

ABACUS

CONSULTING ARBORISTS



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Consulting Arborist Report & **Tree Inventory & Assessment**

Prepared at the request of:
Karlton Castles

For

241 Nevada Street
APN #013-0190-0360

In

City of Roseville, California

Nicole Harrison

International Society of Arboriculture, Certified Arborist #WE-6500AM, TRAQ

September 11, 2018 (Updated April 8, 2019 to correspond with
Preliminary Grading, 03-01-2019 by RFE Engineering)

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Executive Summary

Karlton Castles of DBISBK, LLC. contacted Abacus Consulting Arborists to inventory and evaluate the protected trees and produce an Arborist Report as the end product. The property is parcel 013-192-036-000, located at 1007 Douglas Boulevard in Roseville, California.

Nicole Harrison, ISA Certified Arborist #WE6500AM, and Nicholas McNamara, arborists assistant, of Abacus Consulting Arborists was on site on March 28, 2018; to identify species, take measurements of DBH¹ and canopy, field condition notes, recommended actions, ratings, and locations of the protected trees.

There are 23 trees surveyed of which 21 qualify as protected trees as defined by the City of Roseville municipal code, Title 19, Article IV, Chapter 19.66 Tree Preservation. There are five (5) trees off site or property line trees which could be impacted by the development of the site².

<u>Tree Species</u>	<u>Trees on this Site:</u>	<u>Property Line³ and/or Offsite Trees</u>	<u>Protected by City of Roseville Title 19 Chapter 19.66</u>	<u>Trees Proposed for Removal⁴</u>	<u>Protected Trees Proposed for Retention with Impacts⁵</u>	<u>Total Trees to be Retained</u>
Valley Oak, <i>Quercus lobata</i>	6	4	10	5	3	5
Interior Live Oak, <i>Quercus wislizenii</i>	9	2	10	7	3	3
Blue Oak, <i>Quercus douglasii</i>	1	0	1	1	0	0
London Planetree, <i>Plantanus x acerifolia</i>	1	0	0	1	0	0
Privet, <i>Ligustrum sp.</i>	1	0	0	1	0	0
Total	18	6	21	15	6	8

See Chart B – Inventory of Trees for specific information on each tree.

See Chart C – Trees Proposed for Removal or Impact for additional Mitigation information

¹ DBH or 'Diameter at Breast High' is the industry accepted measurement for mature trees. The measurement is taken at 54" off of native grade. See attached 'Tree Size Expressed by Trunk Diameter'.

² Tree locations are approximate. Abacus Consulting Arborists is not responsible for determination of tree location and/or ownership.

³ Trees with any portion of the trunk on the property line are considered to be joint ownership trees between the parcels and require agreement between parcel owners for removal or impact (Stamen, 1997).

⁴ **Current Development Plan by RFE Engineering, Inc. Titled Nevada Street Lofts and dated 4-18-2018.**

⁵ Impacts occur when development activities, including grading or trenching, are within the protected root zone defined for each tree in Chart B. The impact result and/or additional protection measures can be found in the conclusion of this report

Methods

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



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

Tree Location: The GPS location of each tree was collected using the ESRI's ArcGIS collector application on an Apple iPad. The data was then processed in ESRI's ArcMap by Julie McNamara, M.S. GISci, to produce the tree location map.

Tree Measurements: DBH (diameter breast high) is normally measured at 4'6" (above the average ground height for "Urban Forestry"), but if that varies then the location where it is measured is noted. A Hagl6f Mantax Caliper was used to measure the DBH for trees less than 32" in diameter or less and a steel diameter tape for trees greater than 32".

Terms

Field Tag #	The pre-stamped tree number on the tag which is installed at approximately 6 feet above ground level on the north side of the tree.
Other Tag #	If additional field tags are found on the trees and are legible, they are listed here.
Offsite/Property Line	Indicates if an off-site tree was included in the inventory. Inclusion of off-site trees is conducted when these trees could potentially be impacted by any proposed development. Trees located within 25' of the development boundary are normally included and provided protection recommendations when development is proposed in the area. We are not surveyors and do not guarantee trees listed as on or off the site are correctly indicated.
Protected	Indicates if the tree qualifies as a "protected tree" by the standards of the local jurisdiction.
Species Common Name	The species of a tree is listed by our local common name. Our native oaks frequently cross-pollinate and hybridize, but the identification is towards the strongest characteristics.
Species Botanical Name	Industry accepted botanical name by genus (capitalized) and species (lower case).
DBH	'Diameter Breast High' is normally measured at 4'6" (above the average ground height for "Urban Forestry"), but if the measurement was taken at another location it is noted here. A Swedish caliper [1] was used to measure the DBH for trees less than 30" in diameter and a steel diameter tape for trees greater than 30"Ø.
Measured Canopy radius	The farthest extent of the crown composed of leaves and small twigs. Often a tree's canopy will be irregular, however, the canopy radius is measured as longest dripline measurement from the center point of the tree as the limbs with the farthest reach.

Notes:

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

**City of
Roseville Tree
Rating**

Pursuant to Title 19, Chapter 19.66 Tree Preservation of the Roseville Municipal Code as information to be included in the Arborist Report.

Arborist Rating

Subjective to condition and is based on both the health and structure of the tree. All of the trees were rated for condition, per the recognized national standard as set up by the Council of Tree and Landscape Appraisers and the International Society of Arboriculture (ISA) on a numeric scale of 5 (being the highest) to 0 (the worst condition, dead) as in Chart A. The rating was done in the field at the time of the measuring and inspection. The scale is as follows:

Chart A – Tree Ratings

<u>Arborist Ratings</u>			<u>Roseville Ratings, 19.66.050 B.1.</u>
No problem(s)	Excellent	5	Excellent
No apparent problem(s)	Good	4	Good
Minor problem(s)	Fair	3	Fair to Good
Minor problem(s)		2 or 3	Fair
Major problem(s)	Poor	2	Fair to Poor
Extreme problem(s)	Hazardous	1	Poor
Dead	Dead	0	Dead

Ratings Description

Rating #0: This indicates a tree that has no significant sign of life.

Rating #1: The problems are extreme. This rating is assigned to a tree that has structural and/or health problems that no amount of work or effort can change. The issues may or may not be considered a dangerous situation.

