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Environmental Horticulture

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April 3, 2007

Mr. Alex Herrell
VALENCIA COMPANY
23823 Valencia Blvd.
Valencia, CA 91355

RE: **Arborist Survey Report For Valencia Commerce Center VTPM 18108**
Los Angeles County, California

Dear Mr. Herrell:

Pursuant to your request a field survey study has been conducted by this office to ascertain base line data in regard to native oak tree resources located on the VCC project site. This project study was mandated by your Los Angeles County Oak Tree Ordinance.

Specifications and photographs are included in this report related to individual tree species, size and overall condition. This native tree resource survey was conducted by RJA in mid-August 2006.

Respectfully submitted by,

RICHARD JOHNSON & ASSOCIATES, INC.

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Survey Methodology:

- Reference material used:
 - A site grading plan supplied to Richard Johnson & Associates by Hunsaker & Associates.
 - An Aerial photograph supplied by Dudek.
 - Tree numbers **4, 87, 89, 90, 96-103, 4007, 4080** were originally tagged and surveyed by Impact Sciences Inc. for an oak tree report dated February 2006 for VTTM 53108(The Landmark Village Project) . These 14 trees overlap into VTPM 18108 and therefore are included in the following oak tree report completed by Richard Johnson & Associates Inc. (RJA). RJA has re-measured the DBH and re-evaluated these trees for the following report. Due to existing oak tree location maps, the dripline measurements taken by ISI for trees 4,89,90,96-103,and 4007 have been utilized for the following report.
- Tree diameter was field measured approximately 4.5 feet above grade with a LUFKIN diameter tape measure. Where low branching interfered with measuring the tree diameter at 4.5 feet, the measurement was moved and noted in the report.
- Tree height was field estimated.
- Driplines were measured at a minimum of four compass directions.
- Metal tags were placed on trees for identification proposes.
- The surveyed trees were photographed with a FUJI digital camera to facilitate reader ease in identification. These pictures are for reference only and should not be used to ascertain actual condition and size of the surveyed tree specimens.

Survey Result Summary:

Species	Number of trees
<i>Quercus lobata</i> - Valley Oak	31
<i>Quercus lobata</i> X <i>Q. douglasii</i> - Valley Oak Blue Oak Hybrid	3
<i>Quercus agrifolia</i> -Coast Live Oak	11
<i>Quercus wislizeni</i> - Interior Live Oak	2
Total number of trees surveyed	47

▪ Tree impacts:

- Encroachments- 0
- Removals 33

- (Tree #'s 2,3,5(H),6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,89)

▪ (H) Heritage trees (Trees equal to or in excess of 36 inches in diameter):

- Total – Three (3) Heritage trees. (**#'s 5,87,97**)

Oak Tree Resource Mitigation

Removals	Amount of mitigation	Replacement specimens and size
28 Non heritage - <i>Quercus lobata</i>	Fifty-six (56)	15 gallon <i>Quercus lobata</i>
3 Non-heritage - <i>Quercus lobata</i> X <i>Q. douglasii</i>	Six (6)	15 gallon <i>Quercus lobata</i>
1 Non heritage - <i>Quercus agrifolia</i>	Two (2)	15 gallon <i>Quercus agrifolia</i>
1 Heritage(#5) - <i>Quercus lobata</i>	Ten (10)	15 gallon <i>Quercus lobata</i>
33 Total removals	Seventy-two (72) Two (2)	15 gallon <i>Quercus agrifolia</i> 15 gallon <i>Quercus lobata</i>

It is highly recommended that the mitigation oak trees be irrigated by bubbler "type" irrigation heads with 2 (two) heads per tree placed on opposite sides of the root ball. This will allow for adequate moisture availability without soaking the trunk and will promote even root growth around the root ball. The mitigation trees are proposed to be planted within the project site in open space areas and will not be planted in soil compacted or disturbed in any way by construction. Exact spacing and locations will be determined in the field by hand prior to planting to achieve optimum results.

Rating Review:

Individual species have been field rated in regard to form and health based on an A, B, C, D, F scale. The letter E is not utilized as a rating classification. Trees were also given a vigor rating as a percentage separate from the overall grade of the tree.

- A** That tree is rated as an excellent specimen and needs no special attention at this time as long as construction and development impacts do not negatively effect its environment.
- B** That condition of tree is average to slightly above average with regards to health and structure. Tree may have indicated possible need for minor pruning (deadwood removal). Implementing reasonable preservation procedures and practices, tree has excellent potential to survive planned development if construction guidelines and post-construction maintenance is followed.
- C** That condition of tree indicates need for moderate to extensive corrective maintenance with no assurance it will survive construction impact. Tree may be in good physiological condition while displaying one or more structural defects. Tree may display symptoms/signs of stress or decline due to adverse abiotic and/or biotic conditions.
- D** That tree has serious problems with regard to health, disease, or structure such that it cannot be remedied through reasonable preservation procedures and practices.
- F** No signs of life. No viable foliage.

<u>Vigor:</u>	<50%	Very poor
	50%-60%	Poor
	60%-75%	Poor to Fair
	75%-85%	Average
	85%-100%	Good

It is important to note that the information included in this report was collected during an above ground visual observation consistent with professional standards. No extensive internal tree or subsurface investigation was made. Trees are living entities and subject to stress and disease that may not be apparent during cursory inspection. Therefore, no guarantee is given or implied that any of the trees will survive planned construction activity and/or relocation.

Report Data

Item #	Tag #	DBH in inches (* = sucker/epicormic growth)	Species	Grade	Vigor	Height (ft)	Decay	Slope	Crown Class
1	1	26.75	Quercus lobata – Valley Oak	C+	75%	30	X	Steep	Dominant
2	2	35 @ 1' (estimate, see comments)	Quercus lobata X Q. douglasii Valley Oak Blue Oak Hybrid	C	80%	37	X	Steep	Dominant
3	3	29	Quercus lobata– Valley Oak	C+	75%	33	X	Steep	Dominant
4	4	26,23,11,10	Quercus agrifolia-Coast Live Oak	B	80%	40		Mild	Dominant
5	5	38	Quercus lobata– Valley Oak	B	80%	43	X	Moderate	Dominant
6	6	27.5	Quercus lobata– Valley Oak	B	75-80%	33		Moderate	Dominant
7	7	14.5	Quercus lobata– Valley Oak	C-	60%	34		Mild	Dominant
8	8	13	Quercus lobata– Valley Oak	B	80%	23		Mild	Dominant
9	9	17 @ 3.5'	Quercus lobata– Valley Oak	C+	70%	23		Moderate	Dominant
10	10	20.5	Quercus lobata– Valley Oak	B-	75-80%	38		Steep	Dominant
11	11	30.75	Quercus lobata– Valley Oak	B-	75%	50		Moderate	Dominant
12	12	20.75	Quercus lobata X Q. douglasii Valley Oak Blue Oak Hybrid	C-	75-80%	28	X	Mild	Codominant
13	13	9.5", 6.25	Quercus lobata– Valley Oak	B+	85%	23		Mild	Dominant
14	14	10.75	Quercus lobata– Valley Oak	C	65-70%	23		Mild	Codominant
15	15	(16.5, 10) @ 3'	Quercus lobata– Valley Oak	C+	75%	45		Mild	Codominant
16	16	12.5	Quercus lobata– Valley Oak	C+	65-70%	34		Mild	Codominant
17	17	16.5	Quercus lobata– Valley Oak	B-	80%	45		Mild	Codominant
18	18	12", 5	Quercus lobata– Valley Oak	C+	70%	40		Mild	Codominant
19	19	20	Quercus lobata– Valley Oak	C+	70%	27		Mild	Codominant
20	20	19	Quercus lobata– Valley Oak	B-	75%	28	X	Mild	Codominant
21	21	32 @ 18"	Quercus lobata– Valley Oak	B-	75-80%	23		Moderate	Codominant
22	22	9.5	Quercus lobata– Valley Oak	C-	65%	20		Moderate	Codominant
23	23	(9, 12) @ 29"	Quercus lobata X Q. douglasii Valley Oak Blue Oak Hybrid	B	80%	21		Mild	Codominant
24	24	32.5	Quercus lobata– Valley Oak	B-	75-80%	40		Moderate	Dominant
25	25	9	Quercus lobata– Valley Oak	C+	70%	28		Mild	Intermediate
26	26	9	Quercus lobata– Valley Oak	C+	70%	25		Mild	Intermediate
27	27	10	Quercus lobata– Valley Oak	C	65-70%	19		Mild	Intermediate
28	28	10.5	Quercus lobata– Valley Oak	C	70%	20		Mild	Intermediate
29	29	11	Quercus lobata– Valley Oak	C+	70%	27		Mild	Intermediate
30	30	31 @ 22"	Quercus lobata– Valley Oak	B-	80%	40		Mild	Codominant
31	31	14, 6.5	Quercus lobata– Valley Oak	C	70%	30		Mild	Codominant
32	32	24.5	Quercus lobata– Valley Oak	B-	75-80%	33	X	Moderate	Dominant
33	33	25.75	Quercus lobata– Valley Oak	B	75-80%	30	X	Mild	Dominant
34	34	17	Quercus lobata– Valley Oak	B-	80%	29		Mild	Dominant
Break in sequence									
35	87	51	Quercus lobata-Valley Oak	D	50%	50	X	Mild	Dominant
Break in sequence									
36	89	(26, 13.25, 18.75) @ 2.5'	Quercus agrifolia-Coast Live Oak	C-	55%	25	X	Mild	Dominant
37	90	(22,*2) @ 2'	Quercus agrifolia-Coast Live Oak	B-	80%	28	X	Moderate	Dominant
Break in sequence									
38	96	7, 5, 6, 5.5	Quercus agrifolia-Coast Live Oak	B-	75%	30	X	Mild	Dominant
39	97	39	Quercus agrifolia-Coast Live Oak	C	70%	45	X	Moderate	Dominant
40	98	24,22	Quercus agrifolia-Coast Live Oak	C-	65	40	X	Moderate	Dominant

Item #	TAG #	DBH in Inches (* = sucker/epicormic growth)	SPECIES	Grade	Vigor	Height (ft)	Decay	Slope	Crown Class
41	99	15	Quercus agrifolia-Coast Live Oak	B-	70%	22		Moderate	Suppressed
42	100	16.5, 6.5, 20	Quercus agrifolia-Coast Live Oak	B	80%	40	X	Moderate	Dominant
43	101	18.5	Quercus agrifolia-Coast Live Oak	B	75%	32	X	Steep	Dominant
44	102	11,*4	Quercus wislizeni- Interior Live Oak	C	70%	37		Moderate	Codominant
45	103	(23.5, 22.5, *2)	Quercus wislizeni- Interior Live Oak	C+	80%	40	X	Moderate	Dominant
Break in sequence									
46	4007	5.5,5.5,6.6,5.4, +multiple 2-3	Quercus agrifolia-Coast Live Oak	B	80%	18		Mild	Dominant
Break in sequence									
47	4080	6.25,5.75	Quercus agrifolia-Coast Live Oak	C-	80%	12		Steep	Dominant

Tree comments and impacts:

Item #	Tag #	Comments	Impact
1	1	Some hollow points at base of trunk- Barbed wire wrapped around and in trunk-Old fire damage-Exfoliating bark-	Tree to remain protected in place
2	2	Hollow trunk- Bees in trunk-DBH is estimated due to aggressive bee activity-Barbed wire in trunk-Broken branches	Removal- Slope grading
3	3	Hollow trunk-Old fire damage- Tip/branch die back-	Removal- Slope grading
4	4	Old fire damage-included bark-growing in wash-sycamore bark beetle	Tree to remain protected in place
5	5	Bleeding wound in trunk-Some decay in upper branches-Wood steps nailed to trunk- Rope swing-	Removal- Slope grading
6	6	Old fire damage-Very little dieback	Removal-Industrial grading
7	7	Old fire damage with heavy die back of lower canopy-Epicormic growth on upper trunk and branches indicating stress-Some soil disturbance under dripline from bike riders.	Removal- Slope grading
8	8	Old fire damage-	Removal-Industrial grading
9	9	Old fire damage-Die back throughout canopy-	Removal-Industrial
10	10	Old fire damage- Mild twig die back-Growing near top of slope-Codominant trunk	Removal-Industrial grading
11	11	Minor twig dieback	Removal- Franklin Parkway grading
12	12	Hollow/decay at base of trunk-sucker growth from base of cavity-Epicormic growth in canopy-Slight shading out from tree #11	Removal- Franklin Parkway grading
13	13	Some included bark-Low branching-Possible weak crotch	Removal-Industrial grading
14	14	Old fire damage-moderate to heavy twig and small branch die back-epicormic growth	Removal-Industrial grading
15	15	Old fire damage-moderate twig and small branch die back	Removal-Industrial grading
16	16	Old fire damage-moderate twig and small branch die back	Removal-Industrial grading
17	17	Old fire damage-moderate twig die back	Removal-Industrial grading
18	18	Old fire damage-moderate twig and small branch die back- Small trunk low branching-Main trunk high branching	Removal-Industrial grading
19	19	Old fire damage-Twig and small branch die back- Some shading out from tree #17	Removal-Industrial grading

Item #	Tag #	Comments	Impact
20	20	Old fire damage resulting in some decay in limbs-Twig and small branch die back- Trunk slightly buried from erosion	Removal-Industrial grading
21	21	Old fire damage-Twig and small limb die back-Lower branches growing into slope-Graded unpaved service road under west canopy	Removal-Industrial grading
22	22	Old fire damage-Twig and small branch die back- Some shading out from tree #21	Removal-Industrial grading
23	23	Old fire damage-twig die back-Very low branching- Some included bark-Possible weak crotch	Removal-Industrial grading
24	24	Old fire damage-twig die back-Some limbs have broken away from tree-Branched reaching ground on south side	Removal-Industrial grading
25	25	Growing in small wash-Trunk slightly buried-Upright growth-Twig die back-Shaded out from tree #24	Removal-Industrial grading
26	26	Some shading out from surrounding trees-No lower branches-Growing to north	Removal-Industrial grading
27	27	Old fire damage-twig/small limb die back-Growing to north and east due to shading out-Upper trunk horizontal-Trunk slightly buried	Removal-Industrial grading
28	28	Old fire damage-twig die back-Growing to north and east due to shading out-Upper trunk horizontal-Trunk slightly buried	Removal-Industrial grading
29	29	Old fire damage-twig die back-Growing to north and east due to shading out-Trunk slightly buried	Removal-Industrial grading
30	30	Some included bark-Possible weak crotch-Codominant trunks-Old fire damage-Twig dieback-Some upper broken branches	Removal-Industrial grading
31	31	Old fire damage-wound wood at base of trunk-Smaller trunk possible sucker growth from previous fire damage-Possible weak crotch	Removal-Industrial grading
32	32	Cavity at base of trunk-Old fire damage-Trunk slightly buried on upper slope side-Mild twig die back-Low branching	Removal-Industrial grading
33	33	Old fire damage-Heavy ant activity-Decay at base of trunk-Possible internal trunk decay- Tree is growing near edge of river/wash-Minor twig die back	Removal- Hancock Parkway grading
34	34	Low branching-Mild twig dieback.	Removal-Industrial grading
Break in sequence			
35	87	Severe decline-Heavy decay-heavy dieback-Old fire damage-broken branches-Possible liability if target is created.	Tree to remain protected in place
Break in sequence			
36	89	Trunks buried from apparent slope failure at one time -heavy decay-Old fire damage-Broken Braches-One trunk mostly dead	Removal-Industrial grading
37	90	Decay at base-Some included bark-Old fire damage resulting in minor limb damage-Growing at top of slope-Mild twig die back	Tree to remain protected in place
Break in sequence			
38	96	Tree is re-growth -Included bark- Cavity/decay at base -Mild tip dieback-	Tree to remain protected in place

Item #	Tag #	Comments	Impact
39	97	Old fire damage resulting in the following: decay in trunk and limbs, hollow main limb- Canopy slightly chlorotic-Top of crown thin-Root crown exposed.	Tree to remain protected in place
40	98	Severe included bark-Dieback of upper crown-Root crown exposed-Cavity/decay at base-Broken branches.	Tree to remain protected in place
41	99	Old fire damage-Tree is growing under tree #99.	Tree to remain protected in place
42	100	Old fire damage- Severe included bark-Cavity/decay at base- Old trunk gone.	Tree to remain protected in place
43	101	Included bark-Old fire damage- Decay in limbs and trunk- Epicormic development-Fused limbs-Thin canopy.	Tree to remain protected in place
44	102	Old fire damage-Thin canopy	Tree to remain protected in place
45	103	DBH of north trunk is estimate due to trunk distortion-DBH taken 4.5 feet above grade at point between trunks- -Old fire damage- Decay in limbs and trunk-Broken limb, trunk failure-Weak crotch-Included bark- NE trunk could be liability if target is created.	Tree to remain protected in place
Break in sequence			
46	4007	Tree is re-growth from burned out stump.	Tree to remain protected in place
Break in sequence			
47	4080	Tree growing on side of river- Most of root ball exposed.	Tree to remain protected in place

