15 horizontal feet of a tree being retained, sever the root using a reticulating saw with wood pruning blade (see image of blade at right). Prune roots at right angles to the root growth directions (see image below).

   Stockpile soil at least 15 horizontal feet offset from the trunk of any tree being retained, to avoid causing temporary anaerobic conditions for the trunk base and root system which need to respire and take in oxygen from the atmosphere 24 hours a day.

10. Root Pruning:

    If any woody roots measuring 1 inch diameter or greater are encountered during site work within 15 feet of trees 1, 2, and 3 being retained, stop site plan work and call a qualified tree care contractor to prune roots at right angles to the root growth direction, using sharp tools such as an A/C powered Sawzall, lopper, professional pruning saw, etc. See image of a root pruning blade for reticulating saw, above right).

    If roots are required to be left exposed for more than 24 hours, then cover with six (6) layers of wet, muddy burlap. If possible, cover the root(s) completely with existing site soil and wood chip mulch, and irrigate thoroughly to saturate the uppermost 24 inches of the soil profile. Cover the soil with wood chip mulch.

    Call the AOR at cell 415-203-0990 immediately upon encountering the roots (prior to pruning) so that digital images of the root locations, depths, and densities can be archived.

    If roots are shattered or broken, then the Walter Levison "backdigging" protocol must be used prior to root pruning in order than the roots be severed at a location with undamaged tissue. (Refer to the backdigging protocol below):

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HOW TO PRUNE BROKEN OR SHATTERED ROOTS

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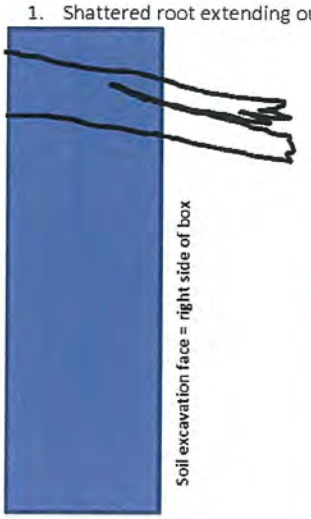
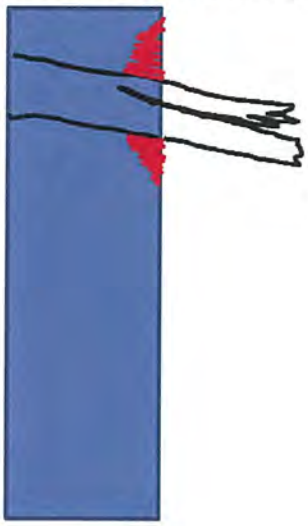
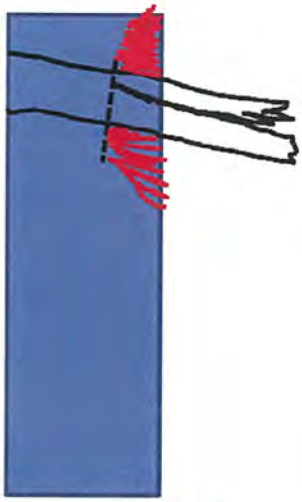
1. Shattered root extending out from excavation soil face. Shattered area of unknown length.



2. Dig back into soil face around root using hand tools (red area). Stop digging at 12 horizontal inches in from soil face, even if root is still broken or shattered.





3. Sever root squarely at right angle to root growth direction using sharp tool (see dashed line).

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11. Water Spray:

If standard pressure water is available on site, spray off foliage of trees 1, 2, and 3 being retained within 50 feet of site work on a 1x/month basis using a high power garden hose to wash both the upper and lower surfaces of the foliage. This helps keep the gas portals (stomata) unclogged for better gas exchange which is crucial for normal tree function. See image at right which depicts washing of redwood trees using a fire hose.

12. Irrigation / Temporary:

If existing site irrigation is to be shut off, severed, or otherwise compromised, then apply heavy irrigation to the entire landscape approximately 1x/every 48 hours using a water truck, tow-behind tank and spray apparatus and/or other above-grade temporary water delivery system.

Approximate volume of water to be applied once every week to trees 1, 2, and 3 shall be on the order of 300 gallons (volume shall be adjusted per the AOR).

The AOR will test relative soil moisture during his construction monitoring site visits using a 24" Lincoln soil moisture probe/meter to determine if temporary irrigation needs to be increased or otherwise adjusted.

The image at right shows irrigation of a tree using a tow-behind tank and spray apparatus affixed to a fire hose. The personnel were instructed to irrigate the entire root system of this tree between trunk and out to 20 feet from trunk.

13. New Landscape, Irrigation Piping, and Irrigation Water Analysis:

New irrigation line trenching will need to be routed to at least 20 to 25 feet minimum offset from the trunk edges of all trees being retained, in order to avoid unnecessary damage to the root systems of existing trees.

Discontinue use of high ionic content type recycled water, if this is currently being used, for irrigation of coast redwoods. Manage irrigation water for coast redwoods such that maximum ionic content of recycled water is per the following specs per UC Extension guidelines for generally safe irrigation water (water analysis):[1]

- <450 mg/l total dissolved solids (TDS)
- <0.7 mmhos/cm salinity
- <0.5 mg/l boron
- <100 mg/l chloride
- <3 SAR sodium (<70 mg/l sodium)

[1] Costello, et. al. 2003. *Abiotic Disorders of Landscape Plants: A Diagnostic Guide*. UC Agriculture and Natural Resources Publication #3420. Oakland, CA.