Rating #2: The tree has major problems. If the option is taken to preserve the tree, its condition could be improved with correct arboricultural work including, but not limited to: pruning, cabling, bracing, bolting, guying, spraying, mistletoe removal, vertical mulching, fertilization, etc. If the recommended actions are completed correctly, hazard can be reduced and the rating can be elevated to a 3. If no action is taken the tree is considered a liability and should be removed.

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

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

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

Development Impact Indicates if the tree is planned for removal or preservation, and if preserved, the relative impact of the proposed development according to the development plans. The scale is as follows:

Impact Terms

Impact Description

Negligible	Tree is unlikely to show any symptoms. Chance of survival post development is excellent. Impacts to the Protected Root Zone (see Glossary) are less than 5%.
Minor	Tree is likely to show minor symptoms. Chance of survival post development is good. Impacts to the Protected Root Zone are less than 15% and species tolerance is good.
Moderate	Tree is likely to show moderate symptoms. Chance of survival post development is fair. Impacts to the Protected Root Zone are less than 35% and species tolerance is good or moderate.
Severe	Tree is likely to show moderate symptoms annually and a pattern of decline. Chance of long term survival post development is low. Impacts to the Protected Root Zone are up to 50% and species tolerance is moderate to poor.
Critical	Tree is likely to show moderate to severe symptoms annually and a pattern of decline. Chance of long term survival post development is negligible. Impacts to the Protected Root Zone are up to 80%.

Impact Notes

Development Restrictions

The proposed impact to the tree based on the current development plan
Arborist preservation recommendations to support long-term health of the tree during the development process often in the form of restrictions.

Chart B – Inventory of Trees

Blue indicates tree is off site or on the property line. Note: Actual tree locations are to be determined by others. We are not surveyors. Abacus takes no responsibility for determination of tree ownership.

Field Tag #	Protected by 19.66	Offsite /Line	Species Common Name	Species Botanical Name	DBH	Measured Canopy Radius	Notes	Arborist Rating	Roseville Rating	Development Status
662	Yes		Interior Live Oak	Quercus wislizenii	23	32	Debris at base, codominant leader at 10', seam ground to 4', north stem included bark and narrow attachment angle @ 15' in main stem	3 Fair - Minor Problems	Fair	Remove
667	Yes		Interior Live Oak	Quercus wislizenii	4, 5	14	Poor structure, bows @ 2-6', S limb stubbed	1 Extreme Structure or Health Problems	Poor	Remove
672	Yes	Yes	Interior Live Oak	Quercus wislizenii	13	20	Fenceline, retaining wall cracking at base, codominant leader at 6' into 3 stems, imbedded fence wire, good leaf surface	3 Fair - Minor Problems	Fair to Good	Remove
673	No		London Planetree	Platanus x acerifolia	20	25	Sparse canopy, powdery mildew, stubs to east	3 Fair - Minor Problems	Fair to Good	Remove
681	Yes	Street Tree?	Valley Oak	Quercus lobata	10, 11, 9	20	Co-dominant leader at 1' into 3 stems, 9" stem bows to west, 11 is upright 10 has dogleg to east, abnormal trunk shape, epicormic growth, topped - under high voltage, retaining wall is cracking at 1' to south	2 Major Structure or Health Problems	Fair	Remove
6254	Yes		Blue Oak	Quercus douglasii	7, 6	20	CDL at 1 foot, both systems lean, chainsaw chatter at 3 feet on W stem, suppressed poor crown ratio	2 Major Structure or Health Problems	Fair to Poor	Remove
6255	Yes		Interior Live Oak	Quercus wislizenii	23, 25	35	Codominant leader at 2', abnormal flare at ground with imbedded post/pipe (?), debris at crotch, co-dominant leader in both stems at 5-6', included bark, north stem is dominant, north stem has old pruning cuts with callous and borers, south stem has prostrate limb at 6-8' to south and 15' to west	3 Fair - Minor Problems	Fair	Remove
6256	Yes		Valley Oak	Quercus lobata	11 @ 2'	16	Codominant leader at 5' included bark, understory, bows to west	2 Major Structure or Health Problems	Fair to Poor	Remove
6257	Yes		Interior Live Oak	Quercus wislizenii	7, 9 @ 2'	20	Understory, poor structure, bows to south at 8', abnormal flare at base	2 Major Structure or Health Problems	Fair to Poor	Remove

Field Tag #	Protected by 19.66	Offsite /Line	Species Common Name	Species Botanical Name	DBH	Measured Canopy Radius	Notes	Arborist Rating	Roseville Rating	Development Status
6258	Yes		Valley Oak	Quercus lobata	19	25	Narrow angle attachment at 6', main stem has a slight lean to west, sparse canopy	3 Fair - Minor Problems	Fair to Good	Remove
6259	Yes		Interior Live Oak	Quercus wislizenii	13	25	Codominant leader at 8', included bark, crossing limbs @ 12', poor structure	3 Fair - Minor Problems	Fair	Remove
6260	No		Glossy Privet	Ligustrum sp.	7, 7, 7	15	Poor structure, crossing limbs, poor species	2 Major Structure or Health Problems	Fair	Remove
6261	Yes		Interior Live Oak	Quercus wislizenii	9	15	Lean to south with correction	3 Fair - Minor Problems	Fair to Good	Impacted
6262	Yes		Valley Oak	Quercus lobata	8	17	Dogleg to east at 10', sparse canopy	2 Major Structure or Health Problems	Fair	Remove
6263	Yes		Interior Live Oak	Quercus wislizenii	19, 5, 7	35	Codominant leader at 6" with two 5" stems, main stem has a seam 6" to 4", good canopy; 5" stems are both suppressed and bow to west north west	4 Good - No Apparent Problems	Good	Remove
6264	Yes		Interior Live Oak	Quercus wislizenii	15	32	Advanced decay pocket at 2' to south with callous, suppressed, bows to south west - not correctible	2 Major Structure or Health Problems	Fair	Impacted
6265	Yes		Valley Oak	Quercus lobata	33	35	Co-dominant leader at 8', included bark, north east stem in contact with fence, large dead and decaying stub in crotch, bows to east, over-weight limb to east	3 Fair - Minor Problems	Fair	Impacted
6266	Yes	Yes	Valley Oak	Quercus lobata	16	24	good flare, upright structure, previously surrounded by bamboo, good leaf surface	4 Good - No Apparent Problems	Good	Impacted
6267	Yes	Yes	Valley Oak	Quercus lobata	13	25	good flair, slight lean from suppression by 6268, good leaf surface	3 Fair - Minor Problems	Fair to Good	Preserve
6268	Yes	Yes	Valley Oak	Quercus lobata	16	20	large codominant leader failure at 10' jagged decaying stub, upper canopy poor structure, fair leaf surface	2 Major Structure or Health Problems	Fair to Poor	Preserve
6269	Yes	Yes	Interior Live Oak	Quercus wislizenii	8	18	2 stems removed at base, remaining stem has poor structure. Potential for basal decay and failure is high	1 Extreme Structure or Health Problems	Poor	Impacted