Tree Driplines

Item #	Tag #	North	West	South	East
1	1	17'	23'	29'	26'
2	2	27'	22'	29'	28'
3	3	22'	25'	29'	15'
4	4	33'	29'	30'	31'
5	5	50'	37'	40'	39'
6	6	17'	28'	27'	23'
7	7	22'	11'	15'	20'
8	8	14'	16'	17'	15'
9	9	10'	9'	18'	15'
10	10	25'	13'	25'	18'
11	11	35'	17'	41'	26'

Item #	Tag #	North	West	South	East
12	12	20'	12'	19'	21'
13	13	11'	13'	9'	13'
14	14	11'	13'	18'	18'
15	15	16'	16'	24'	13'
16	16	9'	11'	18'	13'
17	17	18'	11'	28'	25'
18	18	17'	12'	11'	15'
19	19	28'	19'	7'	24'
20	20	23'	20'	24'	22'
21	21	31'	22'	22'	26'
22	22	4'	1'	14'	12'
23	23	21'	18'	16'	17'
24	24	29'	31'	32'	25'
25	25	14'	5'	4'	10'
26	26	23'	2'	1'	1'
27	27	21'	3'	1'	21'
28	28	4'	4'	1'	25'
29	29	18'	7'	6'	17'
30	30	22'	18'	29'	24'
31	31	15'	14'	21'	17'
32	32	26'	20'	25'	18'
33	33	26'	25'	28'	28'
34	34	11'	18'	17'	19'
Break in sequence					
35	87	30'	29'	31'	29'
Break in sequence					
36	89	8'	25'	25'	10'

Item #	Tag #	North	West	South	East
37	90	19'	16'	16"	18'
Break in sequence					
38	96	12'	15'	14'	15'
39	97	41'	40'	40'	36'
40	98	30'	27'	18'	21'
41	99	15'	10'	11'	11'
42	100	26'	26'	29'	28'
43	101	25'	22'	21'	20'
44	102	25'	26'	27'	24'
45	103	25'	29'	25'	27'
Break in sequence					
46	4007	12'	12'	13'	11'
Break in sequence					
47	4080	7'	7'	8'	7'

Oak tree pictures

#1



#2



#2 trunk



#3



#4



#4 trunk



#5



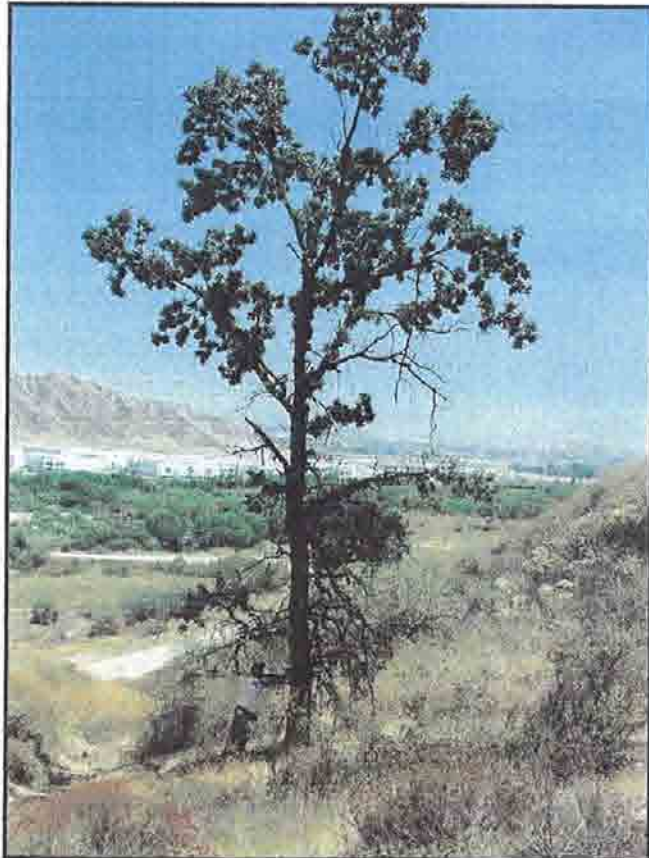
#5 trunk



#6



#7



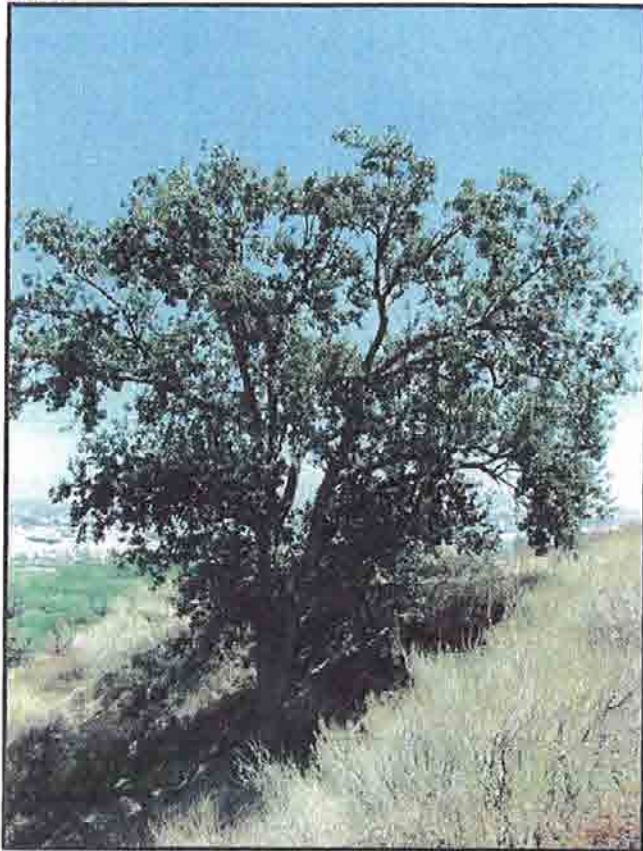
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#9



#10



#11



#12



#12 trunk



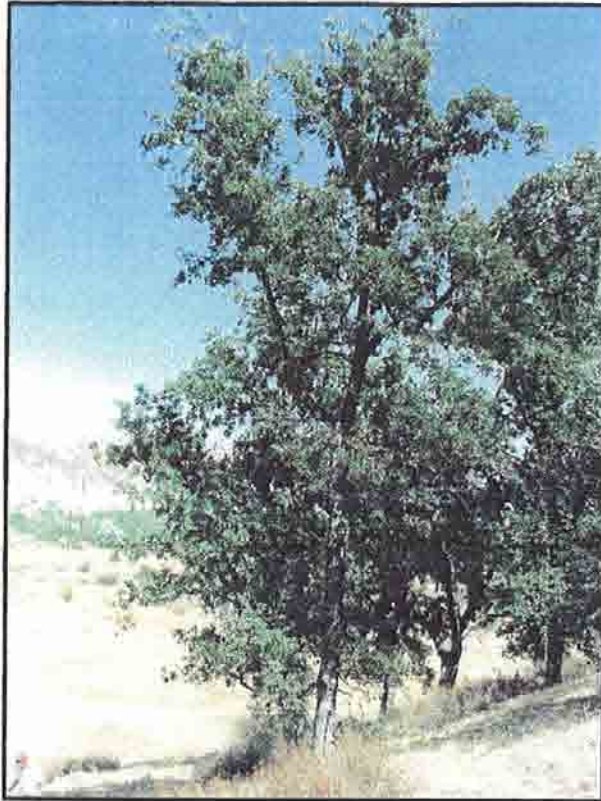
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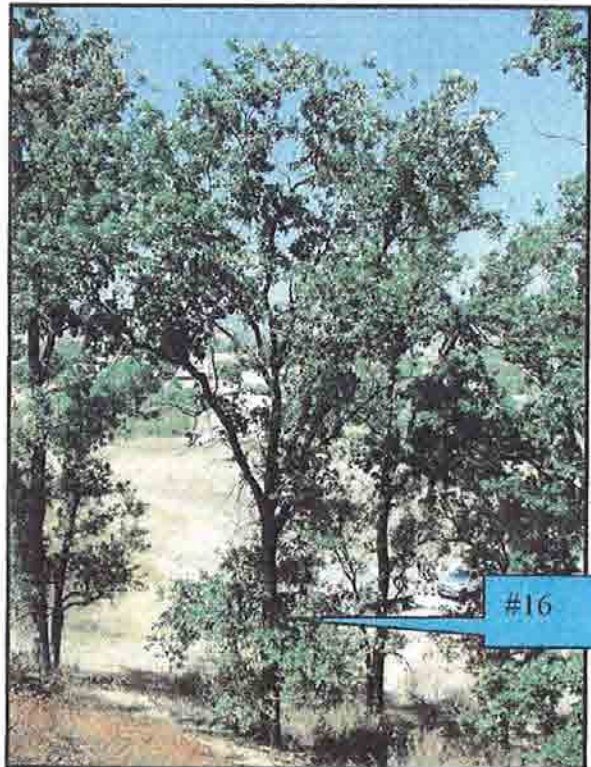


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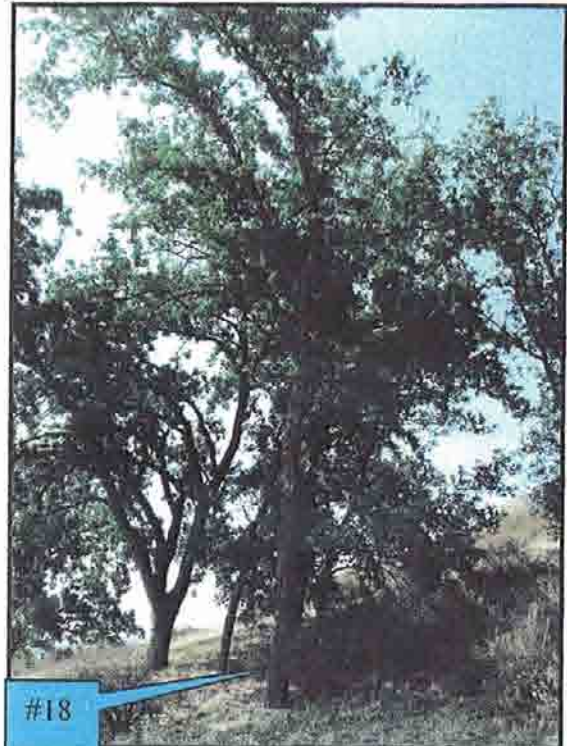
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#17

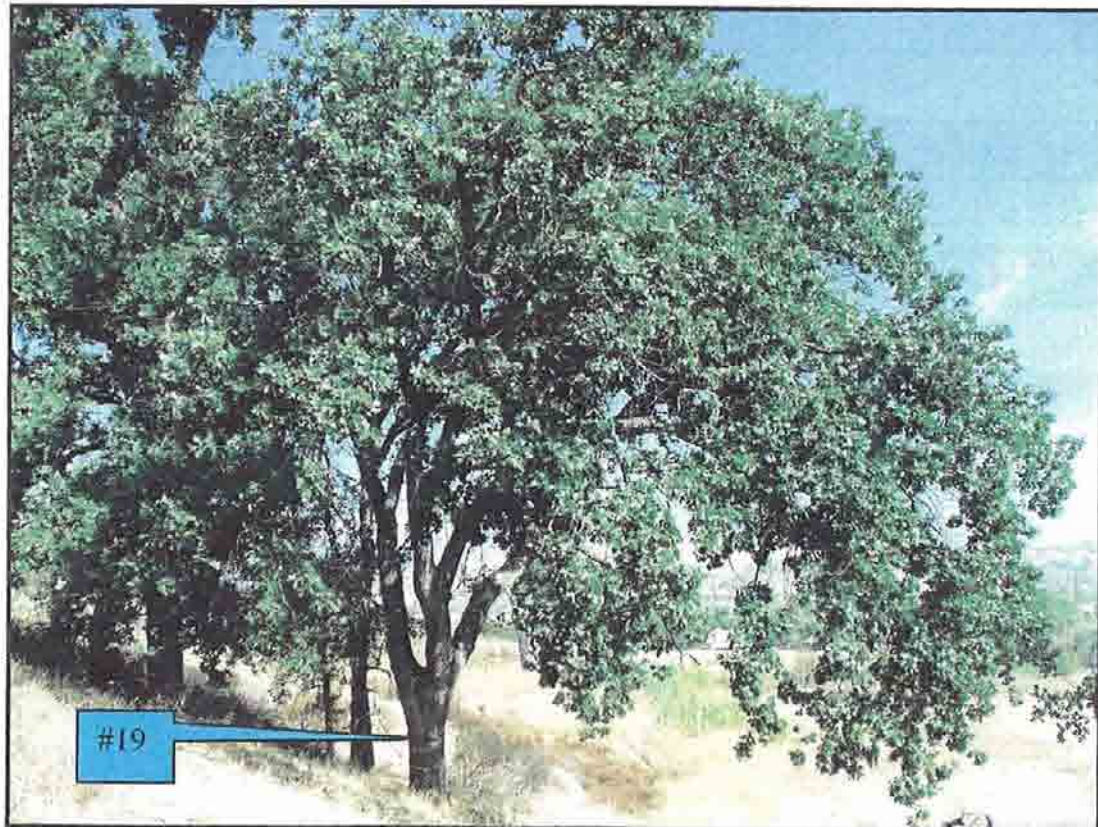


#18



#18

#19



#19

#19 trunk



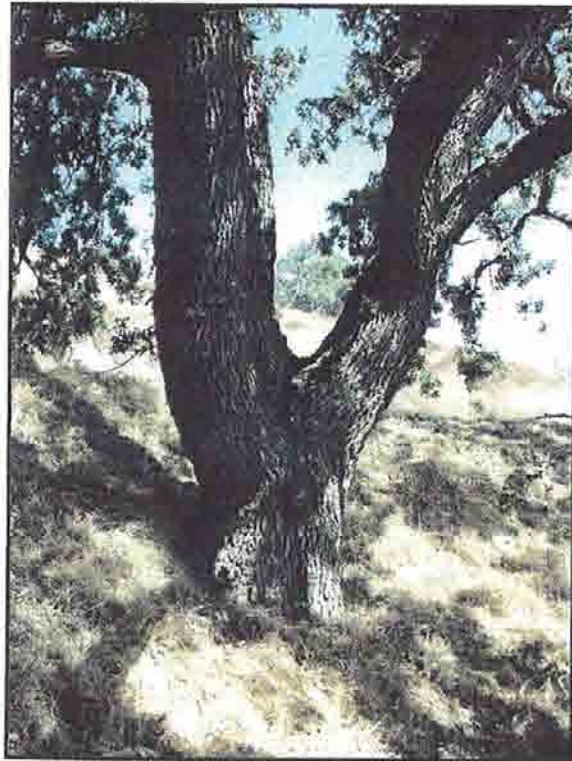
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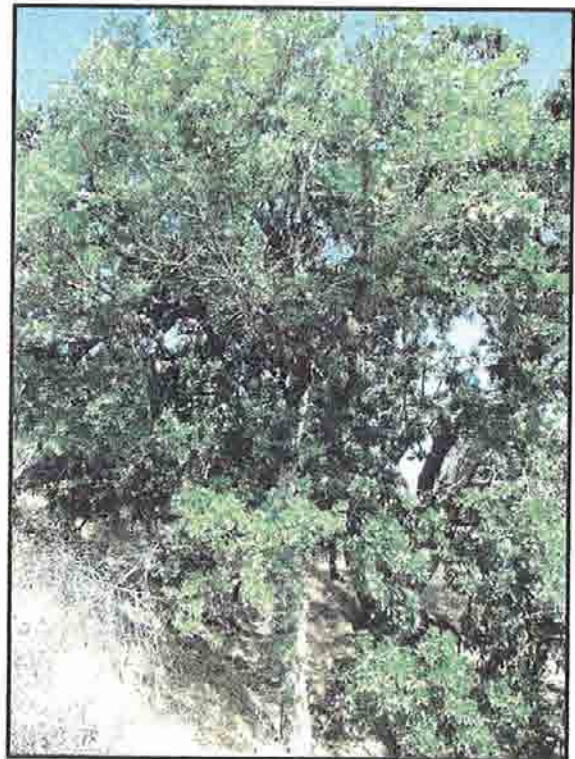
#21