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4.0 Consultant's Qualifications

- Review Team, Landscape Construction Specifications & Side Cut Details for Landscape Architects
  CALFIRE Grant, 2013
- Contract Project Arborist, Hetch Hetchy Water System Improvement Program (WSIP)
  San Francisco Public Utilities Commission
  10/10-present
- ISA Tree Risk Assessment Qualified (TRAQ)
- ISA Tree Risk Assessment Qualified (TRAQ) Course, Palo Alto, CA. 2013
- PNW-ISA Certified Tree Risk Assessor Course graduate, 2009
  Vancouver, B.C., Canada
- ASCA Registered Consulting Arborist (RCA) #401
- Millbrae Community Preservation Commission (Tree Board)
  2001-2006
- ASCA Arboriculture Consulting Academy graduate, class of 2000
- ISA Certified Arborist (CA) #WC-3172
- B.A. Environmental Studies/Soil and Water Resources
  UC Santa Cruz, Santa Cruz, California 1990
- Peace Corps Soil and Water Conservation Extension Agent
  Chiangmai Province, Thailand 1991-1993
- Associate Consulting Arborist
  Barrie D. Coate and Associates
  4/99-8/99
- Contract City Arborist to the City of Belmont Department of Planning and Community Development
  5/99-present
- Continued education through attendance of arboriculture lectures and forums sponsored by The American Society of Consulting Arborists, The International Society of Arboriculture (Western Chapter), and various governmental and non-governmental entities.

(My full curriculum vitae is available upon request)

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5.0 Bay Area Vendors

Service	Company	What they offer	Contact
Transplanting	Tree Movers Inc.	Large specimen trees, transplant services.	650-968-6117
	Valley Crest Tree Co. tree moving division	Large specimen trees, transplant services.	818-223-8500
Pruning	Advanced Tree Care	Pruning, root crown excavation, fertilization, tree installation, support systems for high risk trees, SOD phosphate sprays.	650-839-9539
	Maguire Tree Care	Pruning performed directly by an ISA Certified Arborist	650-245-2620
	Trees 360	Pruning performed directly by an ISA Certified Arborist (upon request).	408-866-1010
	Commercial Tree Care	Pruning of very high quality if request ISA Certified Arborist Joe Nama to directly monitor pruning work.	408-985-TREE
	The Shady Tree Co.	High quality pruning.	650-326-0406 www.theshadytreecompany.com
Special Tree Sources	Specialty Oaks Lower Lake, CA	California native oak species	www.specialtyoaks.com
	Oracle Oak Nursery	Various oaks and hybrid elms. Only local purveyor of hard to find Italian oak (*Q. frainetto* 'Forest Green')	www.oracleoaknursery.com
	Sweet Lane Wholesale Nursery Santa Rosa, CA	Can import rare oaks such as the fantastic 'Forest Green' Hungarian oak, from Oregon growers. Also may be able to request the excellent Cathedral live oak (*Quercus virginiana* 'Cathedral')	www.sweetlanenursery.com
	L.E. Cooke Nursery	Current local source of the rare 'Roberts' sycamore: a cultivar of deciduous California sycamore that is reported to be resistant to both powdery mildew and sycamore anthracnose, while exhibiting fast upright growth appropriate for urban landscape conditions.	http://www.lecooke.com/cms/contact-le-cooke.html Visalia, CA

(The above sources have been known to provide high-quality arboriculture services in the past. They are not guaranteed or endorsed by the author.)

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6.0 Assumptions and Limiting Conditions

Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownership 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 and evaluated as through free and clean, under responsible ownership and competent management.

It is assumed that any property is not in violation of any applicable codes, ordinance, statutes, or other government regulations.

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.

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.

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

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 conclusions, identity of the consultant/appraiser, or any reference to any professional society or institute or to any initiated designation conferred upon the consultant/appraiser as stated in his qualifications.

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.

Sketches, drawings, and photographs in this report, being intended for 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 engineers, architects, or other consultants on any sketches, drawings, or photographs is for the express purpose of coordination and ease of reference only. Inclusion of said information on any drawings or other documents does not constitute a representation by Walter Levison to the sufficiency or accuracy of said information.

Unless expressed otherwise:
information contained in this report covers only those items that were examined and reflects the conditions of those items at the time of inspection; and
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.

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

Arborist Disclosure Statement:

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. Tree are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborist 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 the trees.

7.0 Certification

I hereby certify that all the statements of fact in this report are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

Signature of Consultant

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8.0 Digital Images 9/29/2014

Looking south at the southeast corner of the proposed project area. This zone contains the largest coast redwood specimens, as well as white alder ranging in overall condition from dead to good.

Looking west at the row of coast redwoods that extends along the south edge of the proposed project area, abutted up against the Caltrans right-of-way chain link fence line. These trees are small in stature, and are generally in poor overall condition with visible twig and needle dieback due apparently to soil moisture deficit, although these symptoms are somewhat similar to damage from use of recycled water with ionic content.

Close-up of dead twigs and foliage on an apparently soil moisture deficit stressed redwood specimen along the south side of our site.

Eastward view of some camphor specimens in parking lot planting strips between the rows of parking stalls.

Note the narrow planting strip width of only about 3 to 4 feet from curb to curb, which limits root extension and stunts tree growth, resulting in health and structural problems in many of the trees.

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Girdling roots on this carob specimen at the site are a common problem that has plagued the California nursery stock for many years.

Trees exhibiting this type of rooting pattern should have been either root pruned prior to installation, discarded, or returned to the seller, as circling roots tend to result in trees that lack vigor, are stunted, and do not extend normal lateral roots. Many of these trees become high risk specimens that are more likely to structurally fail than would trees with normal extended roots.

Clay based soils in narrow planting strips such as this situation further limit root extension out from the trunk.

Sunscald damage to the south sides of the trunk bark on some of the carob trees at this site may be a function of overpruning of the lateral limbs, which allowed too much light penetration into the lower trunk areas (not verified).