Field Tag #	Protected by 19.66	Offsite /Line	Species Common Name	Species Botanical Name	DBH	Measured Canopy Radius	Notes	Arborist Rating	Roseville Rating	Development Status
6270	Yes	Yes	Valley Oak	Quercus lobata	37, 38	40	Debris at base, codominant leader at 10', narrow angle to base, sparse canopy, large dead wood, over-mature and declining	2 Major Structure or Health Problems	Fair	Impacted
6271	Yes		Valley Oak	Quercus lobata	24, 16	36	Co-dominant leader at 4', included bark to ground, sparse canopy, limb tip dieback	3 Fair - Minor Problems		Remove

Limitations

All of the conclusions in this report are based solely on the observation of conditions on the site which were readily visible. Trees may appear to be healthy and structurally sound but can contain hidden faults which could result in failure.

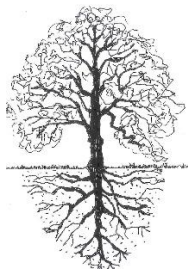
This inventory and all the evaluations were conducted during the dormant season. While we endeavor to evaluate the canopy of each tree based on twig condition, there may be conditions which cannot be detected at this time of the year.

Blackberries, Poison Oak and/or Debris (such as limbs, firewood, garbage, etc) visually inhibit the observation of critical defects at the base of a tree such as decay or evidence of decay agents (mushrooms or conks). They also can hide ground heaving, compacted soil, soil contamination, and many other critical evaluation details. Whenever these conditions exist, the visual assessment was limited and the tree should be reevaluated upon removal of the inhibiting condition.

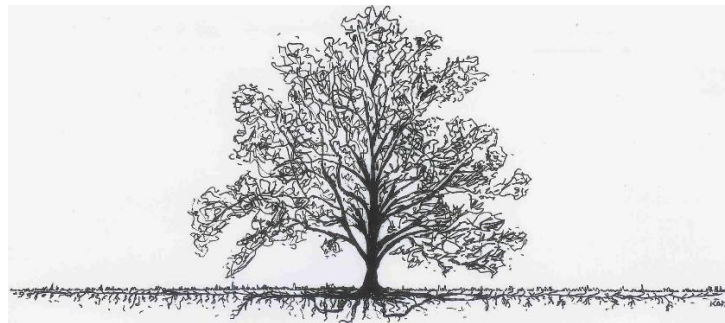
Discussion

Root Structure

The majority of a tree's roots are contained in a radius from the main trunk outward approximately two to three times the canopy of the tree. These roots are located in the top 6" to 3' of soil. It is a common misconception that a tree underground resembles the canopy (see Drawing A below). The correct root structure of a tree is in Drawing B. Accordingly, tree protection during development involves preserving an area that extends beyond the dripline.



Drawing A
Common misconception of where
tree roots are assumed to be
located



Drawing B
The reality of where roots are located

Conclusion

There are 23 trees surveyed of which 21 qualify as protected trees as defined by the City of Roseville municipal code, Title 19, Article IV, Chapter 19.66 Tree Preservation. There are six (6) trees off site or on the property line which could be impacted by the development of the site.

Protected Tree Status	Tree Count	Inches ⁶
Trees to Remain on the Site without Impact	0	
Trees Proposed for Removal	15	274
Trees with Impacts Causing Early Demise (6261 & 6264)	2	24
Trees with Impacts to be Determined ⁷ (6265 & 6270)	2	Up to 108

(Updated April 4, 2019 for Plan update Preliminary Grading, 03-01-2019 by RFE Engineering)

Projected development impacts are based solely on distance relationships between tree location and grading and/or trenching. Field inspections and findings during the project at the time of grading and trenching can change relative impacts. Closely followed guidelines and restrictions can result in a higher chance of survival, while restrictions that are overlooked can result in a dramatically lower chance of survival. **The final impact will be measured at project completion and reported by the project arborist in the 'Final Compliance Letter'.**

General Development Guidelines

- 1 Any recommended chemical treatments shall be performed 30 days prior to onset of grading activities. Project arborist shall require confirmation of treatment.
- 2 No wheeled equipment or pickup trucks shall be allowed on site until exclusionary tree fencing is installed by developer and inspected by the project arborist.
- 3 All of the trees to be removed or pruned shall be chipped onsite to the greatest degree possible. The chips are to be used under the trees that are to remain as mulch in the Protected Root Zone (see 6 below).
- 4 All trees to be removed within the Protected Root Zone of a tree to remain on site shall NOT be removed with equipment, but rather shall be stump ground.
- 5 All of the trees to remain shall have mulch installed in the Protected Root Zone 4 - 6" deep prior to grading and/or grubbing. It is preferred this mulch is from the trees to be removed, however, other mulch may be used but it is required to be arborist type woodchips (4 – 6" deep), but not redwood or cedar bark. Redwood or Cedar bark mulch will not be accepted. If applied, it will be required to be removed and placed on top of the required arborist type mulch.
- 6 All trees to be saved shall have their root zones and trunk(s) protected with exclusionary fencing. Unless otherwise specified by the City or County, a four (4') foot high orange or yellow plastic, high visibility fence shall be installed surrounding the trees' root zone (defined by canopy radius), hereafter referred to as the Protected Root Zone. The fence shall be staked 10'o.c. maximum spacing, with 5' steel "T"

⁶ Inches are DBH for single trunk trees and DBH added together for multi-stem trees

⁷ Trees with Impacts to be determined during construction are assumed to be 'preserved' and often Bonded to ensure every effort is made to manage the site activities to preserve these trees.