#21 trunk



#22



#23



#23 trunk



#24



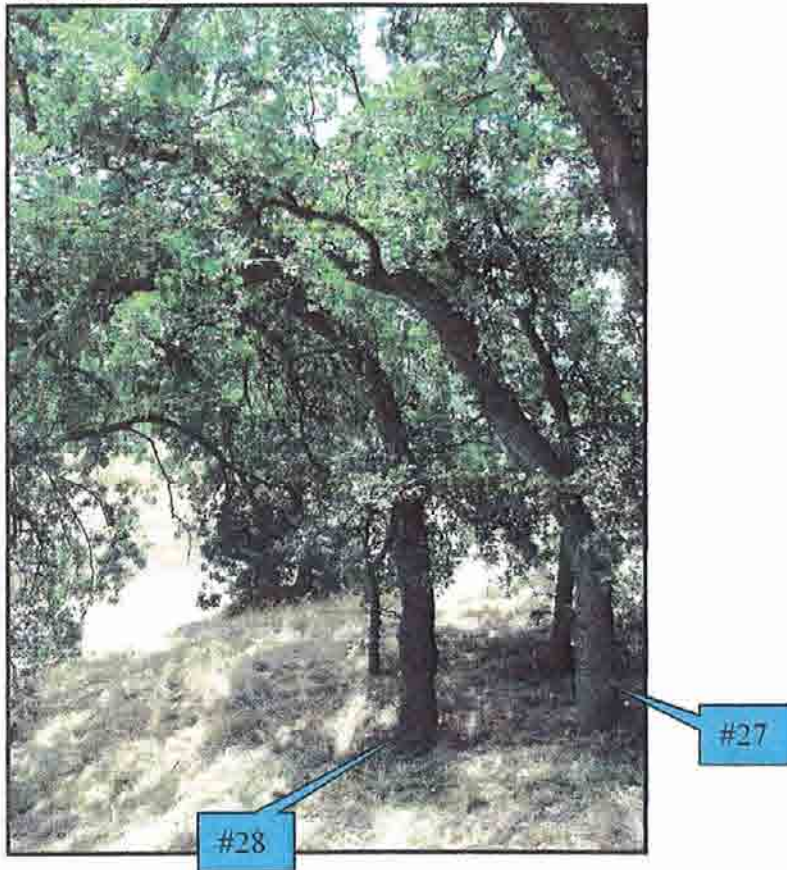
#24 trunk



#26 and #25



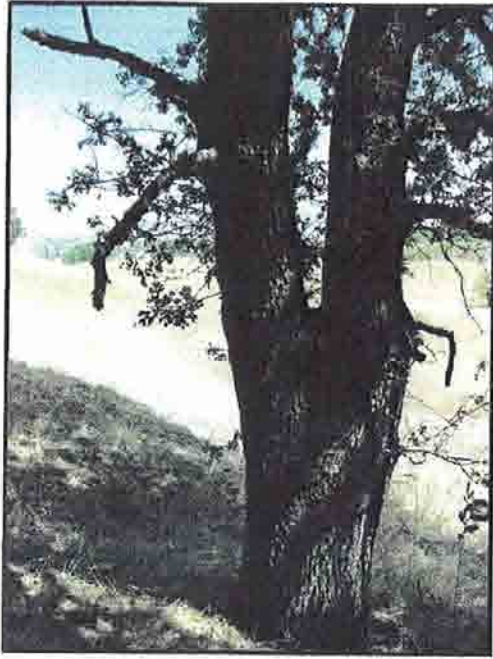
#28 and #27



#30 right #31 left



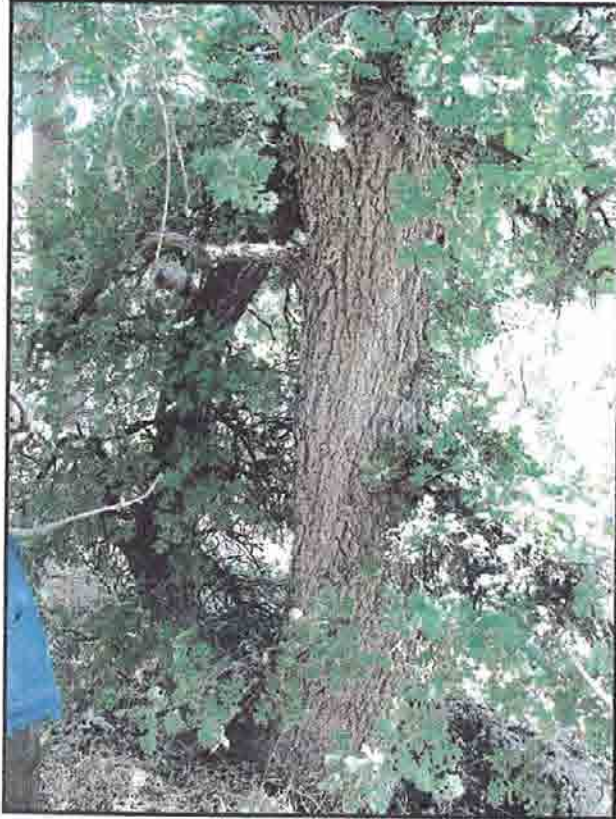
#30 trunk



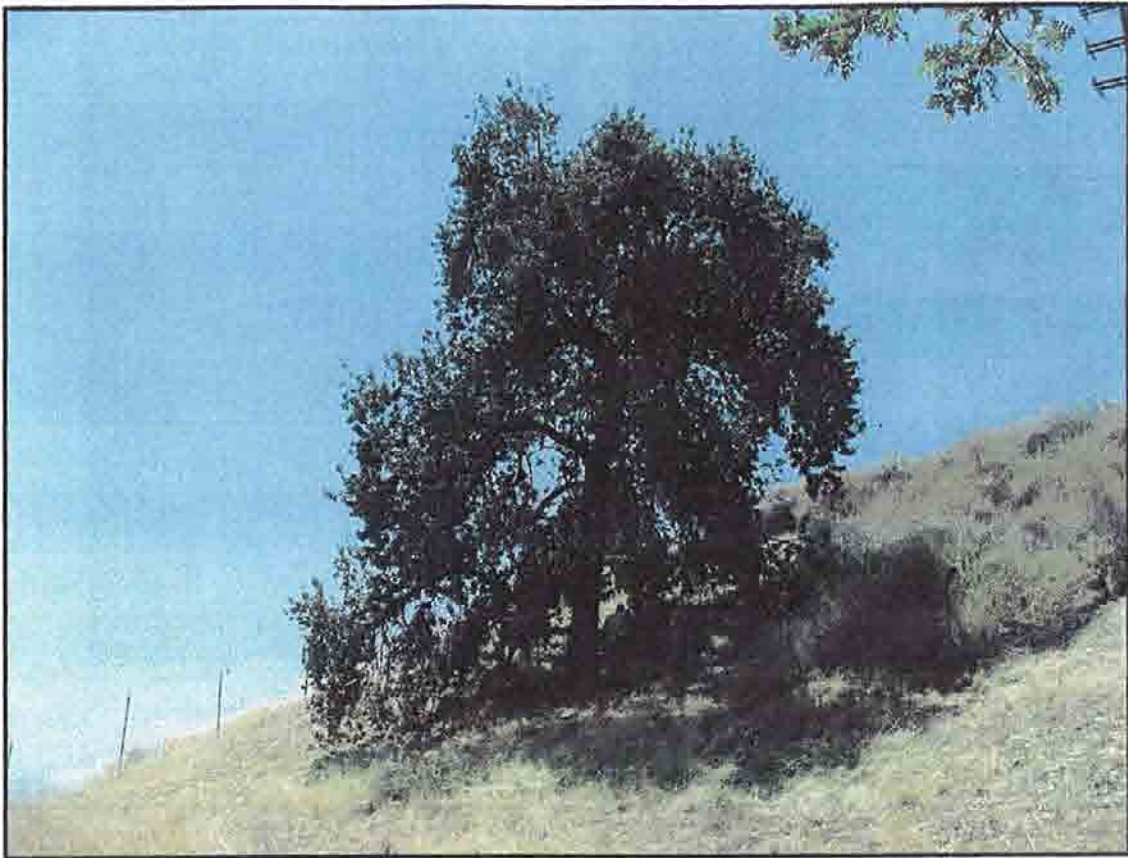
#31



#31 trunk



#32



#32 trunk



#33



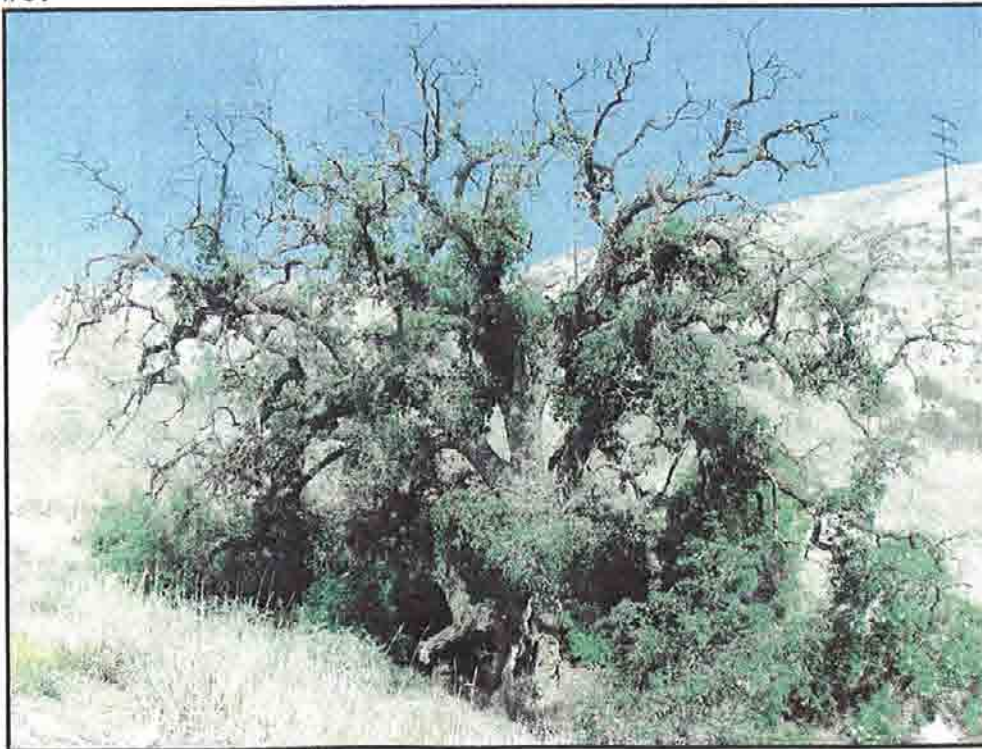
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#34



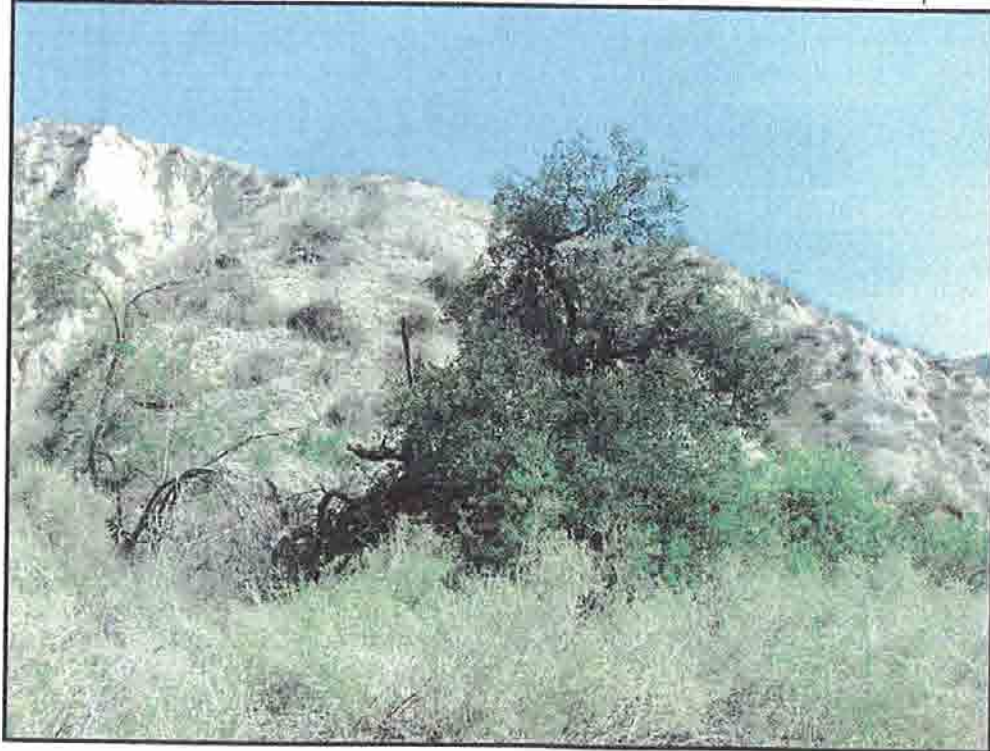
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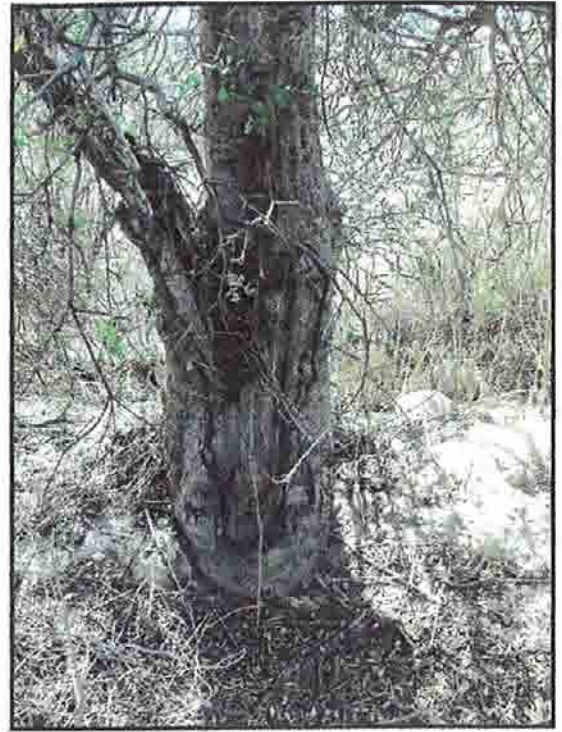
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#89



#89 trunk



#90



#90 trunk



#96



#97



#98



#99



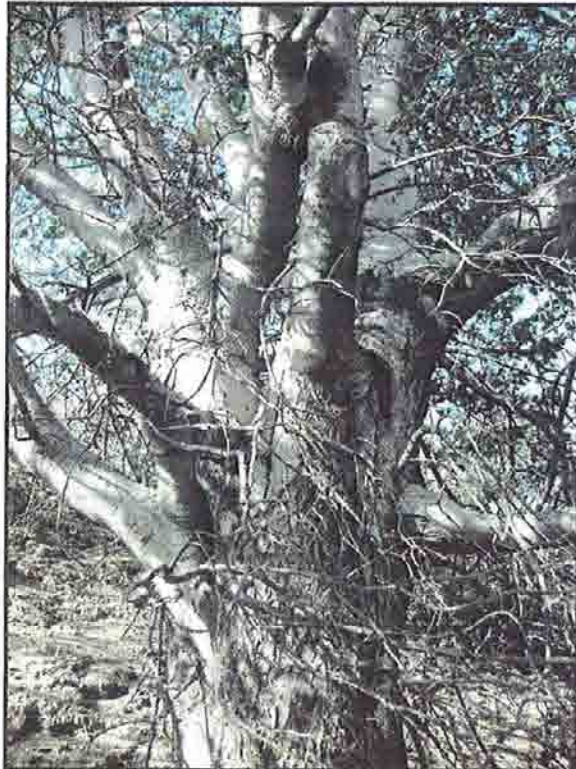
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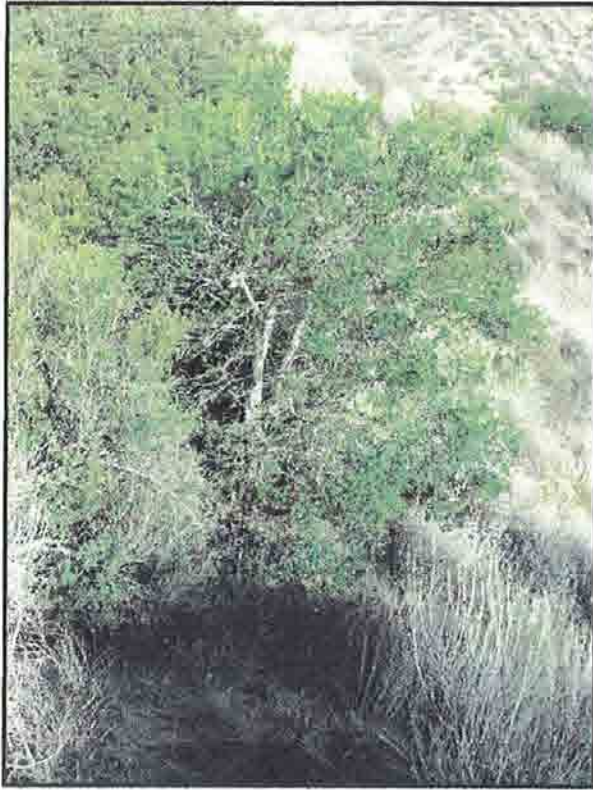
#101