This could also be a function of the trees being stunted, and extending lateral limbs of shorter length with less foliar coverage than would normal carob trees of this age. Refer to section 2.0 for more information.

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Many of the outermost twigs on the canopies of the site carob specimens are dead or dying due to unknown cause(s). Some of these twigs are actual current season's twig extension, and some are simply stems to which the flattened fruit pods were affixed prior to the pods falling to the ground.

9.0 Attached: Tree Data Table (WLCA)

10.0 Attached: LU Value Calculation Table (WLCA)

11.0 Attached: Tree Location Map Mark-up (Rev 12/15/2014)

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Tree Tag #	To be Removed Per Current Site Plan	Author Recommends Removal Due to Elevated Risk of Failure and/or Very Poor Condition	Transplant Feasibility (Good, Mod, Poor)	Live Twig Density (Good, Mod, Poor, Very Poor)	Trunk 1 (in.)	Trunk 2 (in.)	Trunk 3 (in.)	Trunk 4 (in.)	Adjusted Trunk Diameter Inches @ 54" A.G. (1+2+3+4+5)	Municipal Protection Status - City of San Mateo, CA (Heritage Tree = oaks, bay, buckeye, coast redwood min. 10" Dia @ 48", all other species min. 16" @ 48")	COMMON NAME & *Scientific Name*	Height and Canopy Spread (ft.)	Health & Structural Ratings (0-100% each)	Overall Condition Rating (0-100%)	Notes	Tree Protection Zone Radius (Build Limit In Feet, Preliminary)	Suggested Site Plan Modifications to Optimize Survival	Protection & Maintenance (rpz)/root protection zone chain link fence, (tb)/trunk buffer, (rb)/root buffer, (p)/prune, (rp) root prune, (f)ertilization, (m)ulch, (w)ater, (MON)itor, (r)esistograph
1					18.1	0	0	0	18.1	X	coast redwood *(Sequoia sempervirens)*	50/15	80/60	75% Good	HT To be retained			tb, rpz, w
2					18.0	0	0	0	18	X	coast redwood *(Sequoia sempervirens)*	50/18	80/70	75% Good	HT To be retained			tb, rpz, w
3					18.5	0	0	0	18.5	X	coast redwood *(Sequoia sempervirens)*	50/15	80/70	75% Good	HT To be retained			tb, rpz, w
4	X				16.1	0	0	0	16.1	X	coast redwood *(Sequoia sempervirens)*	50/15	80/60	70% Good	HT Possible root crown issue related to erosion from an irrigation break or from rodent activity.			
5	X				12.5	0	0	0	12.5	X	coast redwood *(Sequoia sempervirens)*	35/13	80/70	75% Good	HT			
6	X				12.9	0	0	0	12.9	X	coast redwood *(Sequoia sempervirens)*	35/13	80/70	75% Good	HT			
7	X				15.3	0	0	0	15.3	X	coast redwood *(Sequoia sempervirens)*	35/16	80/70	75% Good	HT			
8	X				16.8	0	0	0	16.8	X	white alder *(Alnus rhombifolia)*	35/30	65/50	56% Fair	HT			
9	X				14.7	0	0	0	14.7		white alder *(Alnus rhombifolia)*	35/20	65/50	55% Fair				
10	X				19.3	0	0	0	19.3	X	coast redwood *(Sequoia sempervirens)*	50/16	85/75	80% Good	HT			
11	X				15.1	0	0	0	15.1		white alder *(Alnus rhombifolia)*	35/20	0/0	0% Dead	LU value is zero.			
12	X				13.7	0	0	0	13.7	X	coast redwood *(Sequoia sempervirens)*	50/15	80/70	75% Good	HT			

Tree Tag #	To be Removed Per Current Site Plan	Author Recommends Removal Due to Elevated Risk of Failure and/or Very Poor Condition	Transplant Feasibility (Good, Mod, Poor)	Live Twig Density (Good, Mod, Poor, Very Poor)	Trunk 1 (in.)	Trunk 2 (in.)	Trunk 3 (in.)	Trunk 4 (in.)	Adjusted Trunk Diameter Inches @ 54" A.G. (1+2+3+4+5)	Municipal Protection Status - City of San Mateo, CA (Heritage Tree = oaks, bay, buckeye, coast redwood min. 10" Dia @ 48", all other species min. 16" @ 48")	COMMON NAME & *Scientific Name*	Height and Canopy Spread (ft.)	Health & Structural Ratings (0-100% each)	Overall Condition Rating (0-100%)	Notes	Tree Protection Zone Radius (Build Limit In Feet, Preliminary)	Suggested Site Plan Modifications to Optimize Survival	Protection & Maintenance (rpz/root protection zone chain link fence, (tb)/trunk buffer, (rb)/root buffer, (p)/prune, (rp) root prune, (f)/fertilization, (m)/pitch, (w)ater, (MON)itor, (r)esistograph
13	X				16.5	0	0	0	16.5	X	white alder *(Alnus rhombifolia)*	45/25	80/60	70% Good	HT Codominant mainstems with bark inclusion at fork.			
14	X				14.7	0	0	0	14.7		white alder *(Alnus rhombifolia)*	45/20	70/30	38% Poor	Severe trunk lean off vertical, probably due to girdling root presence. Trunk does right to vertical at six fee above grade. Tree is being supported by redwood #15.			
15	X				24.3	0	0	0	24.3	X	coast redwood *(Sequoia sempervirens)*	55/18	80/80	80% Good	HT One root noted as damaged on grade from landscape activities.			
16	X				17.3	0	0	0	17.3	X	coast redwood *(Sequoia sempervirens)*	50/15	80/75	79% Good	HT			
17	X				15.8	0	0	0	15.8	X	coast redwood *(Sequoia sempervirens)*	40/18	80/75	78% Good	HT			
18	X				13.1	0	0	0	13.1	X	coast redwood *(Sequoia sempervirens)*	35/15	70/70	70% Good	HT Soil moisture deficit-caused dieback.			
19	X				12.3	0	0	0	12.3	X	coast redwood *(Sequoia sempervirens)*	30/15	70/70	70% Good	HT Soil moisture deficit-caused dieback.			
20	X				11.2	0	0	0	11.2	X	coast redwood *(Sequoia sempervirens)*	25/10	70/70	70% Good	HT Soil moisture deficit-caused dieback.			
21	X				10.7	0	0	0	10.7	X	coast redwood *(Sequoia sempervirens)*	25/12	80/80	80% Good	HT			
22	X				10.8	0	0	0	10.8	X	coast redwood *(Sequoia sempervirens)*	30/12	70/70	70% Good	HT Soil moisture deficit-caused dieback.			
23	X				10.5	0	0	0	10.5	X	coast redwood *(Sequoia sempervirens)*	25/10	75/70	72% Good	HT Soil moisture deficit-caused dieback.			
24	X				5.7	0	0	0	5.7		coast redwood *(Sequoia sempervirens)*	15/10	35/35	35% Poor	Soil moisture deficit-caused dieback.			