- posts, 2" x 2" square or 2"+ Ø wood posts. The Protected Root Zone area shall extend out to the tree's longest dripline radius plus one foot, as a circle. See Arborist Report - Chart B for radius measurement for each individual tree. The fencing shall completely surround the trees' root zone and not be "U" shaped or open at any point. Whenever possible, include as many trees that are to be saved into one fenced exclusionary Protected Root Zone. The fencing shall be maintained and not moved or removed until the final arborist inspection at the completion of construction.
- 7 No material storage, people, portable outhouses, vehicles, or dogs shall be allowed in the Protected Root Zone.
 - 8 Utility-trenching paths are to be placed outside the Protected Root Zone unless previously approved by project Arborist.
 - 9 The cut and fill material excavated from or added to the lot can kill trees by removing too many roots, drying/wetting the soil, or by suffocating the roots with too much soil. If fill material is needed within 20' of the Protected Root Zone, properly designed aeration/ventilation systems made to protect the trees and allow for the fill material can be installed.
 - 10 Limestone gravel shall not be used as base material or for drain rock as it will change the pH to be more alkaline, and may harm the trees.
 - 11 Lime to assist in soil compaction, if required, shall not be used within 100' of any tree to remain and be preserved.
 - 12 Soil contamination shall be avoided by eliminating chemical dumping on the property that may infiltrate into the Protected Root Zone. **No**: washing, dumping, or contaminating the site including but not necessarily limited to the following: concrete from tools or trucks, paint materials, sheetrock mud or stucco materials, other chemicals, solvents, herbicides, etc.
 - 13 Irrigation is required once per month for a trees to remain within 30' of any grading activity during the months of May - November, unless 1" of rain has been recorded within the 2 week period. The project arborist is required to inspect the site and specify irrigation requirements once per month during the months of May – November.
 - 14 Irrigation is required as soon as the concrete is poured and footings and stem walls are backfilled. The protected trees within 30' should be watered to the point of soil saturation at a minimum depth of 12".
 - 15 Do not nail, tie, screw, or fasten any signs, braces, etc. to the trees that are to remain.
 - 16 Pruning is to be completed by a qualified ISA Certified Arborist or under the direct supervision of the project arborist. No cutting of live wood over 2"Ø shall be made. All cutting, pruning, trimming, cabling, guying, bracing, and lightning protection systems shall conform to the most current standards of the American National Standards Institute (ANSI). The current ANSI Tree Care Standards are A300 (Parts 1-4) 2000 to 2002 (copies at: www.ansi.org). The BMPs are "Best Management Practices", as companion publications to the ANSI Tree Care Standards, printed by the International Society of Arboriculture (copies at: www.isa-arbor.com). The BMP booklets explain the details of the ANSI Tree Care Standards and how to follow them correctly. Pruning of branches under 3" in diameter should be made with sharp hand tools: pruners, loppers, and/or handsaws, not chainsaws.
 - 17 Additional recommendations to enhance the likelihood of tree survival may be required or recommended in supplemental inspections by the project arborist.

Chart C – Trees Proposed for Removal

Field Tag #	Protected by 19.66	Offsite/Property Line	Species Common Name	Species Botanical Name	DBH	Measured Canopy Radius	Arborist Rating	Roseville Rating	Development Status, 9-11-18	Mitigation Inches	Removal Count
662	Yes		Interior Live Oak	Quercus wislizenii	23	32	3 Fair - Minor Problems	Fair	Remove	23	1
667	Yes		Interior Live Oak	Quercus wislizenii	4, 5	14	1 Extreme Structure or Health Problems	Poor	Remove	9	2
672	Yes	Yes	Interior Live Oak	Quercus wislizenii	13	20	3 Fair - Minor Problems	Fair to Good	Remove	13	3
673	No		London Planetree	Platanus x acerifolia	20	25	3 Fair - Minor Problems	Fair to Good	Remove	0 – Unprotected Species	4
681	Yes		Valley Oak	Quercus lobata	10, 11, 9	20	2 Major Structure or Health Problems	Fair	Remove	30	5
6254	Yes		Blue Oak	Quercus douglasii	7, 6	20	2 Major Structure or Health Problems	Fair to Poor	Remove	13	6
6255	Yes		Interior Live Oak	Quercus wislizenii	23, 25	35	3 Fair - Minor Problems	Fair	Remove	48	7
6256	Yes		Valley Oak	Quercus lobata	11 @ 2'	16	2 Major Structure or Health Problems	Fair to Poor	Remove	11	8
6257	Yes		Interior Live Oak	Quercus wislizenii	7, 9 @ 2'	20	2 Major Structure or Health Problems	Fair to Poor	Remove	16	9

