

APPENDIX A
Arborist Reports



Mayne Tree Expert Company, Inc.

ESTABLISHED 1931

STATE CONTRACTOR'S LICENSE NO. 276793

CERTIFIED FORESTER • CERTIFIED ARBORISTS • PEST CONTROL • ADVISORS AND OPERATORS

RICHARD L. HUNTINGTON
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January 7, 2019

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Mr. Mel Casey
Casey Construction, Inc.
620 Handley Trl.
Redwood City, CA 94062

Dear Mr. Casey,

RE: 30 CANYON LANE, REDWOOD CITY (UNINCORPORATED)

On December 18, 2018, I gathered the information to produce an arborist report. This report is an update on my report dated April 3, 2012. The number of trees has changed, with some being removed and smaller ones, now large enough to be counted.

There are 14 trees included in this report. The trees not now included in the report are shown with a red "X" on the site plan. Trees to be removed due to construction are shown with a blue "X" on the site plan; they are trees numbered 1, 2, 4, 5, 6, 7, 8, 9, 12, 13, and 14. The retained trees numbered 3, 10, and 11 must be protected. Install chain link fencing supported by steel posts at the trees' driplines while still allowing for construction to proceed. See the attached *Mitigating Measures for Construction Impacts on Existing Trees*.

I recommend having excavation inspected for potential root damage. At that time, recommendations for mitigating measures can be made for the retained trees. Tree #11 is shown to be removed, but retention should be attempted; tree #10 is a large bay. Bay trees are the main vector of sudden oak death disease, *Phytophthora ramorum*. Removal of all bays is not an option, as this is native oak/bay woodland.

The tree survey has individual tree specifications with diameters estimated due to poison oak growth around the trees. Tree numbers are new, but some numbers from another survey are attached; these numbers are in parentheses on the tree survey that follows and gives reference points between the two reports.

To conclude, only trees #3 and #10 are to remain; tree #11 can remain if the retaining wall is shortened.

I think this report is accurate and based on sound arboricultural principles and practices.

Sincerely,

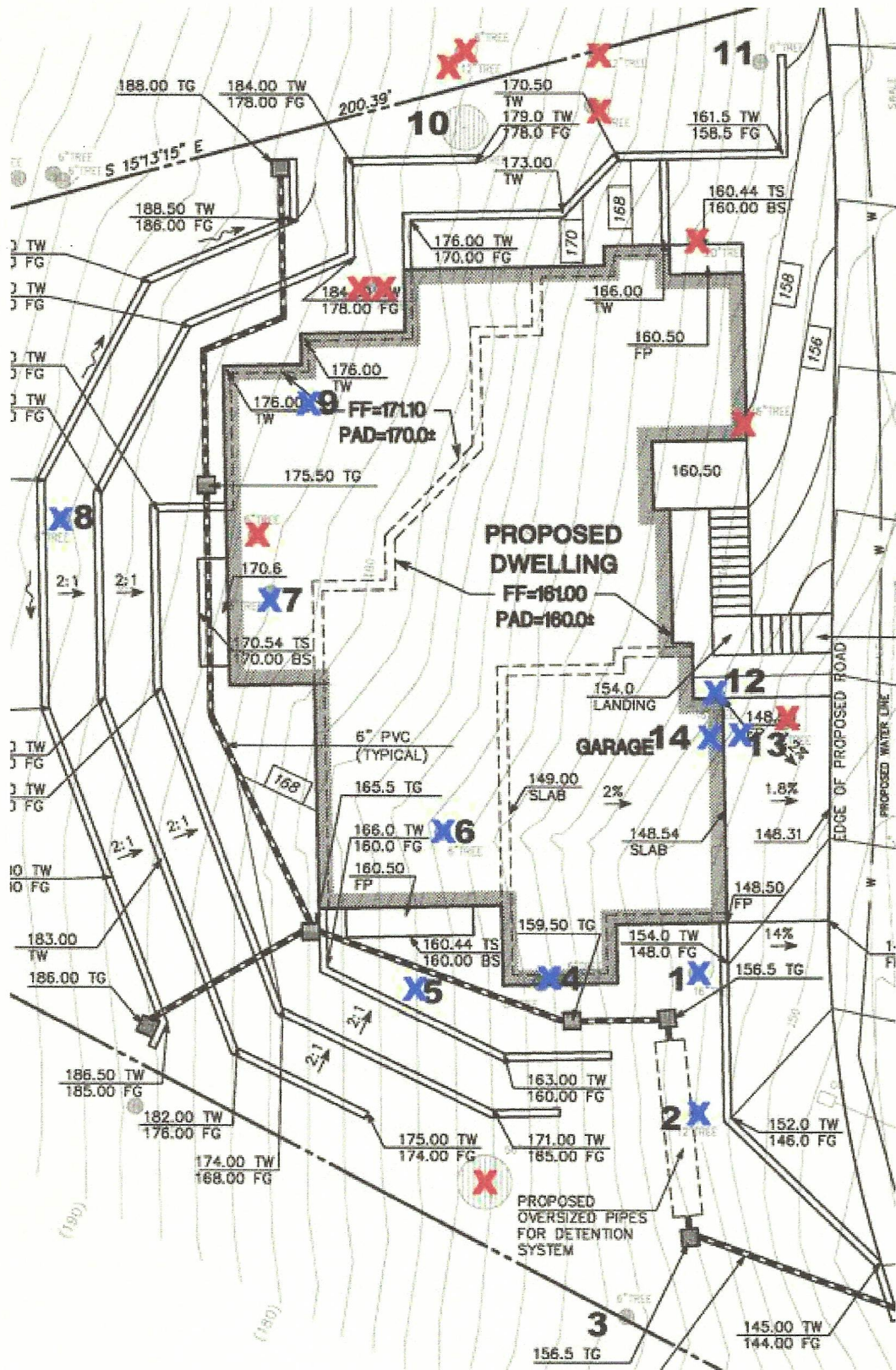
Richard L. Huntington
Certified Arborist WE #0119A
Certified Forester #1925