Tree Tag #	To be Removed Per Current Site Plan	Author Recommends Removal Due to Elevated Risk of Failure and/or Very Poor Condition	Transplant Feasibility (Good, Mod, Poor)	Live Twig Density (Good, Mod, Poor, Very Poor)	Trunk 1 (in.)	Trunk 2 (in.)	Trunk 3 (in.)	Trunk 4 (in.)	Adjusted Trunk Diameter Inches @ 54" A.G. (1+2+3+4+5)	Municipal Protection Status - City of San Mateo, CA (Heritage Tree = oaks, bay, buckeye, coast redwood min. 10" Dia @ 48", all other species min. 16" @ 48")	COMMON NAME & *Scientific Name*	Height and Canopy Spread (ft.)	Health & Structural Ratings (0-100% each)	Overall Condition Rating (0-100%)	Notes	Tree Protection Zone Radius (Build Limit in Feet, Preliminary)	Suggested Site Plan Modifications to Optimize Survival	Protection & Maintenance (trpz)root protection zone chain link fence; (b)trunk buffer; (rb)root buffer; (prune, (rp) root prune; (f)ertilization, (m)ulch, (w)ater; (MON)itor, (r)esistograph
25	X				4.7	0	0	0	4.7		coast redwood *(Sequoia sempervirens)*	10/8	30/20	25% Very Poor	Soil moisture deficit-caused dieback.			
26	X				6.7	0	0	0	6.7		coast redwood *(Sequoia sempervirens)*	15/9	80/70	75% Good				
27	X				7.5	0	0	0	7.5		coast redwood *(Sequoia sempervirens)*	15/9	25/25	25% Very Poor	Soil moisture deficit-caused dieback.			
28	X				8.5	0	0	0	8.5		coast redwood *(Sequoia sempervirens)*	18/10	30/30	30% Poor	Soil moisture deficit-caused dieback.			
29	X				9.2	0	0	0	9.2		coast redwood *(Sequoia sempervirens)*	20/10	30/30	30% Poor	Soil moisture deficit-caused dieback.			
30	X				10.6	0	0	0	10.6	X	coast redwood *(Sequoia sempervirens)*	20/10	40/40	40% Poor	HT Soil moisture deficit-caused dieback.			
31	X				4.9	0	0	0	4.9		coast redwood *(Sequoia sempervirens)*	10/6	25/25	25% Very Poor	Soil moisture deficit-caused dieback.			
32	X				7.6	0	0	0	7.6		coast redwood *(Sequoia sempervirens)*	18/8	25/25	25% Very Poor	Soil moisture deficit-caused dieback.			
33	X				8.0	0	0	0	8		coast redwood *(Sequoia sempervirens)*	18/9	25/25	25% Very Poor	Soil moisture deficit-caused dieback.			
34	X				7.8	0	0	0	7.8		coast redwood *(Sequoia sempervirens)*	20/9	15/15	15% Very Poor	Soil moisture deficit-caused dieback.			
35	X				6.0	0	0	0	6		coast redwood *(Sequoia sempervirens)*	16/9	45/40	43% Poor	Soil moisture deficit-caused dieback.			
36	X				7.0	0	0	0	7		coast redwood *(Sequoia sempervirens)*	16/9	50/50	50% Fair	Soil moisture deficit-caused dieback.			