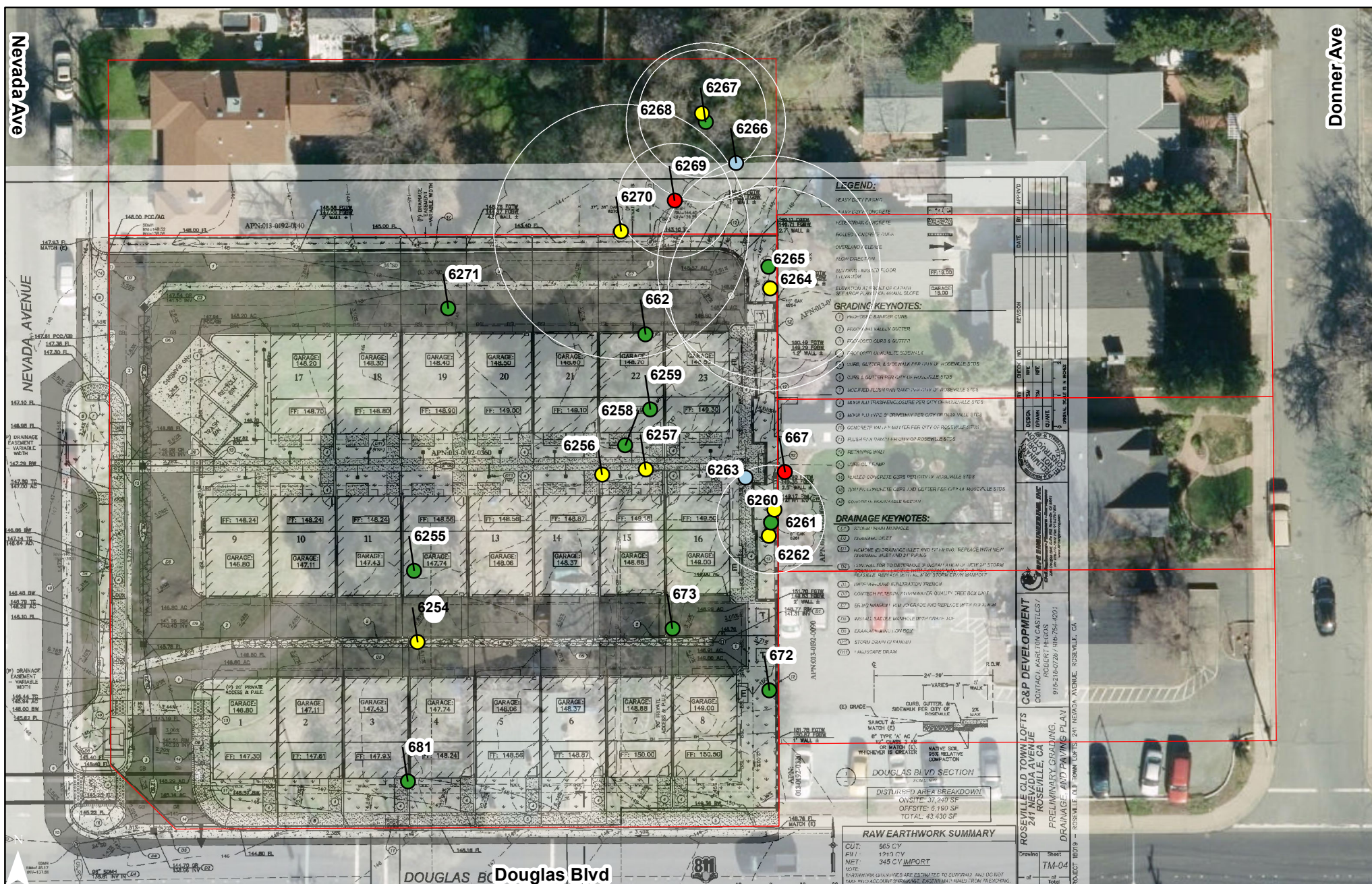
Field Tag #	Protected by 19.66	Offsite/ Property Line	Species Common Name	Species Botanical Name	DBH	Measured Canopy Radius	Arborist Rating	Roseville Rating	Development Status, 9-11-18	Mitigation Inches	Removal Count
6258	Yes		Valley Oak	Quercus lobata	19	25	3 Fair - Minor Problems	Fair to Good	Remove	19	10
6259	Yes		Interior Live Oak	Quercus wislizenii	13	25	3 Fair - Minor Problems	Fair	Remove	13	11
6260	No		Privet sp.	Ligustrum sp.	7, 7, 7	15	2 Major Structure or Health Problems	Fair	Remove	0 – Species not Protected	12
6262	Yes		Valley Oak	Quercus lobata	8	17	2 Major Structure or Health Problems	Fair	Remove	8	13
6263	Yes		Interior Live Oak	Quercus wislizenii	19, 5, 7	35	4 Good - No Apparent Problems	Good	Remove	31	14
6271	Yes		Valley Oak	Quercus lobata	24, 16	36	3 Fair - Minor Problems	Fair to Good	Remove	40	15
Total										274	15

Chart C – Impacted Trees and Development Restrictions

Field Tag #	Protected by 19.66	Species Common Name	Species Botanical Name	DBH	Measured Canopy Radius	Arborist Rating	Roseville Rating	Mitigation Inches	Impact Term	Special Preservation Requirements
6261	Yes	Interior Live Oak	Quercus wislizenii	9	15	3 Fair - Minor Problems	Fair to Good	9	Critical to Severe	Consider geotextile fabric under fill for 10', min requirement is 5'. Project arborist to be onsite during utility placement and trenching.
6264	Yes	Interior Live Oak	Quercus wislizenii	15	32	2 Major Structure or Health Problems	Fair	15	Critical	Chemical treatment for stress and as a preventative for leaf disorders and insects shall be applied 30 days prior to grading. Install protective fencing at 10' from base of tree west and south. All activities inside fencing shall be