#101 trunk



#102



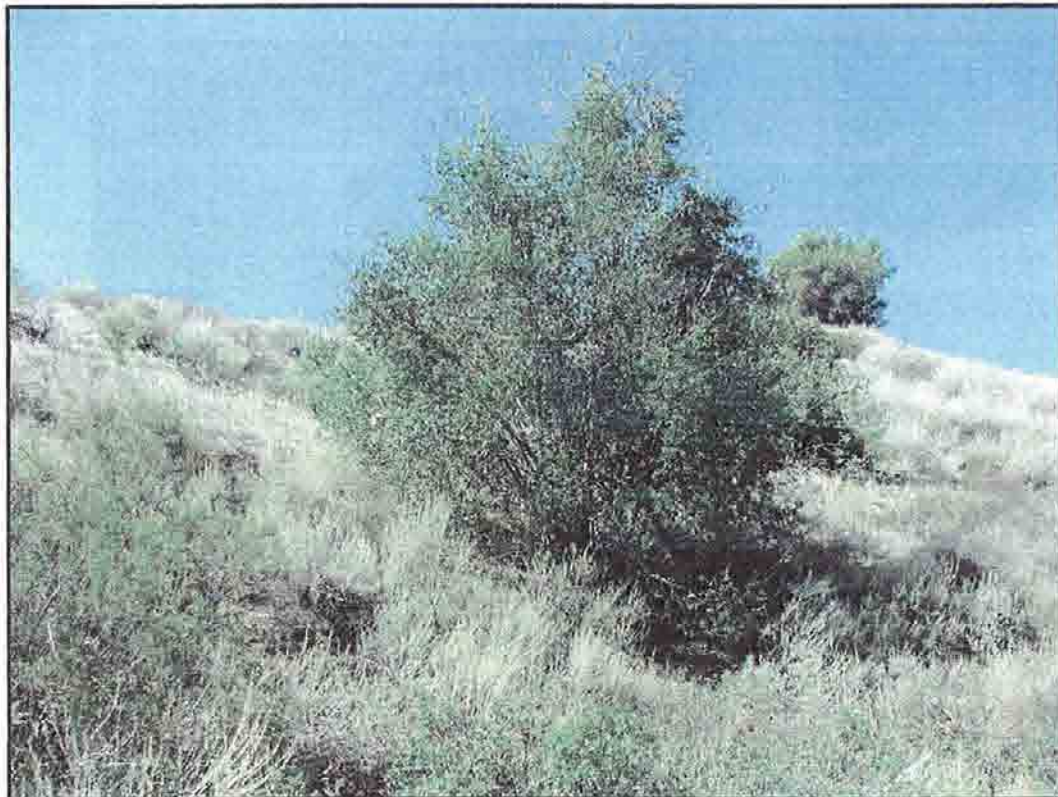
#103



#103 trunk



4007



#4080



#4080 trunk



Copy of Los Angeles County Oak Tree Ordinance
Copy of Los Angeles County Oak Tree Care and Maintenance Guide

The Oak Tree Ordinance



The Los Angeles County Oak Tree Ordinance has been established to recognize oak trees as significant historical, aesthetic, and ecological resources. The goal of the ordinance is to create favorable conditions for the preservation and propagation of this unique and threatened plant heritage. By making this part of the development process, healthy oak trees will be preserved and maintained.

The Los Angeles County Oak Tree Ordinance applies to all unincorporated areas of the County. Individual cities may have adopted the county ordinance or their own ordinance which may be more stringent.

PERMIT REQUIREMENTS:

Under the Los Angeles County Ordinance, a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of any tree of the oak tree genus, which is 8" or more in diameter four and one-half feet above mean natural grade or in the case of oaks with multiple trunks a combined diameter of twelve inches or more of the two largest trunks, without first obtaining a permit.

Damage includes but is not limited to:

- * burning
- * application of toxic substances
- * trenching
- * pruning or cutting
- * excavating
- * operation of machinery or equipment
- * paving
- * changing the natural grade

Section 22.56.2050: Oak Tree Permit
Regulations, Los Angeles County
Date of Adoption: September 13, 1988.

TYPES OF OAKS COMMONLY FOUND IN LOS ANGELES COUNTY

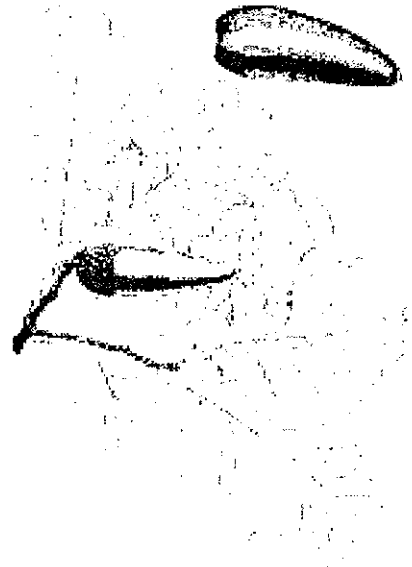
Many kinds of oak trees are native to Los Angeles County. A few of the more common oaks are shown on the back of this sheet, but all oak species are covered by the oak tree ordinance.

Older oak trees that have thrived under natural rainfall patterns of dry summers and wet winters often cannot tolerate the extra water of a garden setting. These trees must be treated with special care if they are to survive.

Oaks that have been planted into the landscape or have sprouted as volunteers tend to be more tolerant of watered landscapes. While these vigorous young trees may grow 1 1/2 to 4 feet a year in height under good conditions, they are not as long-lived as indigenous oaks.

***Quercus lobata* Valley Oak**

Large deciduous tree 60'-75' high, broadly spreading 50'-80' wide. Leaves are deep green 3"-4" long, paper-like texture with deep rounded lobes on the leaf edge. Tends to favor valley bottoms; for this reason the valley oak has disappeared from the landscape rapidly, impacted severely by agriculture and development.



Other Common Oaks:

<i>Quercus kelloggii</i>	California Black Oak
<i>Quercus chrysolepis</i>	Canyon Live Oak
<i>Quercus dumosa</i>	California Scrub Oak

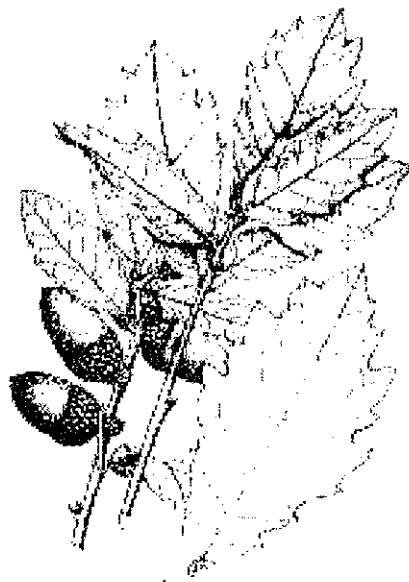


***Quercus agrifolia* Coast Live Oak**

Large evergreen tree with a broad round shape and large limbs growing 30'-70' high and 35'-80' wide. Leaves are deep glossy green, 1"-3" long, spiny and holly-like with distinctly cupped or curled leaf edges. This is the most common oak seen around southern California's foothill communities.

***Quercus engelmannii* Mesa Oak**

Mesa oaks are indigenous to the foothills of the Sierra Madres. They grow 40 to 50 feet high with a semi-evergreen, dense, wide-spreading canopy. Leaves are thick, deep blue-green in color, varying in form and size to two inches.



COUNTY OF LOS ANGELES OAK TREE ORDINANCE

22.56.2050 Established -- Purpose.

The oak tree permit is established (a) to recognize oak trees as significant historical, aesthetic and ecological resources, and as one of the most picturesque trees in Los Angeles County, lending beauty and charm to the natural and manmade landscape, enhancing the value of property, and the character of the communities in which they exist; and (b) to create favorable conditions for the preservation and propagation of this unique, threatened plant heritage, particularly those trees which may be classified as heritage oak trees, for the benefit of current and future residents of Los Angeles County. It is the intent of the oak tree permit to maintain and enhance the general health, safety and welfare by assisting in counteracting air pollution and in minimizing soil erosion and other related environmental damage. The oak tree permit is also intended to preserve and enhance property values by conserving and adding to the distinctive and unique aesthetic character of many areas of Los Angeles County in which oak trees are indigenous. The stated objective of the oak tree permit is to preserve and maintain healthy oak trees in the development process. (Ord. 88-0157 § 1, 1988; Ord. 82-0168 § 2 (part), 1982.)

22.56.2060 Damaging or removing oak trees prohibited -- Permit requirements.

- A. Except as otherwise provided in Section 22.56.2070, a person shall not cut, destroy, remove, relocate, inflict damage or encroach into a protected zone of any tree of the oak genus which is (a) 25 inches or more in circumference (eight inches in diameter) as measured four and one-half feet above mean natural grade; in the case of an oak with more than one trunk, whose combined circumference of any two trunks is at least 38 inches (12 inches in diameter) as measured four and one half feet above mean natural grade, on any lot or parcel of land within the unincorporated area of Los Angeles County, or (b) any tree that has been provided as a replacement tree, pursuant to Section 22.56.2180, on any lot or parcel of land within the unincorporated area of Los Angeles County, unless an oak tree permit is first obtained as provided by this Part 16.
- B. "Damage," as used in this Part 16, includes any act causing or tending to cause injury to the root system or other parts of a tree, including, but not limited to, burning, application of toxic substances, operation of equipment or machinery, or by paving, changing the natural grade, trenching or excavating within the protected zone of an oak tree.
- C. "Protected zone," as used in this Part 16, shall mean that area within the dripline of an oak tree and extending therefrom to a point at least five feet outside the dripline, or 15 feet from the trunks of a tree, whichever distance is greater. (Ord. 88-0157 § 2, 1988; Ord. 82-0168 § 2 (part), 1982.)

22.56.2070 Exemptions from Part 16 applicability.

The provisions of this Part 16 shall not apply to:

- A. Any permit, variance or tentative map for a subdivision, including a minor land division, approved prior to the effective date of the ordinance codified in this Part 16 by the board of supervisors, regional planning commission or the planning director;
- B. Cases of emergency caused by an oak tree being in a hazardous or dangerous condition, or being irretrievably damaged or destroyed through flood, fire, wind or lightning, as determined after visual inspection by a licensed forester with the department of forestry

and fire warden;

- C. Emergency or routine maintenance by a public utility necessary to protect or maintain an electric power or communication line or other property of a public utility;
- D. Tree maintenance, limited to medium pruning of branches not to exceed two inches in diameter in accordance with guidelines published by the National Arborists Association, (see Class II), intended to insure the continued health of a protected tree;
- E. Trees planted, grown and/or held for sale by a licensed nursery;
- F. Trees within existing road rights-of-way where pruning is necessary to obtain adequate line-of-sight distances and/or to keep street and sidewalk easements clear of obstructions, or to remove or relocate trees causing damage to roadway improvements or other public facilities and infrastructure within existing road rights-of-way, as required by the Director of Public Works. (Ord. 93-0018 § 1, 1993; Ord. 88-0157 § 3, 1988; Ord. 82-0168 § 2 (part), 1982.)

22.56.2080 Application -- Filing -- Repeated filings.

Any person desiring an oak tree permit, as provided for in this Title 22, may file an application with the director, except that no application shall be filed or accepted if final action has been taken within one year prior thereto by the hearing officer or director or the commission on an application requesting the same or substantially the same permit. (Ord. 85-0195 § 12 (part), 1985; Ord. 82-0168 § 2 (part), 1982.)

22.56.2090 Application -- Information and documents required.

An application for an oak tree permit shall include the following information and documents:

- A. The name and address of the applicant and of all persons owning any or all of the property proposed to be used;
- B. Evidence that the applicant:
 - 1. Is the owner of the premises involved, or
 - 2. Has written permission of the owner or owners to make such application;
- C. Location of subject property (address or vicinity);
- D. Legal description of the property involved;
- E.
 - 1. A site plan drawn to a scale satisfactory to, and in the number of copies prescribed by the director, indicating the location and dimension of all of the following existing and proposed features on the subject property:
 - a. Lot lines,
 - b. Streets, highways, access and other major public or private easements,
 - c. Buildings and/or structures, delineating roof and other projections,
 - d. Yards,
 - e. Walls and fences,
 - f. Parking and other paved areas,
 - g. Proposed areas to be landscaped and/or irrigated,
 - h. Proposed construction, excavation, grading and/or landfill. Where a change in grade is proposed, the change in grade within the protected zone of each plotted tree shall be specified,
 - i. The location of all oak trees subject to this Part 16 proposed to be removed and/or relocated, or within 200 feet of proposed construction,

grading, landfill or other activity. Each tree shall be assigned an identification number on the plan, and a corresponding permanent identifying tag shall be affixed to the north side of each tree in the manner prescribed by Section 22.56.2180. These identifications shall be utilized in the oak tree report and for physical identification on the property where required. The protected zone shall be shown for each plotted tree,

- j. Location and size of all proposed replacement trees,
 - k. Proposed and existing land uses,
 - l. Location of all surface drainage systems,
 - m. Other development features which the director deems necessary to process the application,
- 2. Where a concurrent application for a permit, variance, zone change, tentative map for a subdivision, including a minor land division or other approval, is filed providing the information required by this subsection E, the director may waive such site plan where he deems it unnecessary to process the application;
- F. 1. An oak tree report, prepared by an individual with expertise acceptable to the director and county forester and fire warden, and certified to be true and correct, which is acceptable to the director and county forester and fire warden, of each tree shown on the site plan required by subsection E of this section, which shall contain the following information:
- a. The name, address and telephone number during business hours of the preparer,
 - b. Evaluation of the physical structure of each tree as follows:
 - i. The circumference and diameter of the trunk, measured four and one-half feet above natural grade,
 - ii. The diameter of the tree's canopy, plus five feet, establishing the protected zone,
 - iii. Aesthetic assessment of the tree, considering factors such as but not limited to symmetry, broken branches, unbalanced crown, excessive horizontal branching,
 - iv. Recommendations to remedy structural problems where required,
 - c. Evaluation of the health of each tree as follows:
 - i. Evidence of disease, such as slime flux, heart rot, crown rot, armillaria root fungus, exfoliation, leaf scorch and exudations,
 - ii. Identification of insect pests, such as galls, twig girdler, borers, termites, pit scale and plant parasites,
 - iii. Evaluation of vigor, such as new tip growth, leaf color, abnormal bark, deadwood and thinning of crown,
 - iv. Health rating based on the archetype tree of the same species,
 - v. Recommendations to improve tree health, such as insect or disease control, pruning and fertilization,
 - d. Evaluation of the applicant's proposal as it impacts each tree shown on the site plan, including suggested mitigating and/ or future maintenance measures where required and the anticipated effectiveness thereof,
 - e. Identification of those trees shown on the site plan which may be classified as heritage oak trees. Heritage oak trees are either of the following: any oak tree measuring 36 inches or more in diameter,

measured four and one-half feet above the natural grade; any oak tree having significant historical or cultural importance to the community, notwithstanding that the tree diameter is less than 36 inches,

- f. Identification of any oak tree officially identified by a county resource conservation district.
- 2. The requirement for an oak tree report may be waived by the director where a single tree is proposed for removal in conjunction with the use of a single-family residence listed as a permitted use in the zone, and/or such information is deemed unnecessary for processing the applications;
- G. The applicant shall provide an oak tree information manual prepared by and available from the forester and fire warden to the purchasers and any homeowners' association. (Ord. 88-0157 § 4, 1988; Ord. 82-0168 § 2 (part), 1982.)

22.56.2100 Application -- Burden of proof.

- A. In addition to the information required in the application by Section 22.56.2090, the application shall substantiate to the satisfaction of the director the following facts:

- 1. That the proposed construction of proposed use will be accomplished without endangering the health of the remaining trees subject to this Part 16, if any, on the subject property; and
- 2. That the removal or relocation of the oak tree(s) proposed will not result in soil erosion through the diversion or increased flow of surface waters which cannot be satisfactorily mitigated; and
- 3. That in addition to the above facts, at least one of the following findings apply:
 - a. That the removal or relocation of the oak tree(s) proposed is necessary as continued existence at present location(s) frustrates the planned improvement or proposed use of the subject property to such an extent that:
 - i. Alternative development plans cannot achieve the same permitted density or that the cost of such alternative would be prohibitive, or
 - ii. Placement of such tree(s) precludes the reasonable and efficient use of such property for a use otherwise authorized, or
 - b. That the oak tree(s) proposed for removal or relocation interferes with utility services or streets and highways, either within or outside of the subject property, and no reasonable alternative to such interference exists other than removal of the tree(s), or
 - c. That the condition of the oak tree(s) proposed for removal with reference to seriously debilitating disease or danger or falling is such that it cannot be remedied through reasonable preservation procedures

and practices;

4. That the removal of the oak tree(s) proposed will not be contrary to or be in substantial conflict with the intent and purpose of the oak tree permit procedure;

- B. For purposes of interpreting this section, it shall be specified that while relocation is not prohibited by this Part 16, it is a voluntary alternative offering sufficient potential danger to the health of a tree as to require the same findings as removal. (Ord. 88-0157 § 5, 1988; Ord. 82-0168 § 2 (part), 1982.)