Tree Tag #	To be Removed Per Current Site Plan	Author Recommends Removal Due to Elevated Risk of Failure and/or Very Poor Condition	Transplant Feasibility (Good, Mod, Poor)	Live Twig Density (Good, Mod, Poor, Very Poor)	Trunk 1 (in.)	Trunk 2 (in.)	Trunk 3 (in.)	Trunk 4 (in.)	Adjusted Trunk Diameter Inches @ 54" A.G. (1+2+3+4+5)	Municipal Protection Status - City of San Mateo, CA (Heritage Tree = oaks, bay, buckeye, coast redwood min. 10" Dia @ 48", all other species min. 16" @ 48")	COMMON NAME & *Scientific Name*	Height and Canopy Spread (ft.)	Health & Structural Ratings (0-100% each)	Overall Condition Rating (0-100%)	Notes	Tree Protection Zone Radius (Build Limit in Feet, Preliminary)	Suggested Site Plan Modifications to Optimize Survival	Protection & Maintenance (rpz)root protection zone chain link fence, (tb)trunk buffer, (rb)root buffer, (p)rune, (rp) root prune, (f)ertilization, (m)ulch, (w)ater, (MON)itor, (r)esistograph
37	X				6.2	0	0	0	6.2		coast redwood *(Sequoia sempervirens)*	15/8	35/35	35% Poor	Soil moisture deficit-caused dieback.			
38	X				9.3	0	0	0	9.3		carob tree *(Ceratonia siliqua)*	15/20	65/40	53% Fair	Sweep-form roots caused by twisting the root ball into a container during nursery growout stage, which causes sweeping roots (bad).			
39	X				7.1	0	0	0	7.1		carob tree *(Ceratonia siliqua)*	14/15	80/60	70% Good	Sweep-form roots caused by twisting the root ball into a container during nursery growout stage, which causes sweeping roots (bad).			
40	X				4.3	0	0	0	4.3		carob tree *(Ceratonia siliqua)*	12/12	30/30	30% Poor	Stunted tree due to unknown causes			
41	X				5.9	0	0	0	5.9		carob tree *(Ceratonia siliqua)*	12/18	35/35	35% Poor	Yellowing foliage. Some twig dieback.			
42	X				5.6	0	0	0	5.6		carob tree *(Ceratonia siliqua)*	12/17	40/35	37% Poor				
43	X				7.0	0	0	0	7		carob tree *(Ceratonia siliqua)*	15/13	45/45	45% Poor				
44	X				7.9	0	0	0	7.9		carob tree *(Ceratonia siliqua)*	15/18	55/65	60% Fair				
45	X				6.6	0	0	0	6.6		carob tree *(Ceratonia siliqua)*	16/15	50/50	50% Fair				
46	X				6.9	0	0	0	6.9		carob tree *(Ceratonia siliqua)*	15/25	65/70	68% Fair				
47	X				6.0	0	0	0	6		carob tree *(Ceratonia siliqua)*	10/10	50/50	50% Fair				

Tree Tag #	To be Removed Per Current Site Plan	Author Recommends Removal Due to Elevated Risk of Failure and/or Very Poor Condition	Transplant Feasibility (Good, Mod, Poor)	Live Twig Density (Good, Mod, Poor, Very Poor)	Trunk 1 (in.)	Trunk 2 (in.)	Trunk 3 (in.)	Trunk 4 (in.)	Adjusted Trunk Diameter Inches @ 54" A.G. (1+2+3+4+5)	Municipal Protection Status - City of San Mateo, CA (Heritage Tree = oaks, bay, buckeye, coast redwood min. 10" Dia @ 48", all other species min. 16" @ 48")	COMMON NAME & *Scientific Name*	Height and Canopy Spread (ft.)	Health & Structural Ratings (0-100% each)	Overall Condition Rating (0-100%)	Notes	Tree Protection Zone Radius (Build Limit in Feet, Preliminary)	Suggested Site Plan Modifications to Optimize Survival	Protection & Maintenance (rpz)root protection zone chain link fence, (tb)trunk buffer, (rb)root buffer, (p)rune, (rp) root prune, (f)ertilization, (m)ulch, (w)ater, (MON)itor, (y)esistograph
48	X				7.7	0	0	0	7.7		carob tree *(Ceratonia siliqua)*	15/15	70/70	70% Good				
49	X				5.1	0	0	0	5.1		carob tree *(Ceratonia siliqua)*	13/12	30/30	30% Poor				
50	X				6.5	0	0	0	6.5		carob tree *(Ceratonia siliqua)*	15/18	75/50	58% Fair	Trunk leans south.			
51	X				5.5	0	0	0	5.5		carob tree *(Ceratonia siliqua)*	12/8	25/10	15% Very Poor	Sunscald canker on southwest side of trunk.			
52	X				5.6	0	0	0	5.6		carob tree *(Ceratonia siliqua)*	13/6	10/10	10% Very Poor	Trunk exhibits advanced wood tissue necrosis.			
53	X			Good	5.7	0	0	0	5.7		carob tree *(Ceratonia siliqua)*	13/15	80/55	65% Fair	Trunk leans southeast. Good live twig density/extension.			
54	X			Good	7.5	0	0	0	7.5		carob tree *(Ceratonia siliqua)*	15/18	80/60	70% Good	Trunk leans southeast. Good live twig density/extension. After review of the site plan sheet, it became apparent that the proposed curb work near this tree will negatively impact the root system to the point where it is not worth trying to preserve and protect the tree.			
55	X				4.7	0	0	0	4.7		carob tree *(Ceratonia siliqua)*	12/7	40/40	40% Poor				
56	X				4.4	0	0	0	4.4		carob tree *(Ceratonia siliqua)*	12/8	35/30	30% Poor	Sunscald canker on south side of trunk.			
57	X				3.8	0	0	0	3.8		carob tree *(Ceratonia siliqua)*	10/5	10/10	10% Very Poor	Sunscald canker on south side of trunk.			
58	X				4.5	0	0	0	4.5		carob tree *(Ceratonia siliqua)*	12/8	30/30	30% Poor				