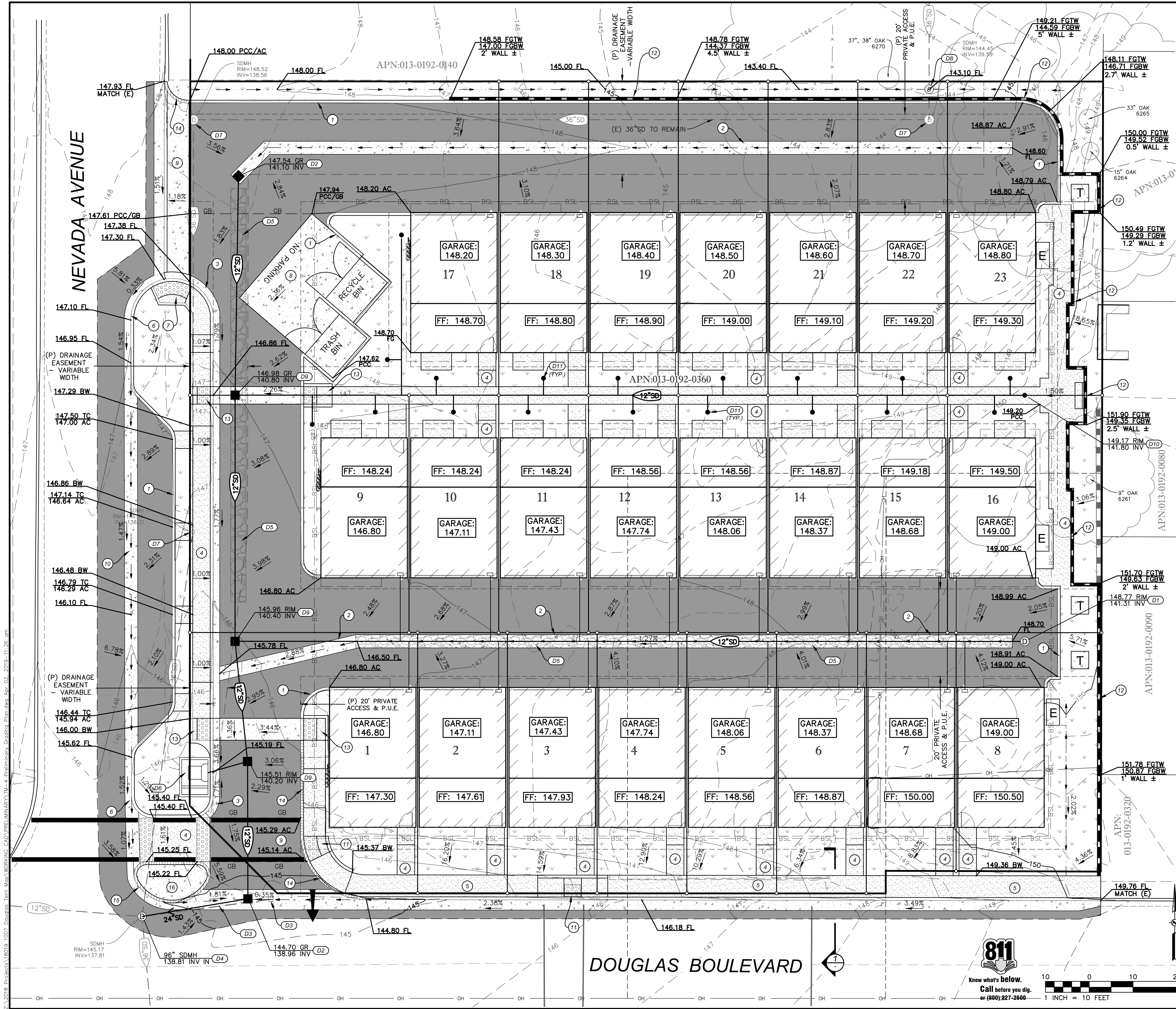
Field Tag #	Protect ed by 19.66	Species Common Name	Species Botanical Name	DBH	Measure d Canopy Radius	Arborist Rating	Roseville Rating	Mitigati on Inches	Impact Term	Special Preservation Requirements
										under the direct supervision of the project arborist, including grading and digging for retaining wall for transformer pad. (Updated April 4, 2019 for Plan update Preliminary Grading, 03-01-2019 by RFE Engineering)
6265	Yes	Valley Oak	Quercus lobata	33	35	3 Fair - Minor Problems	Fair to Poor	TBD (33)	Moderate to Critical	Chemical treatment for stress and as a preventative for leaf disorders and insects shall be applied 30 days prior to grading. Install protective fencing at 10' from base of tree west. All activities inside fencing shall be under the direct supervision of the project arborist, including any clearance pruning. (Updated April 4, 2019 for Plan update Preliminary Grading, 03-01-2019 by RFE Engineering)
6266	Yes	Valley Oak	Quercus lobata	16	24	4 Good - No Apparent Problems	Good	0	Minor	Follow all general recommendations. Protective fencing and recommendations for surrounding trees will provide adequate protection.
6269	Yes	Interior Live Oak	Quercus wislizenii	8	18	1 Extreme Structure or Health Problems	Poor	0	Moderate	Tree is structurally poor. Impacts will not significantly change the life span of the tree. No protection is required.
6270	Yes	Valley Oak	Quercus lobata	37, 38	40	2 Major Structure or Health Problems	Fair	TBD (75)	Moderate	Chemical treatment for stress and as a preventative for leaf disorders and insects shall be applied 30 days prior to grading. All grading within 50' shall be evaluated by project arborist after retaining wall evaluation. Trenching for retaining wall and root evaluation shall occur prior to grading. Geotextile fabric may be required to be placed under fill at discretion of project arborist. Install protective fencing at 50' from base of tree. All activities inside fencing shall be under the direct supervision of the project arborist, including any clearance

Field Tag #	Protect ed by 19.66	Species Common Name	Species Botanica l Name	DBH	Measure d Canopy Radius	Arborist Rating	Roseville Rating	Mitigati on Inches	Impact Term	Special Preservation Requirements
										<p>pruning. Utility and or storm drain trenches may require boring and/or hand digging within the 50' protected zone. Tree shall be pruned prior to grading under project arborist supervision for clearance and risk reduction. (Updated April 4, 2019 for Plan update Preliminary Grading, 03-01-2019 by RFE Engineering)</p>



Please refer to the Arborist Report for additional information.
Tree locations are approximate.

Z:\2018 Projects\18019_1007 Douglas Blvd. Preliminary Grading Plan.dwg Apr. 02, 2019-11:26 am



LEGEND:

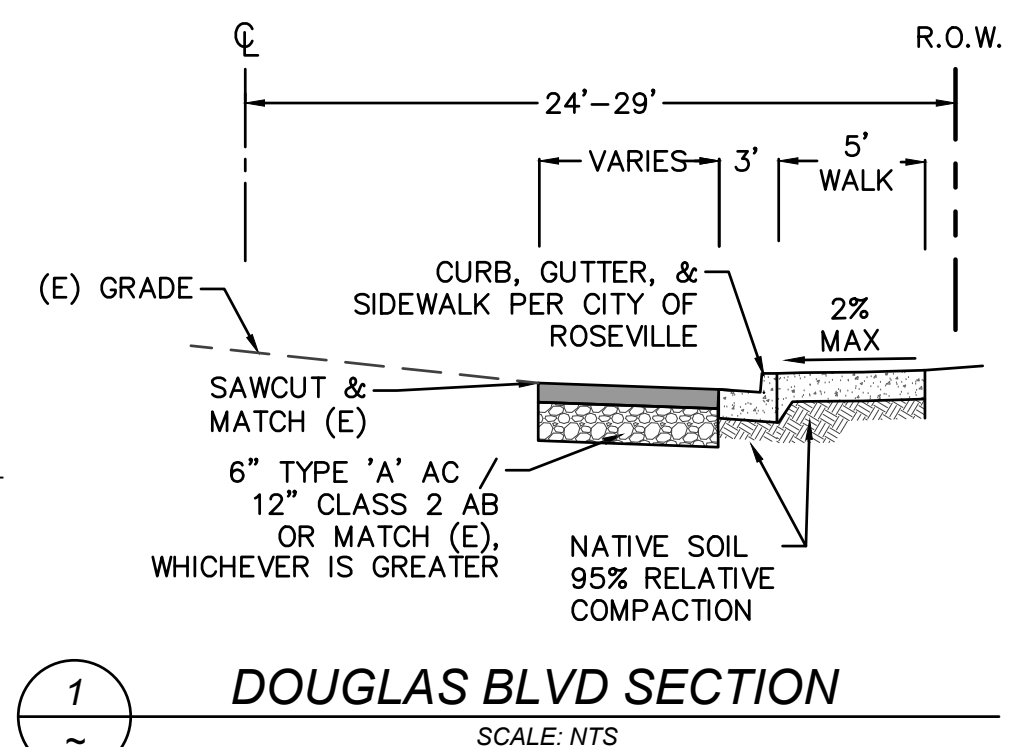
HEAVY DUTY PAVING	
HEAVY DUTY CONCRETE	
PEDESTRIAN CONCRETE	
ROLLED CONCRETE CURB	
OVERLAND RELEASE	
FLOW DIRECTION	
BUILDING FINISHED FLOOR ELEVATION	FF:19.00
ELEVATION AT FRONT OF GARAGE SEE ARCH PLANS FOR GRADE SLOPE	GARAGE: 18.00

GRADING KEYNOTES:

- PROPOSED BARRIER CURB
- PROPOSED VALLEY GUTTER
- PROPOSED CURB & GUTTER
- PROPOSED CONCRETE SIDEWALK
- CURB, GUTTER, & SIDEWALK PER CITY OF ROSEVILLE STDs
- CURB & GUTTER PER CITY OF ROSEVILLE STDs
- MODIFIED FLUSH PAN RAMP PER CITY OF ROSEVILLE STDs
- MODIFIED TRASH ENCLOSURE PER CITY OF ROSEVILLE STDs
- MODIFIED TYPE 'S' DRIVEWAY PER CITY OF ROSEVILLE STDs
- CONCRETE VALLEY GUTTER PER CITY OF ROSEVILLE STDs
- FLUSH PAN RAMP PER CITY OF ROSEVILLE STDs
- RETAINING WALL
- CURB CUT RAMP
- ROLLED CONCRETE CURB PER CITY OF ROSEVILLE STDs
- ROLLED CONCRETE CURB AND GUTTER PER CITY OF ROSEVILLE STDs
- CONCRETE MOUNTABLE MEDIAN

DRAINAGE KEYNOTES:

- STORM DRAIN MANHOLE
- DRAINAGE INLET
- REMOVE (E) DRAINAGE INLET AND 12" PIPING. REPLACE WITH NEW DRAINAGE INLET AND 24" PIPING.
- CONTRACTOR TO DETERMINE IF INSTALLATION OF NEW 24" STORM DRAIN WILL BE FEASIBLE WITH EXISTING MANHOLE. IF NOT FEASIBLE, REPLACE WITH NEW 96" STORM DRAIN MANHOLE.
- UNDERGROUND INFILTRATION TRENCH
- CONTECH FILTERRA STORMWATER QUALITY TREE BOX UNIT
- BRING MANHOLE RIM TO GRADE AND REPLACE WITH SOLID RIM
- INSTALL SADDLE MANHOLE WITH GRATE TOP
- DRAINAGE JUNCTION BOX
- STORM DRAIN CLEANOUT
- LANDSCAPE DRAIN



DOUGLAS BLVD SECTION	
SCALE: NTS	
DISTURBED AREA BREAKDOWN	
ONSITE: 37,240 SF	OFFSITE: 6,190 SF
TOTAL: 43,430 SF	

RAW EARTHWORK SUMMARY

CUT:	865 CY
FILL:	1210 CY
NET:	345 CY IMPORT
NOTE: EARTHWORK QUANTITIES ARE ESTIMATED TO SUBGRADE AND DO NOT TAKE INTO ACCOUNT SHRINKAGE, EXCESS MATERIALS FROM TRENCHING, EXCAVATION FOR DETENTION BASIN, AND MISC. UNKNOWN STRUCTURAL SECTIONS. CONTRACTOR SHOULD VERIFY EARTHWORK QUANTITIES.	

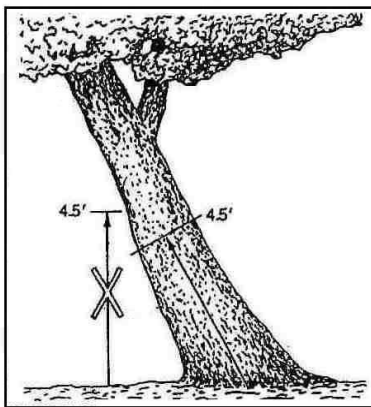
APPROVED	BY	DATE	REVISION	CHECK NO.	BY	DESIGN	TSM	DESIGN	QUANT.	ORIGINAL SCALE IS IN INCHES
C&P DEVELOPMENT CONTACT: KARLTON CASTLES / ROBERT PEGOS 916-218-0728 / 916-764-4201										
ROSEVILLE OLD TOWN LOFTS 241 NEVADA AVENUE ROSEVILLE, CA PRELIMINARY GRADING, DRAINAGE, AND PAVING PLAN										
Drawing	Sheet	TM-04								
of	of Total	9								
04-02-2019										