22.56.2110 Application -- Filing fee.

When an application for an oak tree permit is filed, it shall be accompanied by the filing fee as required in Section 22.60.100. (Ord. 82-0168 § 2 (part), 1982.)

22.56.2120 Application -- Denial for lack of information.

The director may deny without further action an application requesting an oak tree permit if such application does not contain the information required by this Part 16. The director may permit the applicant to amend the application. (Ord. 82-1068 § 2 (part), 1982.)

22.56.2130 Application -- Notice requirements.

Notification pertaining to an application for an oak tree permit shall be provided as follows:

- A. Where an application for a permit, variance, zone change or tentative map for a subdivision, including a minor land division, is concurrently filed, notice that an oak tree permit will also be considered shall be included in required legal notices for such permit, variance, zone change or tentative subdivision map;
- B.
 1. Where no concurrent application is filed as provided in subsection A of this section and except as otherwise expressly provided in subsection C, the director not less than 20 days before the date of public hearing shall cause notice of such filing to be published once in a newspaper of general circulation in the county of Los Angeles available in the community in which such oak tree permit is proposed.
 2. Such notices shall include the statement: "Notice of Oak Tree Permit Filing." Also included shall be information indicating the location of the subject property (address or vicinity), legal description of the property involved, the applicant's request, and the time and place of the proposed public hearing. The notice shall also provide the address and telephone number of the department of regional planning, and state that the department may be contacted for further information;
- C. Notwithstanding the other provisions of this section, publishing shall not be required where removal or relocation of not more than one tree is proposed in conjunction with the use of a single-family residence listed as a permitted use in the zone. (Ord. 88-0157 § 6, 1988; Ord. 82-0168 § 2 (part), 1982.)

22.56.2140 Review of oak tree report by county forester and fire warden.

- A. On receipt of an application for an oak tree permit, the director shall refer a copy of the applicant's oak tree report as required by Section 22.56.2090 to the county forester and fire warden. The county forester and fire warden shall review said report for the accuracy of statements contained therein, and shall make inspections on the project site. Such inspections shall determine the health of all such trees on the project site and such other factors as may be necessary and proper to complete his review, a copy of which shall be submitted in writing to the director and/or commission within 15 days after receipt from the director;
- B. The county forester and fire warden may at his option also suggest conditions for use by the hearing officer or the director or commission pursuant to Section 22.56.2180.
- C. When the county forester determines that replacement or relocation on the project site of oak trees proposed for removal is inappropriate, the forester may recommend that the applicant pay into the oak forests special fund the amount equivalent to the oak resource value of the trees described in the oak tree report. The oak resource value shall be calculated by the applicant and approved by the county forester according to the most current edition of the International Society of Arboriculture's "Guide to Establishing Values for Trees and Shrubs."
- D. Funds collected shall be used for the following purposes:
 - 1. Establishing and planting new trees on public lands;
 - 2. Maintaining existing oak trees on public lands;
 - 3. Purchasing prime oak woodlands;
 - 4. Purchasing sensitive oak trees of cultural or historic significance.
- E. Not more than seven percent of the funds collected may be used to study and identify appropriate programs for accomplishing the preceding four purposes. (Ord. 93-0017 § 1, 1993; Ord. 88-0157 § 7, 1988; Ord. 85-0195 § 12 (part), 1985; Ord. 82-0168 § 2 (part), 1982.)

22.56.2150 Application -- Commission consideration when concurrently filed.

When an application for a permit, variance, zone change or tentative map for a subdivision, including a minor land division, is concurrently filed with an application for an oak tree permit as provided by this Title 22, the hearing officer or the commission shall consider and approve such application for an oak tree permit concurrently with such other approvals. The hearing officer or the commission, in making their findings, shall consider each case individually as if separately filed. (Ord. 85-0195 § 10 (part), 1985; Ord. 82-0168 § 2 (part), 1982.)

22.56.2160 Application -- Public hearing required when.

Where no concurrent consideration is conducted by the hearing officer or the commission pursuant to Section 22.56.2150, the director shall conduct a public hearing subject to the notice requirements of subsection B of Section 22.56.2130; provided, however, that no hearing shall be required for a filing in conjunction with the use of a single-family residence when publishing is not required by said subsection

C of Section 22.56.2130. (Ord. 85-0195 § 10 (part), 1985; Ord. 82-0168 § 2 (part), 1982.)

22.56.2170 Application -- Grant or denial conditions.

The hearing officer or the director or commission shall approve an application for an oak tree permit where the information submitted by the applicant and/or brought to their attention during public hearing, including the report of the county forester and fire warden, substantiates that the burden of proof set forth in Section 22.56.2100 has been met. The hearing officer or the director or commission shall deny such application where the information submitted fails to substantiate such findings. (Ord. 85-0195 § 12 (part), 1985; Ord. 82-0168 § 2 (part), 1982.)

22.56.2180 Additional conditions imposed when.

The hearing officer or the director or commission, in approving an application for an oak tree permit, shall impose such conditions as are deemed necessary to insure that the permit will be in accord with the findings required by Section 22.56.2100. These conditions may involve, but are not limited to, the following:

- A. The replacement of oak trees proposed for removal or relocation with trees of a suitable type, size, number, location and date of planting. In determining whether replacement should be required, the hearing officer or the director or commission shall consider but is not limited to the following factors:
 - 1. The vegetative character of the surrounding area,
 - 2. The number of oak trees subject to this Part 16 which are proposed to be removed in relation to the number of such trees currently existing on the subject property,
 - 3. The anticipated effectiveness of the replacement of oak trees, as determined by the oak tree report submitted by the applicant and evaluated by the county forester and fire warden,
 - 4. The development plans submitted by the applicant for the proposed construction or the proposed use of the subject property,
 - 5. The relocation of trees approved for removal shall not be deemed a mitigating factor in determining the need for replacement trees,
 - 6.
 - a. Required replacement trees shall consist exclusively of indigenous oak trees and shall be in the ratio of at least two to one. Each replacement tree shall be at least a 15-gallon size specimen and measure at least one inch in diameter one foot above the base. The hearing officer, director or commission may, in lieu of this requirement, require the substitution of one larger container specimen for each oak tree to be replaced, where, in its opinion, the substitution is feasible and conditions warrant such greater substitution,
 - b. Replacement trees shall be properly cared for and maintained for a period of two years and replaced by the applicant or permittee if

mortality occurs within that period,

- c. Where feasible replacement trees should consist exclusively of indigenous oak trees and certified as being grown from a seed source collected in Los Angeles or Ventura Counties,
- d. Replacement trees shall be planted and maintained on the subject property and, if feasible, in the same general area where the trees were removed. The process of replacement of oak trees shall be supervised in the field by a person who, in the opinion of the county forester and fire warden, has expertise in the planting, care and maintenance of oak trees;

B. A plan for protecting oak trees on the subject property during and after development, such as, but not limited to, the following requirements:

- 1. The installation of chain link fencing not less than four feet in height around the protected zone of trees shown on the site plan. Said fencing shall be in place and inspected by the forester and fire warden prior to commencement of any activity on the subject property. Said fencing shall remain in place throughout the entire period of development and shall not be removed without written authorization from the director or the forester and fire warden,
- 2. Where grading or any other similar activity is specifically approved within the protected zone, the applicant shall provide an individual with special expertise acceptable to the director to supervise all excavation or grading proposed within the protected zones and to further supervise, monitor and certify to the county forester and fire warden the implementation of all conditions imposed in connection with the applicant's oak tree permit,
- 3. That any excavation or grading allowed within the protected zone or within 15 feet of the trunk of a tree, whichever distance is greater, be limited to hand tools or small hand-power equipment,
- 4. That trees on other portions of the subject property not included within the site plan also be protected with chain link fencing thus restricting storage, machinery storage or access during construction,
- 5. That the trees on the site plan be physically identified by number on a tag affixed to the north side of the tree in a manner preserving the health and viability of the tree. The tag shall be composed of a non-corrosive all-weather material and shall be permanently affixed to the tree. The tree shall be similarly designated on the site plan in a manner acceptable to the director,
- 6. That corrective measures for trees noted on the oak tree report as requiring remedial action be taken, including pest control, pruning, fertilizing and similar actions,

7. That, to the extent feasible as determined by the director, utility trenching shall avoid encroaching into the protected zone on its path to and from any structure,
8. At the start of grading operations and throughout the entire period of development, no person shall perform any work for which an oak tree permit is required unless a copy of the oak tree report, location map, fencing plans, and approved oak tree permit and conditions are in the possession of a responsible person and also available at the site. (Ord. 93-0018 § 2, 1993; Ord. 88-0157 § 8, 1988; Ord. 85-0195 § 12 (part), 1985; Ord. 82-0168 § 2 (part), 1982.)

22.56.2190 Notice of action -- Method of service.

A. The director shall serve notice of action upon:

1. The applicant, as required by law for the service of summons or by registered or certified mail, postage prepaid, return receipt requested; and
2. All protestants testifying at the public hearing who have provided a mailing address, by first class mail, postage prepaid.

B. Where the hearing officer or the commission has concurrently considered a permit, variance, zone change or tentative map for a subdivision, including a minor land division, notice shall be included in the notice of action required for such concurrent actions. (Ord. 85-0195 § 10 (part), 1985; Ord. 82-0168 § 2 (part), 1982.)

22.56.2200 Appeal -- From director's decision -- Procedures.

Any person dissatisfied with the action of the director may file an appeal of such action with the secretary of the commission within 15 calendar days after notice of such action is received by the applicant. Such appeal shall contain the following information:

- A. The administrative file number (case number) identifying the matter which is being appealed; and**
- B. The street address of the premises included in the action of the director or, if no street address, the legal description of the premises; and**
- C. Whether the appeal is:**
 1. An appeal on the denial of such application,
 2. An appeal on the approval of such application,
 3. An appeal of a condition or conditions of an approval (specifying the particular condition or conditions);
- D. No other information shall be included in the notice of appeal;**
- E. An appeal fee shall accompany the filing in an amount determined pursuant to subsection A of Section 22.60.230. (Ord. 96-0026 § 8, 1996; Ord. 82-0168 § 2 (part),**

1982.)

22.56.2210 Appeal -- Action by commission -- Procedures.

A. Upon receiving a notice of appeal the commission shall take one of the following actions:

1. Affirm the action of the director, or
2. Refer the matter back to the director for further review with or without instructions, or
3. Set the matter for public hearing before itself. In such case, the commission's decision may cover all phases of the matter, including the addition, modification or deletion of any condition.

B. In rendering its decision, the commission shall not hear or consider any argument or evidence of any kind other than the record of the matter received from the director, unless it is itself conducting a public hearing on the matter.

C. Where the commission sets the matter for public hearing, it shall approve or deny the appeal based on the findings required by Section 22.56.2100. (Ord. 82-0168 § 2 (part), 1982.)

22.56.2220 Appeal -- Hearing procedures.

In all cases where the commission sets the matter for public hearing, it shall be held pursuant to the procedure provided for public hearings in Part 4 of Chapter 22.60. (Ord. 85-0195 § 46, 1985; Ord. 82-0168 § 2 (part), 1982.)

22.56.2230 Appeal -- Notice of commission action.

The commission shall serve notice of its action on an appeal filed pursuant to Section 22.56.2200 in the manner specified by Section 20.60.190. (Ord. 82-0168 § 2 (part), 1982.)

22.56.2240 Effective dates of decisions.

The decision of:

- A. The director shall become final and effective 15 calendar days after receipt of notice of action by the applicant, provided no appeal has been filed with the commission pursuant to Section 22.56.2200;
- B. The commission shall be final and effective on the date of decision. Where an oak tree permit is concurrently considered with a permit, variance, zone change or tentative map for a subdivision, including a minor land division, such permit shall be appealable only as a part of the concurrent action. (Ord. 82-0168 § 2 (part), 1982.)

22.56.2250 Expiration date for unused permits.

An approved oak tree permit which is not used within the time specified in the approval or, if no time is specified, within one year after the granting of such approval, becomes null and void and of no effect; except that, where an application requesting an extension is filed prior to such expiration date, the director may extend such time for a period of not to exceed one year. (Ord. 82-0168 § 2 (part), 1982.)

22.56.2260 Enforcement.

In interpreting the provisions of Section 22.04.090 as they apply to this Part 16, each individual tree cut, destroyed, removed, relocated or damaged in violation of these provisions shall be deemed a separate offense. (Ord. 82-0168 § 2(part), 1982.)



OAK TREES:

Care and Maintenance

This Oak Tree Care and Maintenance Guide offers basic information and practical guidelines aimed at the preservation and continued health and survival of oak trees in the residential landscape.

Increasing pressure for development is changing the oak woodland of Los Angeles County. Heritage oaks which once survived in open rolling hills are now being preserved or replanted and incorporated into the community.

How do we protect these trees during the planning and development process, and ensure their survival once they are in the home garden?

The Oak Tree

Oak Trees in the residential landscape often suffer decline and early death due to conditions that are easily preventable. Damage can often take years to become evident, and by the time the trees show obvious signs of disease it is usually too late to help.

Improper watering, especially during the hot summer months, and disturbance to critical root areas are most often the causes. This booklet will provide guidelines on where these critical areas lie and ways to avoid disturbing them, as well as information on long-term care and maintenance of both natural and planted oaks. Lists of additional resources for more information and demonstration areas to visit are also included.

The Oak Tree Ordinance

The Los Angeles County Oak Tree Ordinance has been established to recognize oak trees as significant historical, aesthetic, and ecological resources. The goal of the ordinance is to create favorable conditions for the preservation and propagation of this unique and threatened plant heritage. By making this part of the development process, healthy oak trees will be preserved and maintained.

The Los Angeles County Oak Tree Ordinance applies to all unincorporated areas of the County. Individual cities may have their own ordinances, and their requirements may be different.

Permit Requirements:

Under the Los Angeles County Ordinance, a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone (see text) of any ordinance sized tree of the oak tree genus without first obtaining a permit.

Damage includes but is not limited to :

- Burning
- Application of toxic substances
- Pruning or cutting
- Trenching
- Excavating
- Paving
- Operation of machinery or equipment
- Changing the natural grade

Chapter 22.56.2050: Oak Tree Permit Regulations, Los Angeles County, Adopted: August 20, 1982. Amended: September 13, 1988.

For more information about the County Oak Tree Ordinance, visit the Forestry Division's website at:

http://lacofd.org/Forestry_folder/otordin.htm

Or contact:

Department of Regional Planning
320 W. Temple Street, 13th floor
Los Angeles, CA 90012-3284
(213) 974-6411
TDD: (213) 617-2292
<http://planning.co.la.ca.us>

Types of oaks commonly found in Los Angeles County:

Many kinds of oak trees are native to Los Angeles County. A few of the more common ones are shown below, but *all* oak trees are covered by the Oak Tree Ordinance.

Older oaks which have thrived under the natural rainfall patterns of dry summers and wet winters often can't handle the extra water of a garden setting. These trees must be treated with special care if they are to survive.

Those oaks that have been planted into the landscape or sprouted naturally tend to be more tolerant of watered landscapes. These vigorous young trees may grow 1½ to 4 feet a year in height under good conditions. Once established these trees would benefit from the same special care outlined in this guide.



Valley Oak

QUERCUS LOBATA

LARGE DECIDUOUS TREE 60'-75' HIGH, BROADLY SPREADING 50'-80' WIDE.

LEAVES: DEEP GREEN, 3"-4" LONG; PAPER-LIKE TEXTURE WITH DEEP ROUNDED LOBES ON THE LEAF EDGE.

TENDS TO FAVOR VALLEY BOTTOMS; FOR THIS REASON THE VALLEY OAK HAS DISAPPEARED FROM THE LANDSCAPE MORE RAPIDLY, IMPACTED SEVERELY BY AGRICULTURE AND URBAN DEVELOPMENT.



Coast Live Oak

QUERCUS AGRIIFOLIA

LARGE EVERGREEN TREE WITH A BROAD, ROUND SHAPE AND LARGE LIMBS. 30'-70' HIGH, 35'-80' WIDE.

LEAVES: GLOSSY GREEN, 1"-3" LONG; SPINY, ROUNDED, AND HOLLY-LIKE BUT DISTINCTLY CUPPED OR CURLED UNDER AT THE EDGES.