Tree Tag #	To be Removed Per Current Site Plan	Author Recommends Removal Due to Elevated Risk of Failure and/or Very Poor Condition	Transplant Feasibility (Good, Mod, Poor)	Live Twig Density (Good, Mod, Poor, Very Poor)	Trunk 1 (in.)	Trunk 2 (in.)	Trunk 3 (in.)	Trunk 4 (in.)	Adjusted Trunk Diameter Inches @ 54" A.G. (1+2+3+4+.5)	Municipal Protection Status - City of San Mateo, CA (Heritage Tree = oaks, bay, buckeye, coast redwood min. 10" Dia @ 48", all other species min. 16" @ 48")	COMMON NAME & *Scientific Name*	Height and Canopy Spread (ft.)	Health & Structural Ratings (0-100% each)	Overall Condition Rating (0-100%)	Notes	Tree Protection Zone Radius (Build Limit in Feet, Preliminary)	Suggested Site Plan Modifications to Optimize Survival	Protection & Maintenance ((p)/post protection zone chain link fence, (b)/trunk protection, (s)/straw wattle buffer, (o)/none, (n)/prune, (f)/fertilization, (m)/mulch, (w)/air (M/ON)/or, (r)/resistograph
59	X				6.8	0	0	0	6.8		carob tree *(Ceratonia siliqua)*	15/15	50/50	50% Fair				
60	X				3.9	0	0	0	3.9		carob tree *(Ceratonia siliqua)*	10/8	35/20	27% Very Poor	Sunscald canker on south side of trunk			
61	X				4.2	0	0	0	4.2		carob tree *(Ceratonia siliqua)*	11/6	25/25	25% Very Poor	Trunk leans due to girdling roots.			
62	X				4.1	0	0	0	4.1		carob tree *(Ceratonia siliqua)*	10/8	25/20	20% Very Poor	Girdling roots visible at root crown.			
63	X				5.7	0	0	0	5.7		carob tree *(Ceratonia siliqua)*	12/12	35/35	35% Poor				
64	X				4.0	0	0	0	4		carob tree *(Ceratonia siliqua)*	10/8	35/35	35% Poor				
65	X				4.5	0	0	0	4.5		carob tree *(Ceratonia siliqua)*	12/8	45/45	45% Poor				
66	X				4.4	0	0	0	4.4		carob tree *(Ceratonia siliqua)*	10/8	45/30	38% Poor	Impact scar at one foot above grade from car. Trunk leans south.			
67	X				4.2	0	0	0	4.2		carob tree *(Ceratonia siliqua)*	10/8	40/40	40% Poor	Trunk leans east.			
68	X				5.8	0	0	0	5.8		carob tree *(Ceratonia siliqua)*	12/14	75/65	70% Good	Trunk leans southeast.			
69	X				6.3	0	0	0	6.3		carob tree *(Ceratonia siliqua)*	17/12	80/70	78% Good				

Tree Tag #	To be Removed Per Current Site Plan	Author Recommends Removal Due to Elevated Risk of Failure and/or Very Poor Condition	Transplant Feasibility (Good, Mod, Poor)	Live Twig Density (Good, Mod, Poor, Very Poor)	Trunk 1 (in.)	Trunk 2 (in.)	Trunk 3 (in.)	Trunk 4 (in.)	Adjusted Trunk Diameter Inches @ 54" A.G. (1+2+3+4+5)	Municipal Protection Status - City of San Mateo, CA (Heritage Tree = oaks, bay, buckeye, coast redwood min. 10" Dia @ 48", all other species min. 16" @ 48")	COMMON NAME & *Scientific Name*	Height and Canopy Spread (ft.)	Health & Structural Ratings (0-100% each)	Overall Condition Rating (0-100%)	Notes	Tree Protection Zone Radius (Build Limit in Feet, Preliminary)	Suggested Site Plan Modifications to Optimize Survival	Protection & Maintenance (p)trunk protection zone chain link fence, (b)trunk buffer, (rb)root buffer, (p)rune, (rp) root prune, (f)ertilization, (m)ulch, (w)ater, (MON)itor, (y)asistograph
70	X				4.7	0	0	0	4.7		carob tree *(Ceratonia siliqua)*	15/10	80/65	75% Good	Trunk leans southeast, then corrects to vertical which is good.			
71	X				5.1	0	0	0	5.1		carob tree *(Ceratonia siliqua)*	10/14	80/65	75% Good	Trunk leans slightly east.			
72	X				9.1	0	0	0	9.1		carob tree *(Ceratonia siliqua)*	18/20	75/75	75% Good	Trunk leans southeast, then corrects to vertical which is good. Patch of dead twigs and foliage noted between six and ten feet above grade on south side of canopy.			

Notes:

1. Trees included in this study are all trees located within a an area bounded by a work limit delineation as shown on sheets received by WLCA from the project team. Survey trees are tagged with racetrack shaped aluminum numbered tags at eye level on a main stem.

2. Taller tree heights were verified using a Nikon Forestry 550 Pro hypsometer.

3. WLCA added trees #1, 2, 14, 15, 16, 55, 56, 57, 58, and #62 within the bounded work area, as these trees were not previously plotted on the plan sheets. WLCA has noted these trees as "possible removals" in the first column of this Excel data chart.

4. Many of the carob specimens exhibit twig dieback, due to undetermined cause(s) such as irrigation system disrepair, girdling roots, poor pruning practices in the past, and/or other factors.