Tree Size Expressed by Trunk Diameter

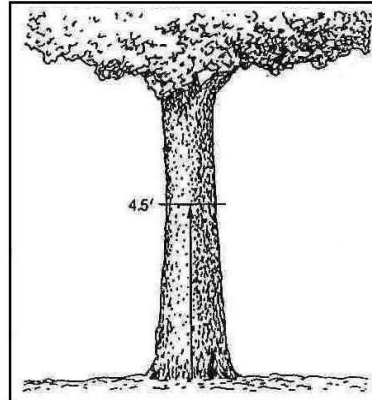
Tree SIZE Expressed by Trunk Diameter

"The height at which the trunk diameter of a tree is measured depends upon its size. The American Standard for Nursery Stock (ANSI, 1990) state that measurements shall be taken 6 inches (15 cm) above the ground for trunk diameters up to and including 4 inches (10 cm). Larger trees (assumed, but not stated, to be of transplantable size) are to be measured at 12 inches (30 cm). Trees normally considered too large to transplant are to be measured 4.5 feet [4'-6" is also called diameter breast high or dbh] (1.4 m) above the ground. Trees, like conifers, which have branches below 4.5 feet should be measured at a height that most effectively represents the size of the tree." The diameter is calculated by first measuring the circumference divided by 3.14 (π called pi) or by using a "diameter tape" whereon the inches are multiplied by π and shown to produce the diameter directly.

This is the dbh standard for measurement as shown in figure 4-2.



Figures 4-3 (top) and 4-4 (bottom). In each case, the trunk circumference should be measured at right angles to the trunk 4.5 feet (1.4 m) along the center of the trunk axis so the height is the average of the shortest and longest sides of the trunk.



Figures 4-2. Trees with fairly straight, upright trunks with the lowest branch arising on the trunk higher than 6 feet (1.8 m) above the ground should be measured at 4.5 feet (1.4 m).

There are some exceptions to the dbh standard as shown in the figures 4-3, 4-4, 4-5 & 4-6.

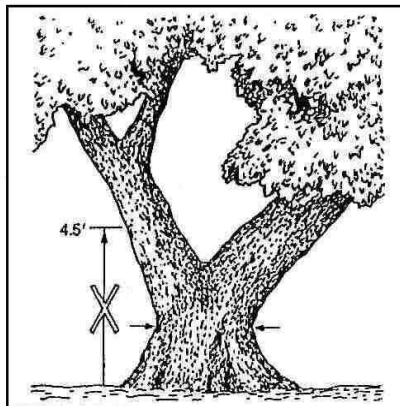
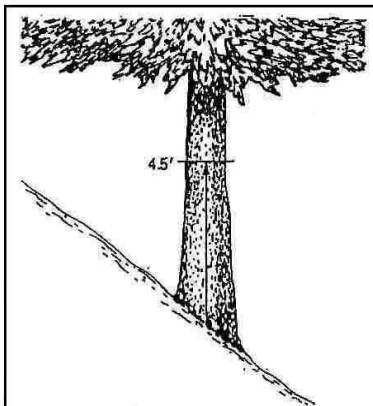


Figure 4-5. When low branches preclude measuring the trunk at 4.5 feet (1.4 m) measure the smallest circumference below the smallest branch. In this example, an alternative would be to determine the sum of the cross-sectional areas of the two stems measured about 12 inches (30 cm) above the crotch; then average the sum of the two branch areas and the smallest cross-sectional area below the branches. This may give a better estimate of tree size. Record the height of measurement(s) and the reasons the height or those heights were chosen.

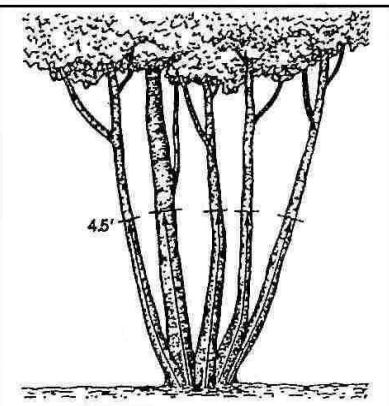


Figure 4-6. In a multi-stem tree, measure the trunk circumference of each trunk at 4.5 feet (1.4 m) above the ground. The area of each trunk is determined and then added together to obtain a trunk area that is representative of the size of the tree and each of the stems contribute its proportionate share to the canopy.

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Tree SIZE Expressed by Trunk Diameter

Scale: NTS

Drawing: TSE

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Disclosure, Assumptions and Disclaimer

- 1) I, Nicole Harrison, *ISA Certified Arborist WE-6500AM*, with “**ABACUS**”, did personally inspect the site and investigated the tree(s) as mentioned in this report and I performed all aspects of this report unless noted otherwise in the report.
- 2) We have neither financial interest in the tree work that may or may not be done, nor financial interest in the property where the tree(s) is (are) located unless noted within the report.
- 3) All opinions and recommendations expressed herein this report are ours solely. We have used our specialized education, knowledge, training and experience to examine the tree(s) and to make our opinions and recommendations to enhance the beauty, health and longevity, with an attempt to reduce the risk of who and/or what is near these trees. We cannot guarantee or warranty that a tree will not be healthy or safe under all circumstances, nor for a specific period of time or that problems may not arise in the future.
- 4) Our report with its opinions and recommendations are limited to the tree(s) inspected.
- 5) We attempt to be cognizant of the whole scope of a project, but many matters are beyond the scope of our professional consulting arborist services such as: exact property boundaries, property ownership, site lines, easements, codes, covenants & restrictions (CC&Rs), disputed between neighbors, and other issues.
- 6) We rely on the information disclosed to us and assume the information to be complete, true, and accurate.
- 7) The inspection is limited to visual examination of accessible items of the tree(s), from the ground unless otherwise noted, without excavation, probing, boring, or dissection, unless noted otherwise. Only information covered in this report was examined, and reflects the condition of those inspected items at that specific time.
- 8) Clients may choose to accept or disregard these opinions and recommendations of the arborist or to seek additional advice.
- 9) This report is copyrighted. Any modification or partial use shall nullify the whole report. Do not copy without written permission. This report is for the client and the client's assignees.
- 10) Sketches, diagrams, graphs, drawings, and photographs within this report are intended as visual aids and are not necessarily to scale, and should not be construed as engineering or architectural detail, reports or surveys.
- 11) We shall not attend or give a deposition and/or attend court by reason of this report unless fees are contracted for in advance, according to our standard fee schedule, adjusted yearly, for such services as described.

Signed: _____