Interior Live Oak

QUERCUS WISLIZENII

EVERGREEN TREE 30'-75' HIGH OR A SHRUB 8'-10' HIGH IN CHAPARRAL AREAS. HAS A FULL, DENSE ROUNDED SHAPE, NOT BROAD OR WITH LARGE LIMBS LIKE A COAST LIVE OAK. THEY TEND TO GROW IN CLUMPS RATHER THAN AS A SINGLE TREE.

LEAVES: DARK GREEN, 1"-4" LONG. EDGES EITHER SMOOTH OR SPINY, BUT ALWAYS FLAT— NOT CURLED UNDER.

OTHER COMMON OAKS:

CALIFORNIA BLACK OAK: QUERCUS KELLOGGII
CANYON LIVE OAK: QUERCUS CHRYSOLEPIS
ENGELMANN OAK: QUERCUS ENGELMANNII

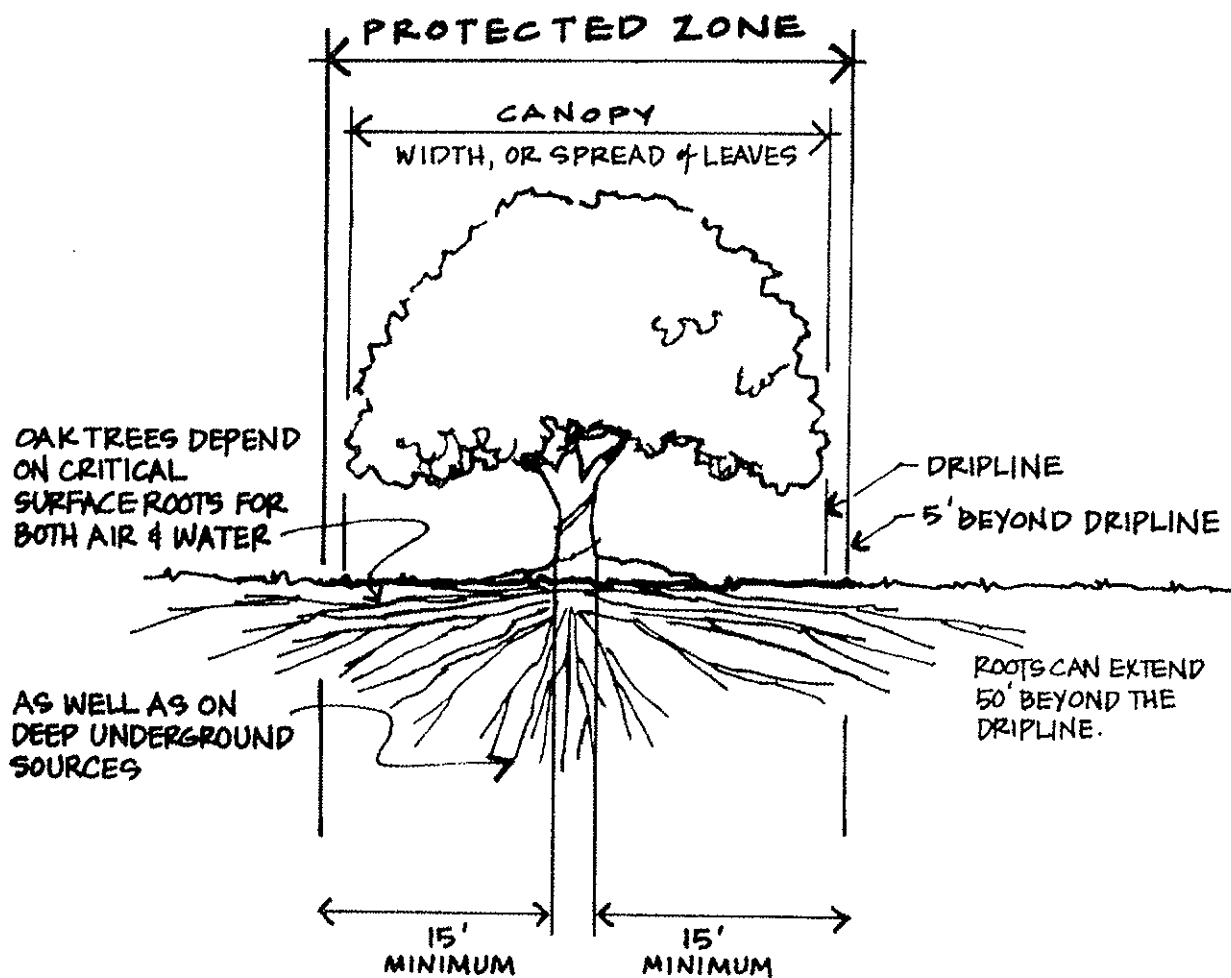
THE PROTECTED ZONE

The **protected zone** defines the area most critical to the health and continued survival of an oak tree. Oaks are easily damaged and very sensitive to disturbances that occur to the tree or in the surrounding environment.

The root system is extensive but surprisingly shallow, sometimes radiating out as much as 50 feet beyond the spread of the tree leaves, or canopy. The ground area at the outside edge of the canopy, referred to as the *dripline*, is especially important: the tree obtains most of its surface water and nutrients here, and conducts an important exchange of air and other gases.

The protected zone is defined in the Oak Tree Ordinance as follows:

"The Protected Zone shall mean that area within the dripline of an oak tree and extending there from to a point at least 5 feet outside the dripline or 15 feet from the trunk, whichever distance is greater."



CONSTRUCTION ACTIVITY WITHIN THE PROTECTED ZONE

Changes in Grade

Any change in the level of soil around an oak tree can have a negative impact. The most critical area lies within 6' to 10' of the trunk: no soil should be added or scraped away. Water should drain away from this area and not be allowed to pond so that soil remains wet at the base.

Retaining walls designed to hold back soil above or below an existing tree should be avoided if at all possible, especially within the protected zone. These types of structures cause critical areas at the dripline to be buried, or require that major roots be severed. Water trapped at the base of the tree could lead to root rot or other impacts, and to the decline and premature death of a highly valued landscape tree.

Construction activities outside the protected zone can have damaging impacts on existing trees. Underground water sources can be cut off due to falling water tables, or drainage may be disrupted.

Trenching

Digging of trenches in the root zone should be avoided. Roots may be cut or severely damaged, and the tree can be killed.

If trenches must be placed within the protected zone, utilities can be placed in a conduit, which has been bored through the soil, reducing damage to the roots. Insist that as many utilities as allowed be placed in a single trench, instead of the common practice of digging a separate trench for each individual line.

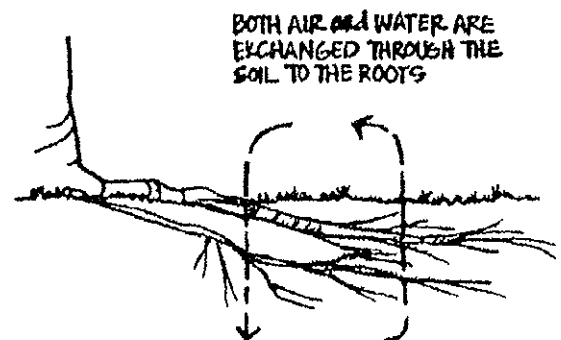
Trenching can also be accomplished using hand tools or small hand held power equipment to avoid cutting roots. Any roots exposed during this work should be covered with wet burlap and kept moist until the soil can be replaced.

Soil Compaction and Paving

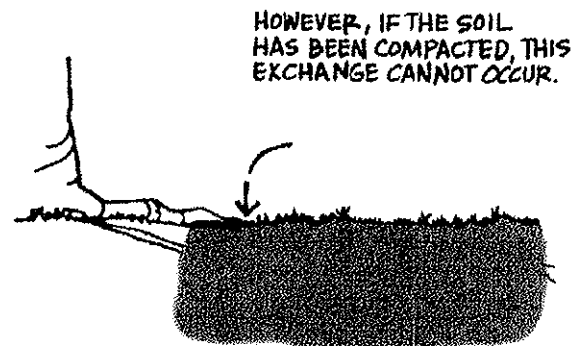
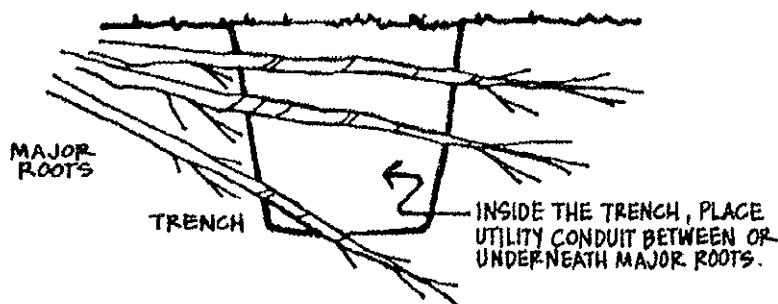
The roots depend upon an important exchange of both water and air through the soil within the protected zone. Any kind of activity that compacts the soil in this area blocks this exchange and can have serious long-term negative effects on the tree.

If paving material must be used, some recommended surfaces include brick paving with sand joints, or ground coverings such as wood chips (note the advantages of natural materials for providing nutrients under mulching).

SOIL COMPACTION



TRENCHING



MAINTENANCE

Watering

The key is prevention – **do not over water**. Improper watering is often overlooked as the cause of tree death because it can take years for the damage to show. Once the tree shows obvious signs of decline, it is often too late to correct the problem.

The seasonal weather pattern for this region is one of dry summers and winter rain. Oak trees are naturally drought tolerant and adapted to this cycle. If the tree is vigorous and thriving it should not require **any** additional water.

If the natural source of surface or underground water has been altered, some supplemental water may be necessary, but proceed with caution. The goal of any watering schedule for oak trees should be to supplement natural rainfall and it should occur only when the tree would normally receive moisture. This might be in the winter, if rains are unusually late, or in spring if rainfall has been below normal levels.

Over watering, especially during the summer months, causes a number of problems which can lead to decline and eventual death of the tree. It creates ideal conditions for attacks of Oak Root Fungus by allowing the fungus to breed all year. In addition, both evergreen and deciduous oaks grow vigorously in the spring and naturally go dormant in the summer. Extra water only encourages new tip growth which is subject to mildew. Oaks need this period of rest.

Newly planted oaks may need supplemental watering during their first few summers. After they become established water should be applied according to the previous guidelines.

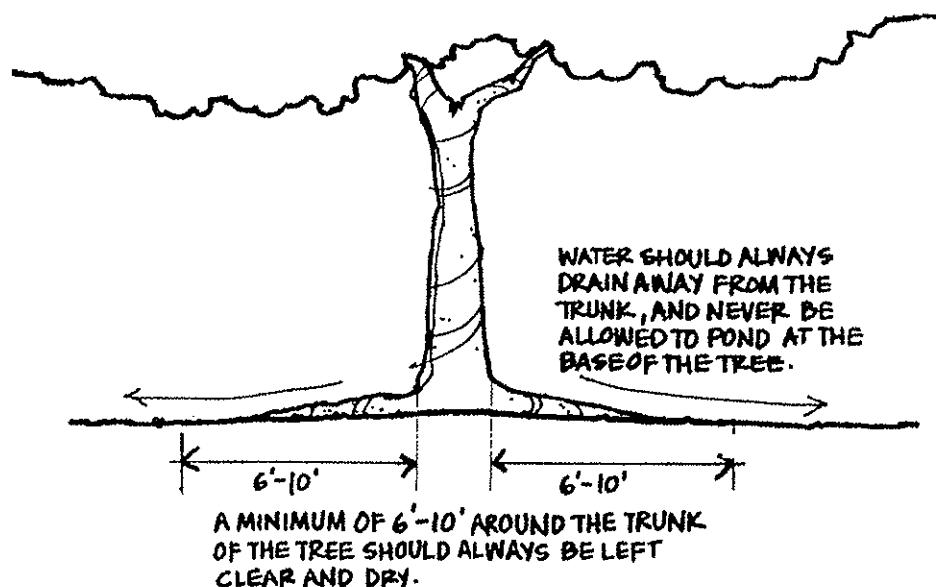
Pruning

For oak trees the periodic removal of dead wood during periods of tree dormancy should be the only pruning needed. Any cutting of green wood opens scars that could allow the entry of organisms or disease.

Before pruning obtain the advice of a certified arborist or other professional and consult the local city or county where the tree is located to find out what regulations apply. Pruning of both live and dead wood can sometimes require a permit.

Mulching

Leaf litter from the tree is the best mulch and should be allowed to remain on the ground within the protected zone. Crushed walnut shells or wood chips can be used, but the oak leaves that drop naturally provide the tree with a source of nutrients. Avoid the use of packaged or commercial oak leaf mulch which could contain Oak Root Fungus. Redwood chips should not be used due to certain chemicals present in the wood.



Disease and Pests

Trees that are stressed, especially because of improper watering practices, are prone to certain diseases and attacks by pests.

The most damaging of these diseases is the Oak Root Fungus *Armillaria mellea*. Occurring naturally in the soil, the fungus thrives under wet conditions and dies back in the summer when soils dry out. This is why summer watering of oaks can be a deadly practice. As noted in the watering guidelines, wet soil in the summer allows the fungus to grow all year. As the population grows, their natural food sources are depleted and they begin feeding on oak tree roots. The fungus does not require an open wound in the tree to gain entry.

Indications of the fungus include:

- die back of branches or tips.
- honey colored fungus at or near the root crown.
- white fan-like fungus between wood and bark.
- the presence of black, shoestring-like growths in the soil.

Once the tree begins to show obvious signs of infection treatment is generally ineffective. The best treatment is to *avoid* the conditions that lead to Oak Root Fungus infections.

Pit Scale, Oak Moth, and other pests: any significant changes in leaf color, branch die back, presence of black sooty materials on leaves or other changes should be noted. Seek the advice of a professional forester, arborist, farm advisor or other expert before the application of any pesticides on an oak tree.

Planting Underneath Oaks

The natural leaf litter is by far the best ground cover within the protected zone. If plants must be placed, the following guidelines should be followed:

There should be no planting within a minimum 6 to 10 feet of the trunk.

Avoid plants that require any supplemental water once established.

Choose plants suited for "dry shade." Those listed in the box below offer some good choices. To see some examples of how these plants have been used under oaks refer to the Additional Resources section on the following page.

PLANTS TO CONSIDER:

Plant Name	Description
<i>Arctostaphylos densiflora</i> 'Howard McMinn' Manzanita	3' high, 6' wide. Toughest of available forms. Whitish-pink flowers.
<i>Arctostaphylos edmundsii</i> Little Sur Manzanita	1-2' high, 4-5' wide. Tolerant of full shade.
<i>Arctostaphylos hookeri</i> Monterey Carpet Manzanita	1-2' high, spreading to 12' wide by rooting branches. White to pink flowers.
<i>Ceanothus griseus horizontalis</i> Carmel Creeper	Less than 2 1/2' tall, low & creeping. Clusters of small blue flowers.
<i>Heuchera</i> spp. Coral Bells	2-4' mound. Flowers on an upright stem 2-3' high and spotted with red or pink.
<i>Mahonia aquifolium compacta</i> Oregon Grape	2-4' high, spreading by underground roots. Bright yellow flower clusters.
<i>Ribes viburnifolium</i> Evergreen or Catalina Currant	2-3' high, spreading to 12' wide. Flowers pink to red in small clusters.

NOTES:

Before deciding on plants, check a source such as the Sunset Western Garden Book to determine which plants will grow in your area.

When choosing shade tolerant plants, consider that the ground under the south side of the tree will get more sunlight while the northern side will tend to remain more deeply shaded.

ADDITIONAL RESOURCES and Places to Visit

Public Agencies

County of Los Angeles Fire Department
Prevention Bureau, Forestry Division
5823 Rickenbacker Road, Rm #123
Commerce, CA 90040-3027
(323) 890-4330
<http://lacofd.org/forestry.htm>

University of California
Integrated Hardwood Range Management Program
163 Mulford Hall, Berkeley, CA 94720-3114
<http://danr.ucop.edu/ihrmp>

Private Organizations

The Theodore Payne Foundation
10459 Tuxford Street
Sun Valley, CA 91352-2126
(818) 768-1802
www.theodorepayne.org

California Native Plant Society
1722 J Street, Suite 17
Sacramento, CA 95814-3033
(916) 447-2677
www.cnps.org

The California Oak Foundation
1212 Broadway, Suite 810
Oakland, CA 94612-1810
(510) 763-0282
www.californiaoaks.org

Arboretums and Botanic Gardens

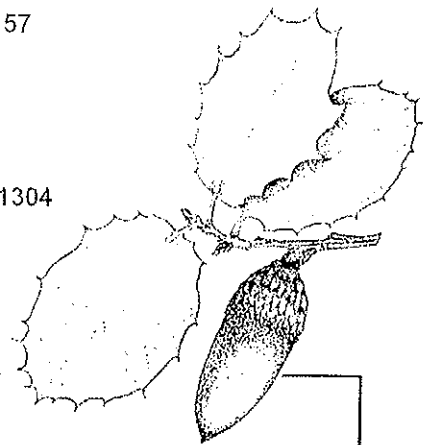
Los Angeles County Arboreta and Botanic Gardens
301 N. Baldwin Ave.
Arcadia, CA 91007-2697
(626) 821-3222
www.arboretum.org

Los Angeles County South Coast Botanic Garden
26300 Crenshaw Blvd.
Palos Verdes Peninsula, CA 90274-2515
(310) 544-6815
www.southcoastbotanicgarden.org

Los Angeles County Descanso Gardens
1418 Descanso Drive
La Canada-Flintridge, CA 91011-3102
(818) 949-4200
www.descansogardens.org

Rancho Santa Ana Botanic Garden
1500 North College
Claremont, CA 91711-3157
(909) 625-8767
www.rsabg.org

The Lummis Home
200 E. Avenue 43
Los Angeles, CA 90031-1304
(213) 222-0546



Publications

Compatible Plants Under and Around Oaks. Bruce W. Hagen... [et al]. The California Oak Foundation. 2000.