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Revised 11/11/2014

Tree Evaluation Schedule

1400 & 1450 Fashion Island Blvd.
LU Values per City of San Mateo Protocol

Tree #	Species %	X Condition %	X Location %	Divided by 0.35	X Dia. Inches @48" above grade	X Buildable Area Factor (1.00 or 0.70)	X Heritage Factor (1.25 or 1.00)	LU Value
1	0.9	0.75	0.61		18.1	0.7	1.25	18.6
2	0.9	0.75	0.61		18	0.7	1.25	18.5
3	0.9	0.75	0.61		18.5	0.7	1.25	19.0
4	0.9	0.7	0.61		16.1	0.7	1.25	15.5
5	0.9	0.75	0.6		12.5	0.7	1.25	12.7
6	0.9	0.75	0.6		12.9	0.7	1.25	13.1
7	0.9	0.75	0.6		15.3	0.7	1.25	15.5
8	0.1	0.56	0.61		16.8	0.7	1.25	1.4
9	0.1	0.55	0.63		14.7	0.7	1	1.0
10	0.9	0.8	0.61		19.3	0.7	1.25	21.2
11	0.1	0	0		15.1	0.7	1	0.0
12	0.9	0.75	0.61		13.7	0.7	1.25	14.1
13	0.1	0.7	0.6		16.5	0.7	1.25	1.7
14	0.1	0.38	0.58		14.7	0.7	1	0.6
15	0.9	0.8	0.61		24.3	0.7	1.25	26.7
16	0.9	0.79	0.61		17.3	0.7	1.25	18.8
17	0.9	0.78	0.6		15.8	0.7	1.25	16.6
18	0.9	0.7	0.61		13.1	0.7	1.25	12.6
19	0.9	0.7	0.58		12.3	0.7	1.25	11.2
20	0.9	0.7	0.58		11.2	0.7	1.25	10.2
21	0.9	0.8	0.58		10.7	0.7	1.25	11.2
22	0.9	0.7	0.58		10.8	0.7	1.25	9.9
23	0.9	0.72	0.58		10.5	0.7	1.25	9.9
24	0.9	0.35	0.58		5.7	0.7	1	2.1
25	0.9	0.25	0.58		4.7	0.7	1	1.2
26	0.9	0.75	0.58		6.7	0.7	1	5.2
27	0.9	0.25	0.58		7.5	0.7	1	2.0
28	0.9	0.3	0.58		8.5	0.7	1	2.7
29	0.9	0.3	0.58		9.2	0.7	1	2.9
30	0.9	0.4	0.58		10.6	0.7	1.25	5.5

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Revised 11/11/2014

Tree #	Species %	X Condition %	X Location %	Divided by 0.35	X Dia. Inches @48" above grade	X Buildable Area Factor (1.00 or 0.70)	X Heritage Factor (1.25 or 1.00)	LU Value
31	0.9	0.25	0.58		4.9	0.7	1	1.3
32	0.9	0.25	0.58		7.6	0.7	1	2.0
33	0.9	0.25	0.58		8	0.7	1	2.1
34	0.9	0.15	0.56		7.8	0.7	1	1.2
35	0.9	0.43	0.58		6	0.7	1	2.7
36	0.9	0.5	0.58		7	0.7	1	3.7
37	0.9	0.35	0.58		6.2	0.7	1	2.3
38	0.5	0.53	0.55		9.3	0.7	1	2.7
39	0.5	0.7	0.55		7.1	0.7	1	2.7
40	0.5	0.3	0.55		4.3	0.7	1	0.7
41	0.5	0.35	0.55		5.9	0.7	1	1.1
42	0.5	0.37	0.55		5.6	0.7	1	1.1
43	0.5	0.45	0.55		7	0.7	1	1.7
44	0.5	0.6	0.55		7.9	0.7	1	2.6
45	0.5	0.5	0.55		6.6	0.7	1	1.8
46	0.5	0.68	0.55		6.9	0.7	1	2.6
47	0.5	0.5	0.55		6	0.7	1	1.7
48	0.5	0.7	0.55		7.7	0.7	1	3.0
49	0.5	0.3	0.55		5.1	0.7	1	0.8
50	0.5	0.58	0.55		6.5	0.7	1	2.1
51	0.5	0.15	0.46		5.5	0.7	1	0.4
52	0.5	0.1	0.46		5.6	0.7	1	0.3
53	0.5	0.65	0.55		5.7	0.7	1	2.0
54	0.5	0.7	0.55		7.5	0.7	1	2.9
55	0.5	0.4	0.55		4.7	0.7	1	1.0
56	0.5	0.3	0.55		4.4	0.7	1	0.7
57	0.5	0.1	0.46		3.8	0.7	1	0.2
58	0.5	0.3	0.55		4.5	0.7	1	0.7
59	0.5	0.5	0.55		6.8	0.7	1	1.9
60	0.5	0.27	0.46		3.9	0.7	1	0.5
61	0.5	0.25	0.46		4.2	0.7	1	0.5
62	0.5	0.2	0.46		4.1	0.7	1	0.4
63	0.5	0.35	0.55		5.7	0.7	1	1.1
64	0.5	0.35	0.55		4	0.7	1	0.8

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Tree #	Species %	X Condition %	X Location %	Divided by 0.35	X Dia. Inches @48" above grade	X Buildable Area Factor (1.00 or 0.70)	X Heritage Factor (1.25 or 1.00)	LU Value
65	0.5	0.45	0.55		4.5	0.7	1	1.1
66	0.5	0.38	0.55		4.4	0.7	1	0.9
67	0.5	0.4	0.55		4.2	0.7	1	0.9
68	0.5	0.7	0.55		5.8	0.7	1	2.2
69	0.5	0.78	0.55		6.3	0.7	1	2.7
70	0.5	0.75	0.55		4.7	0.7	1	1.9
71	0.5	0.75	0.55		5.1	0.7	1	2.1
72	0.5	0.75	0.55		9.1	0.7	1	3.8
							Total LU's for 72 Trees	**370.5**

Notes:

1. Only the largest stem was used for calculation of diameter, per WLCA's communication with the contract city arborist.

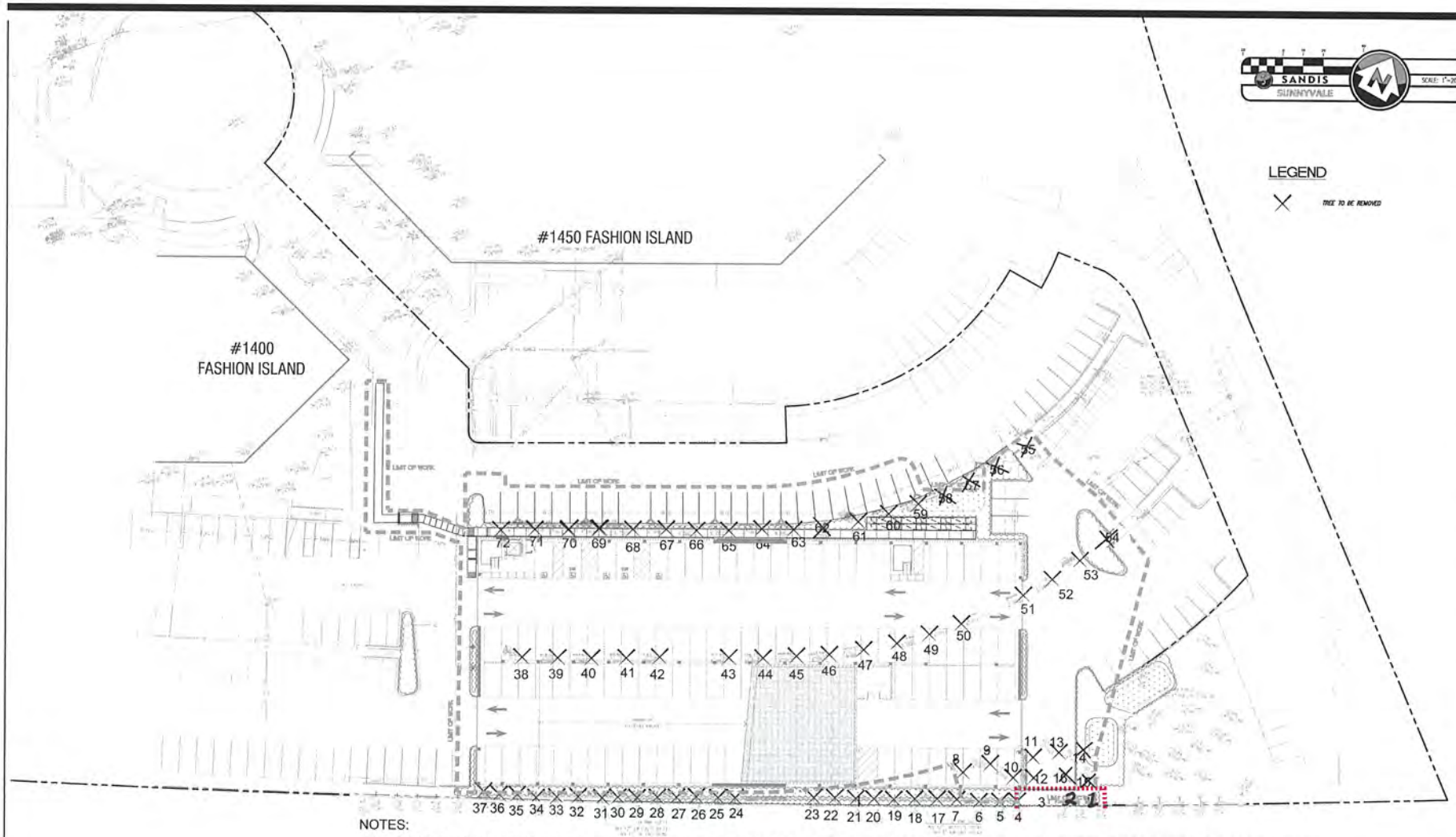
2. Definition of "heritage tree" per City of San Mateo for the purposes of this assignment was assumed to mean trees exhibiting a single stem of min. 10" diameter (natives) or min. 16" diameter (non-natives). Trees with multiple stems totalling those threshold diameters were assumed to be non-heritage designates. Heritage trees are given a heritage factor of 1.25, while non-heritage trees are given a heritage factor of 1.0.

3. Species ratings are per the WCISA *Species Classification and Group Assignment* publication, version 2004. This 2004 edition has not been updated.

4. All trees in this study were assumed to be "inside the buildable area" and were therefore given buildable area factors of 0.70.

5. Three trees #1, #2, and #3 are to be retained per the applicant. The LU values for those trees to be retained may therefore need to be subtracted from the LU value sum total of 370.5 shown above. The total LU value of these three trees is 56.1.

370.5 minus 56.1 givese us an adjusted total LU value of 314.4 for sixty-nine (69) trees being removed per the project team.



NOTES:

TREE TAGS #1, 2, 14, 15, 16, 55, 56, 57, 58, AND #62 WERE NOT PREVIOUSLY PLOTTED ON THE TREE PLOT SHEET. THESE TREE LOCATIONS WERE ADDED BY WLCA.

ALL 72 SURVEY TREES ARE TO BE REMOVED EXCEPT FOR THREE TREES #1, #2, AND #3. CONCEPTUAL TREE ROOT ZONE PROTECTION FENCE ROUTING IS SHOWN ON THIS MARKED-UP SHEET AS HEAVY RED DASHING AROUND THESE TREES, AND SHOULD BE PLACED AS FAR AS POSSIBLE FROM THE TRUNKS (E.G. MIN. 15 TO 20 HORIZONTAL FEET OFFSET RADIUS).

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EXISTING SITE PLAN

CENTURY CENTRE PARKING STRUCTURE

SAN MATEO, CALIFORNIA

REVISIONS

NO.	DATE	BY

CONCEPT DESIGN
07.23.2014

JOB NO :	214085
DATE :	05-06-14
DESIGN :	AL
DRAWN :	
CHK. BY :	ND
FILE :	

SHEET

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