Growing California Native Plants. Marjorie G. Schmidt, Univ. California Press. 1981.

Illustrated Guide to the Oaks of the Southern Californian Floristic Province. Fred M. Roberts. FM Roberts Publications. 1996.

Living Among the Oaks: A Management Guide for Landowners. University of California Integrated Range Management Program. 1995.

Oaks of California. Bruce M. Pavlik...[et al]. Cachuma Press & the California Oak Foundation. 1995.

Proceedings of the Fifth Symposium on Oak Woodlands: Oaks in California's Changing Landscape. GTR PSW-GTR-184. Forest Service, U.S. Department of Agriculture. 2001.
Available from the University of California Integrated Hardwood Range Management Program.

Regenerating Rangeland Oaks in California. University of California Integrated Range Management Program. 2001.



County of Los Angeles Fire Department Forestry Division

County of Los Angeles Board of Supervisors

Gloria Molina, First District
Yvonne Brathwaite Burke, Second District
Zev Yaroslavsky, Third District
Don Knabe, Fourth District
Michael D. Antonovich, Fifth District

County of Los Angeles Fire Department

P. Michael Freeman, Fire Chief

Brush Clearance Unit
605 N. Angeleno Avenue
Azusa, CA 91702-2904
(626) 969-2375

Camp 17
6555 Stephens Ranch Road
La Verne, CA 91750-1144
(909) 593-7147

Environmental Review Unit
12605 Osborne Street
Pacoima, CA 91331-2129
(818) 890-5719

Fire Plan/Interpretive Unit
12605 Osborne Street
Pacoima, CA 91331-2129
(818) 890-5783

Fuel Modification Unit
605 N. Angeleno Avenue
Azusa, CA 91702-2904
(626) 969-5205

Henninger Flats Forestry Unit
2260 Pinecrest Drive
Altadena, CA 91001-2123
(626) 794-0675

Lake Hughes Forestry Unit
42150 N. Lake Hughes Road
Lake Hughes, CA 93532-9706
(661) 724-1810

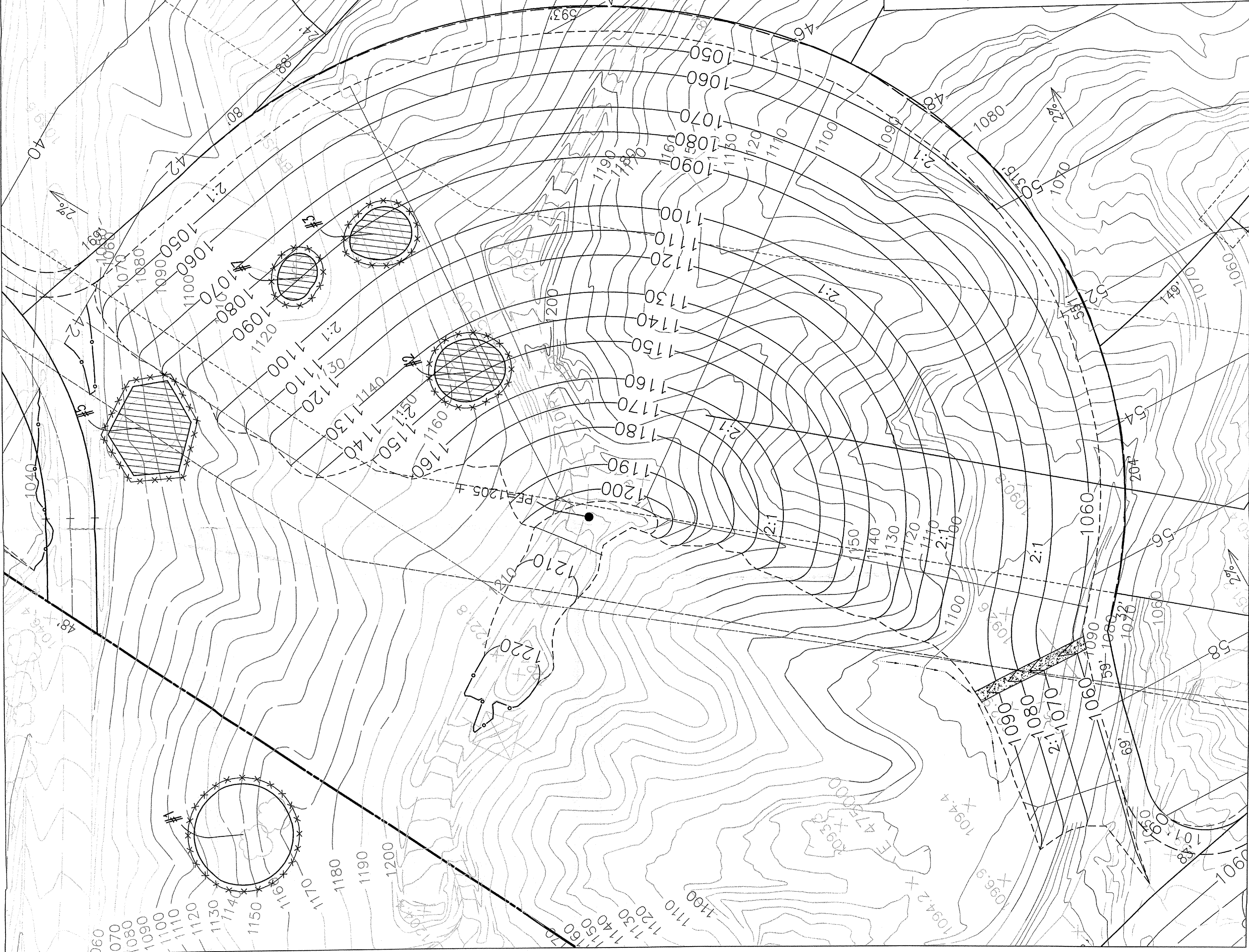
Malibu Forestry Unit
942 N. Las Virgenes Road
Calabasas, CA 91302-2137
(818) 222-1108

San Dimas Forestry Unit
1910 N. Sycamore Canyon Road
San Dimas, CA 91773-1220
(909) 599-4615

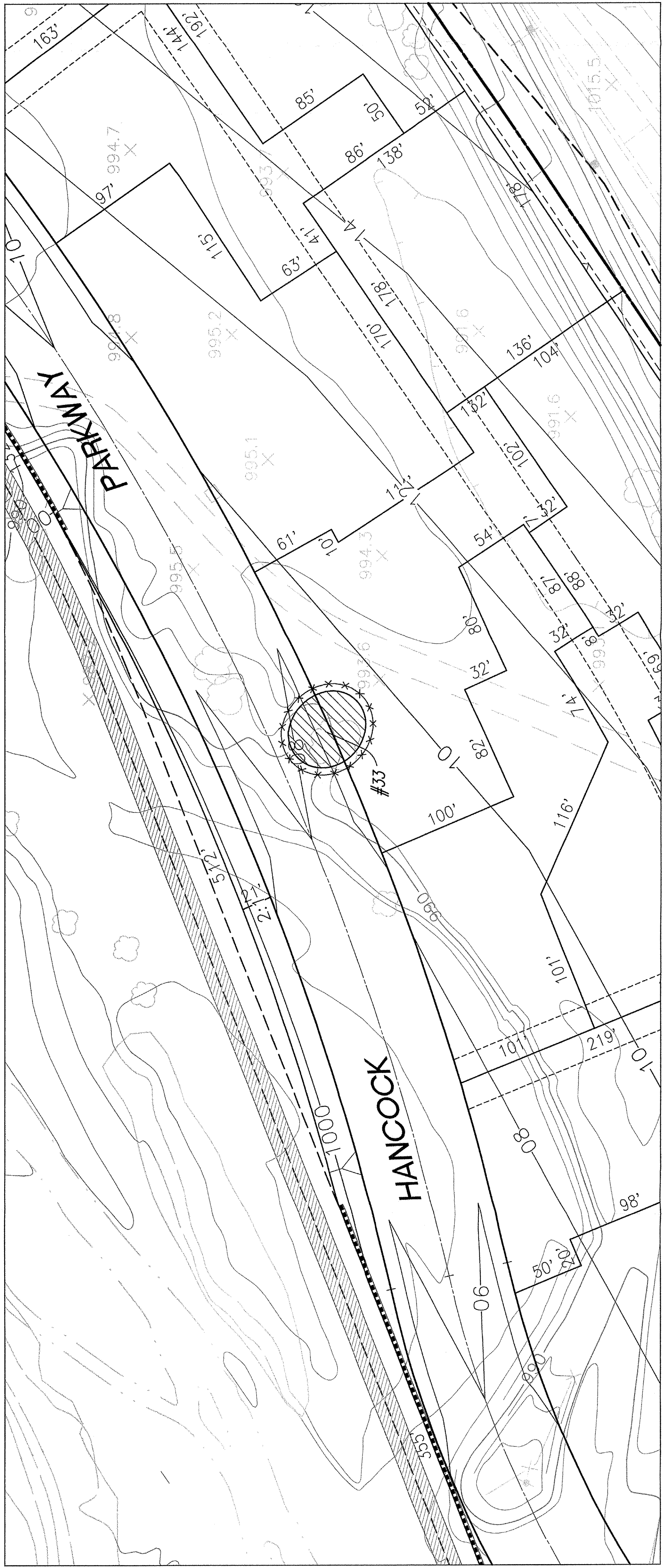
Saugus Forestry Unit
28760 N. Bouquet Canyon Road
Saugus, CA 91390-1220
(661) 296-8558

Vegetation Management Unit
12605 Osborne Street
Pacoima, CA 91331-2129
(818) 890-5720

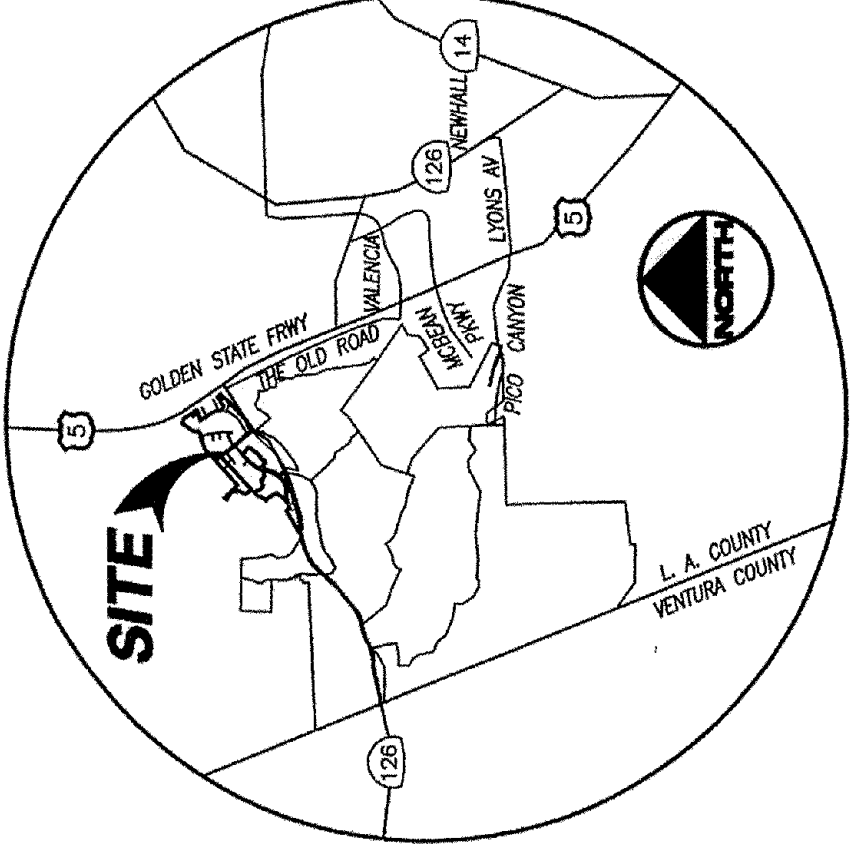
Oak Tree Location Map



DETAIL 5



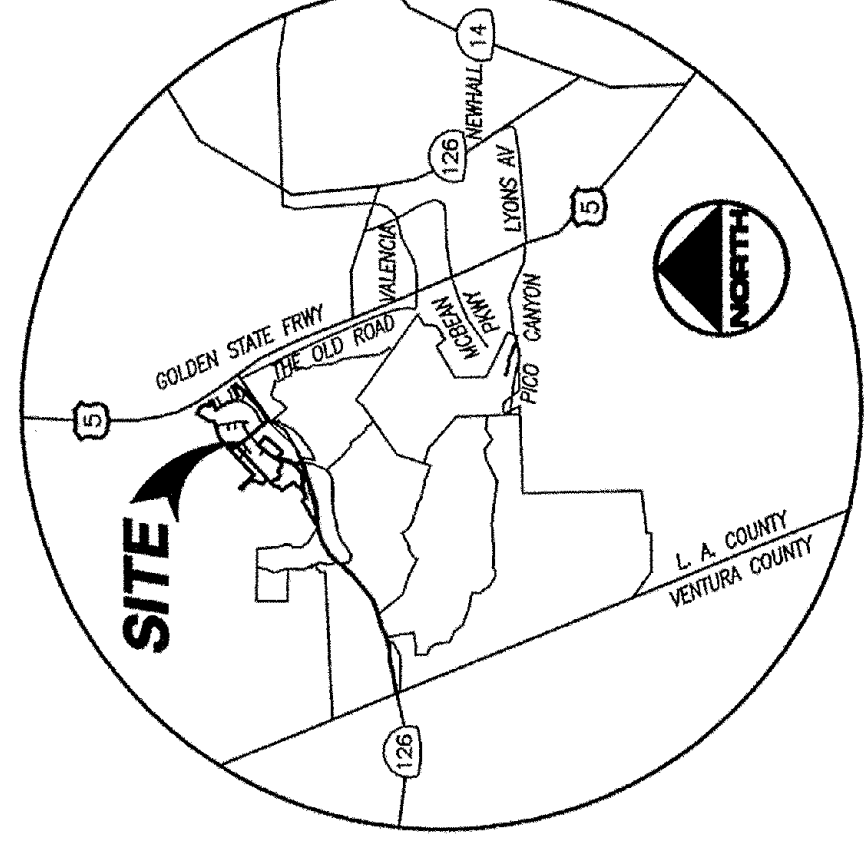
DETAIL 6



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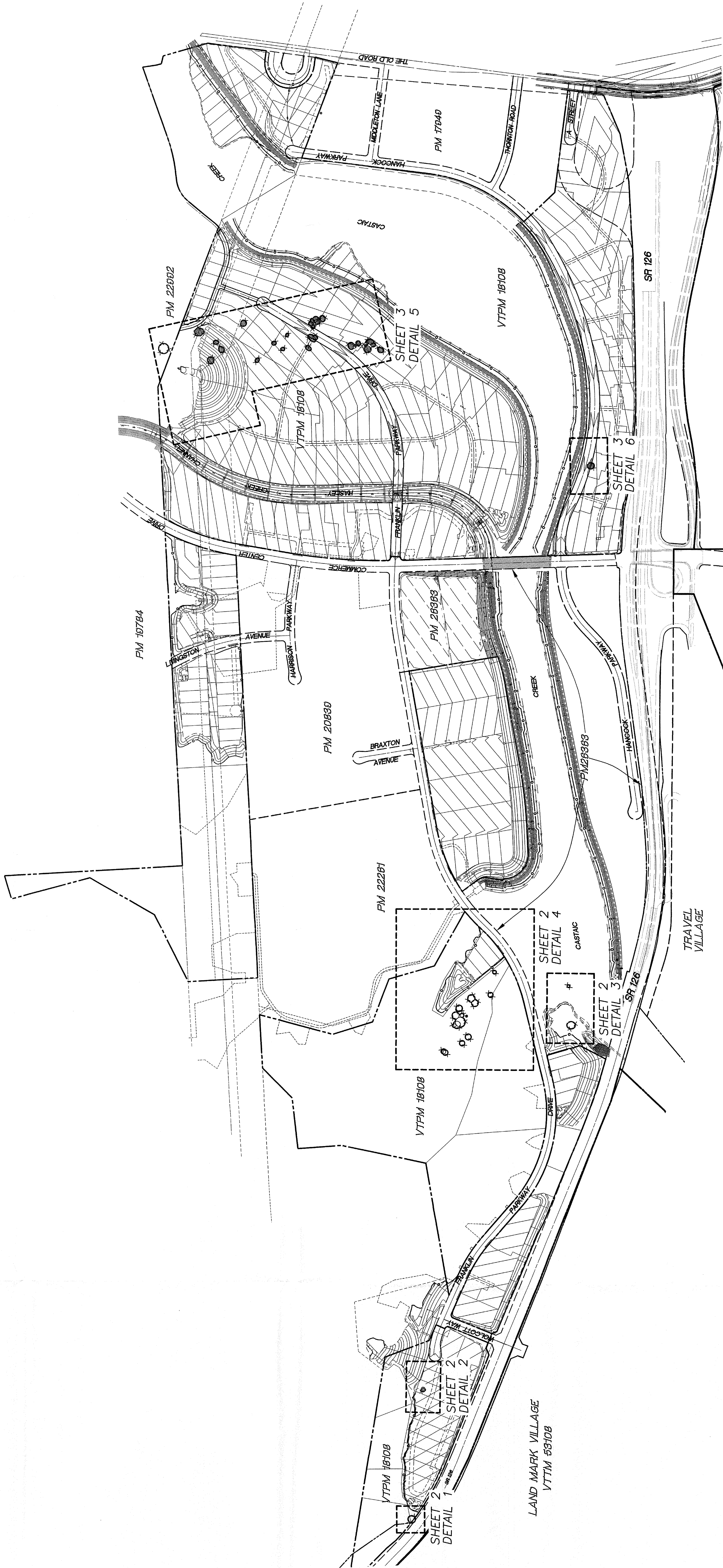
- PROJECT BOUNDARY
- GRADING LIMIT
- OAK TREE TO REMAIN
- OAK TREE TAG NUMBER
- EXISTING OAK TREE
- OAK TREE PROTECTIVE ZONE
- OAK TREE TO REMOVE/RELOCATE
- OAK TREE TAG NUMBER
- EXISTING OAK TREE
- OAK TREE PROTECTIVE ZONE

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OAK TREE IMPACT
EXHIBIT



LEGEND:

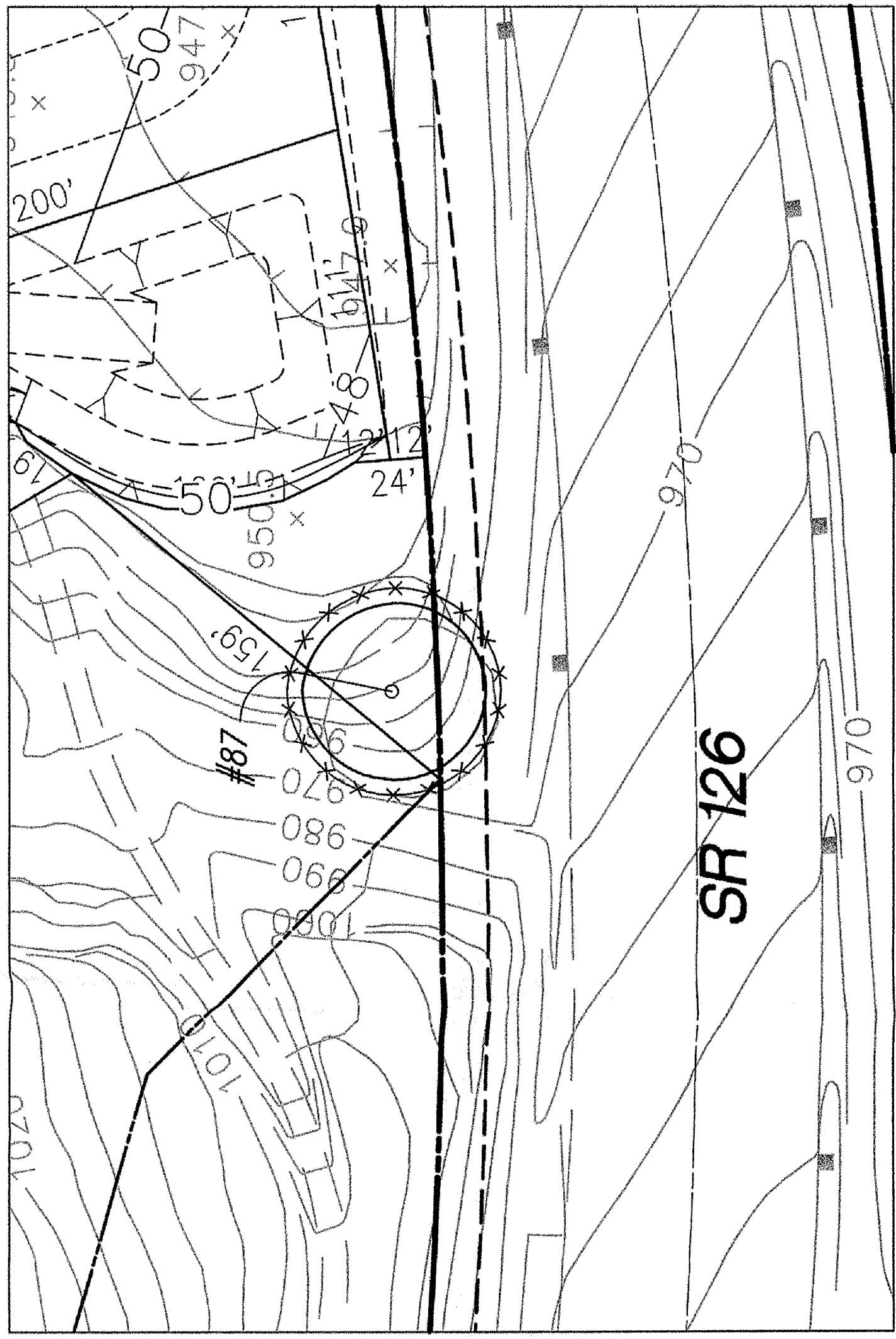
- PROJECT BOUNDARY
- GRADING LIMIT
- OAK TREE TO REMAIN
- EXISTING OAK TREE
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- OAK TREE TO REMOVE/RELOCATE
- EXISTING OAK TREE TO BE REMOVED
- OAK TREE PROTECTIVE ZONE



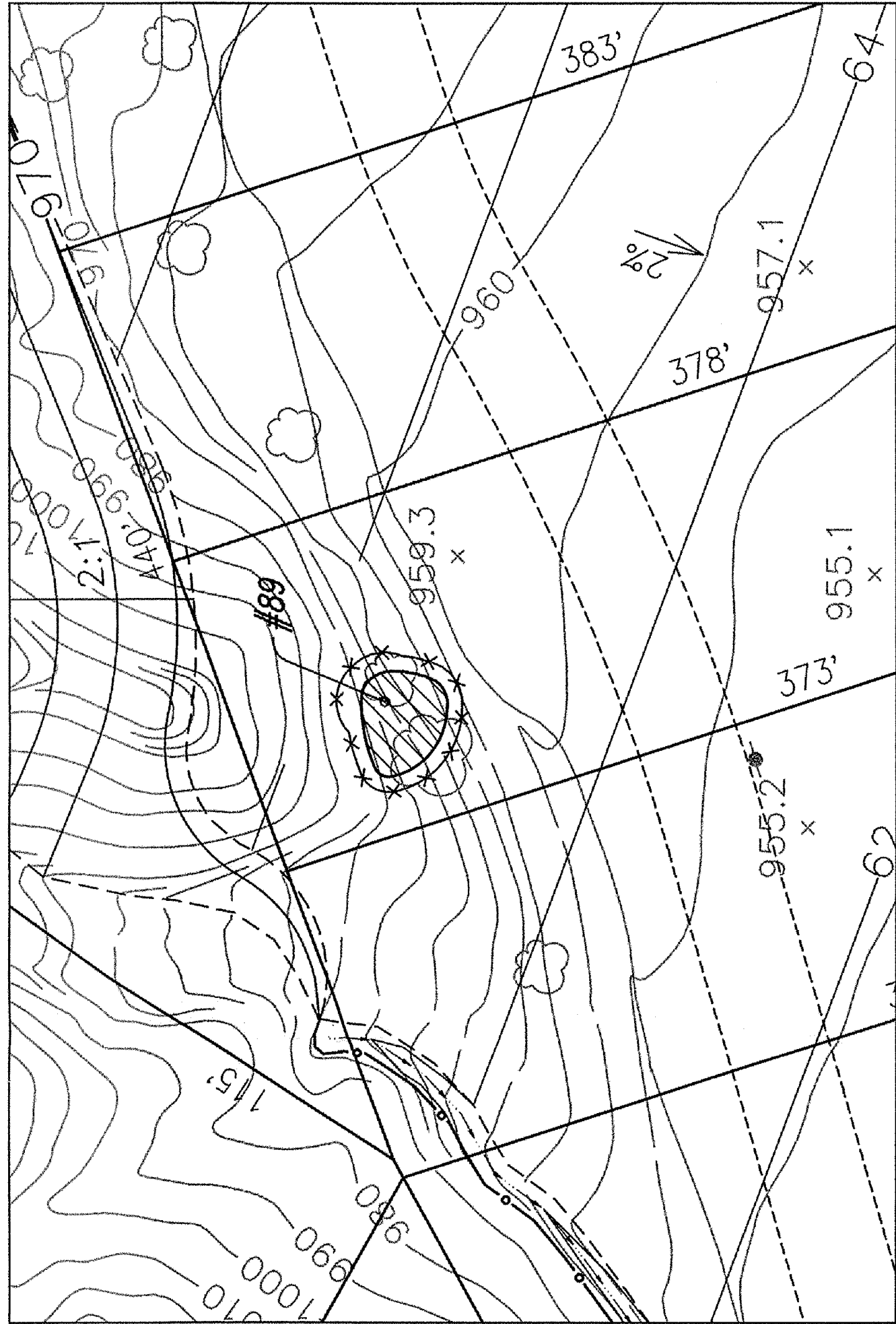
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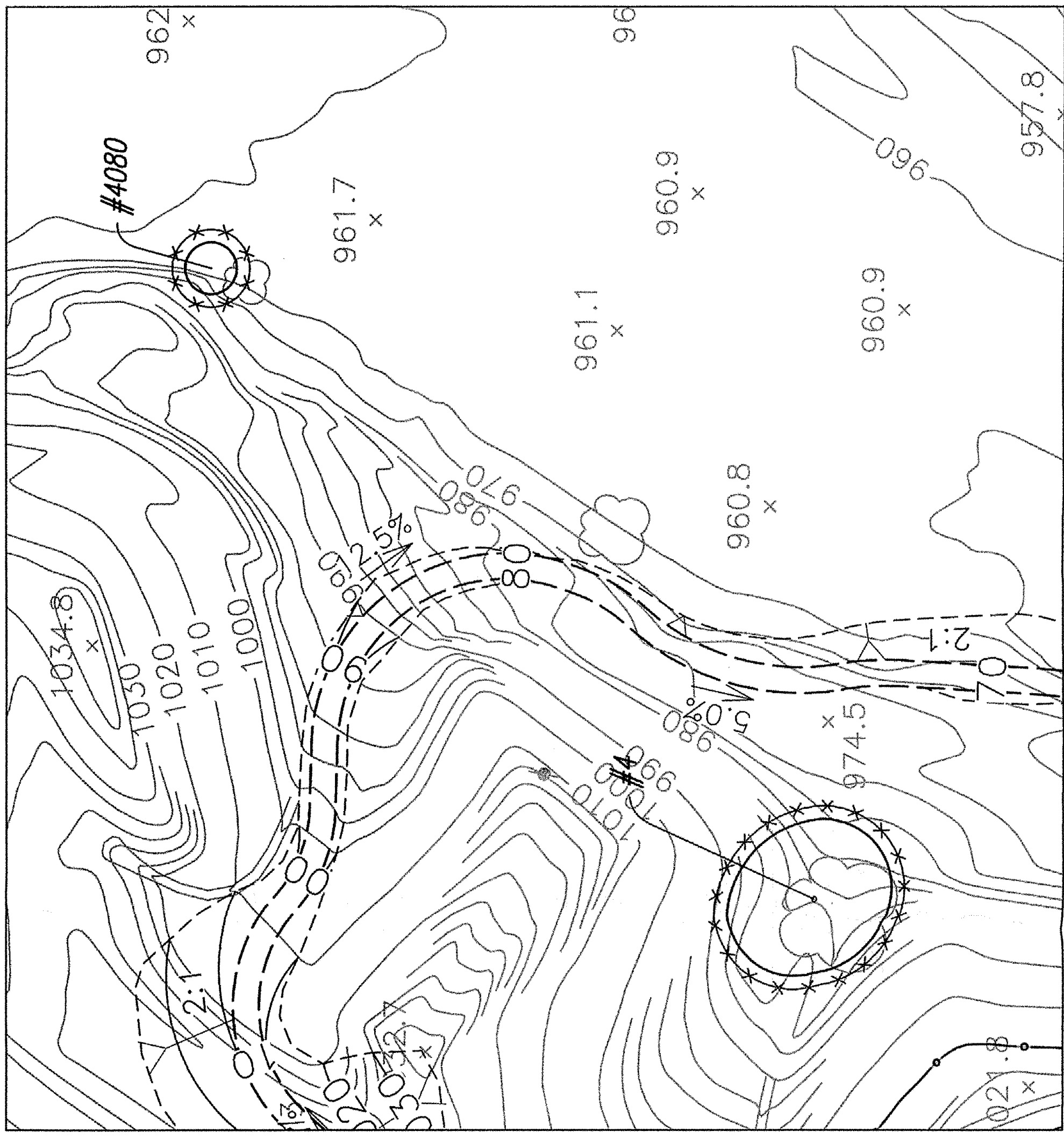
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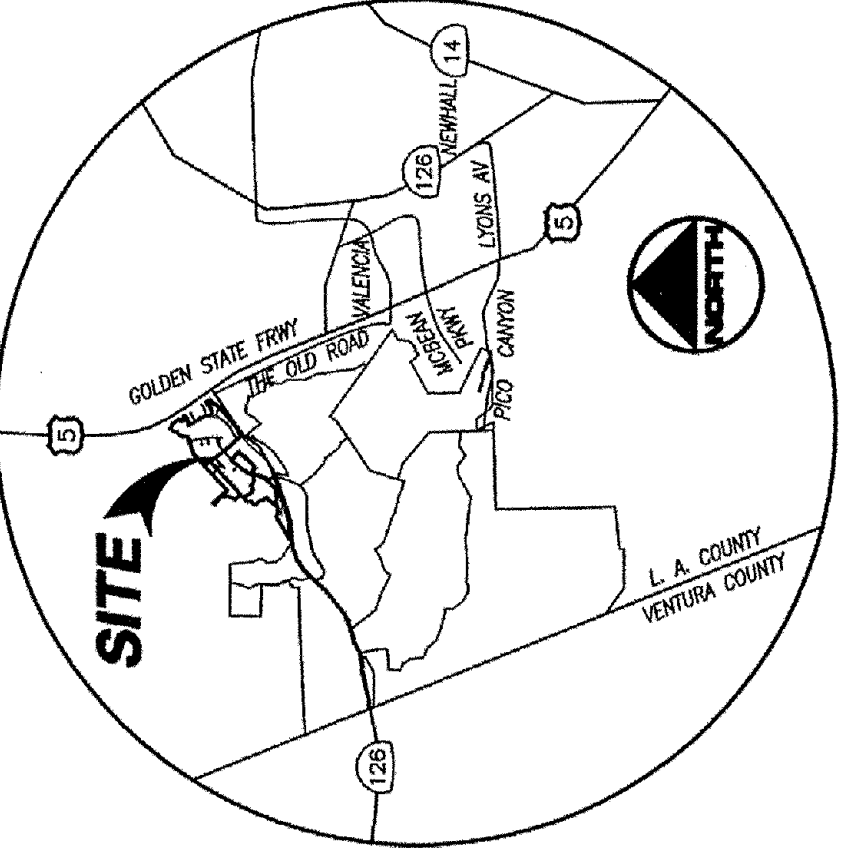
DETAIL 1



DETAIL 2



DETAIL 3



LEGEND:

- PROJECT BOUNDARY
- GRADING LIMIT
- OAK TREE TO REMAIN
- OAK TREE TO REMOVE/RELOCATE
- OAK TREE PROTECTIVE ZONE

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