RLH:pmd



Tree Survey

Tree #	Species	Diameter (inches)	Condition (percent)	Comments
1 (17)	Valley Oak	20	50	Tree is uphill of manhole; has an uphill lean with the root crown buried. To be removed, due to proposed excavation of house & retaining wall.
2 (14)	Valley Oak	8	50	Leans toward road.
3	Valley Oak	9	55	In footprint of proposed detention system. Growing on property line with a southerly lean.
4	Buckeye	9, 9	50	Forks at 1 foot; lower fork leans into tree #1, while upper fork is horizontal. In proposed house footprint.
5	Valley Oak	16	55	Severe uphill lean & may have uprooted. In footprint of proposed drain line.
6	Bay	6	60	In proposed footprint.
7	Coast Live Oak	8	50	In proposed footprint; broken limb.
8	Bay	8	65	In footprint of proposed retaining wall system.
9	Coast Live Oak	18	60	Most growth on south side. In proposed footprint.
10	Bay	16, 16, 14, 12	55	Forks at 2 feet; canopy all sprouts from past topping. Proposed retaining wall is south of tree. Shortening the length of the wall to between contour line 180 & 182 will reduce potential impacts.
11	Bay	6	50	Tree with small stems. Shortening retaining wall by 2 to 3 feet will reduce potential impacts.
12 (18B)	Bay	12	55	In proposed footprint.
13 (18)	Coast Live Oak	16	55	30 feet north of manhole; root crown buried. Too close to excavation.
14 (18A)	Buckeye	6	50	In proposed footprint.



MITIGATING MEASURES FOR CONSTRUCTION IMPACTS ON EXISTING TREES

SECTION I: INTRODUCTION

It is an established fact that construction around existing trees will impact the trees to some degree. The degree of impact is largely predicated on the condition of the tree(s) before the construction activity begins. It is therefore important to inspect all trees prior to any construction activity to develop a "Tree Protection Program" based on the species, size, condition, and expected impact(s). A Certified Arborist (International Society of Arboriculture) is suggested for this work. The local University of California Extension, County Farm Advisors Office, or International Society of Arboriculture (ISA) website www.isa-arbor.com has the names of local certified arborists.

SECTION II: SITE PREPARATION

All existing trees shall be fenced within, at, or outside the dripline (foliar spread) of the tree using the following formula: Five inches in distance from the trunk, for every inch in trunk diameter, measured 4.5 feet above the average ground level. Example: a 24-inch diameter tree would have a fence erected 10 feet from the base of the tree ($24 \times 5 = 120/12 = 10$). The fencing should not interfere with actual construction, but is intended to redirect unnecessary traffic and to protect limbs and roots. No storage of materials, unnecessary trenching, grading, or soil compaction shall be allowed within the dripline(s) of the tree(s). Local ordinances may have different tree protection formulae.

The chain link fencing should be a minimum of 6 feet high with 1.5-inch diameter steel pipes as posts. Moveable chain link fencing with concrete-block footings can be used if approved by the City Arborist. Once in place, fencing should not be moved.

If the fence is within the dripline(s) of the tree(s), the foliar fringe outside the fence shall be raised to offset the chance of limb breakage from construction equipment encroaching within the dripline(s). To protect roots, place a 6-inch thick layer of wood chips, overlaid with $\frac{3}{4}$ -inch plywood.

Where the trunks or limbs may be impacted by equipment, trunks may be wrapped with wooden slats at least one inch thick bound securely, edge to edge, around the trunk as a Tree Wrap. A single layer, or more, of orange-plastic construction fencing is to be wrapped and secured around the outside of the wooden slats. Major scaffold limbs may require protection as determined by the City Arborist or Project Arborist.

All contractors, subcontractors, and other personnel shall be warned that encroachment within the fenced area is forbidden without the consent of the Certified Arborist on the job. This includes, but is not limited to, storage of lumber and other materials, disposed-of paints, solvents, or other noxious materials, parked cars, grading equipment, other heavy equipment or their exhaust, or allowing any fires below any protected trees. The temporary fence shall be maintained until the landscape contractor enters the job and commences landscape construction.

All tree protection measures must be in place prior to any work. If a protected tree is below construction, provide protection from any accidental liquid spill from draining into their root zones. Roots that are below hardscape areas could be impacted by chemicals that are placed below this hardscape, such as rodent or weed control chemicals.

SECTION III: GRADING/EXCAVATING

All grading plans that specify grading within the dripline of any tree or within the distance from the trunk as outlined in SECTION II when said distance is outside the dripline, shall first be reviewed by the certified arborist. The arborist shall outline provisions for aeration, drainage, pruning, tunneling beneath roots, root pruning, or other necessary actions to protect the trees. The arborist and City Arborist shall be notified prior to any excavation within the dripline of any heritage tree.

If trenching is necessary within the area, as described above, said trenching shall be undertaken by hand labor. All roots 2 inches or larger shall be tunneled and smaller roots shall be cut smoothly to the side of the trench. The side of the trench should be draped immediately with four layers of untreated burlap to a depth of 3 feet from the surface. The burlap shall be soaked nightly and left in place until the trench is backfilled to the original level. The arborist shall examine the trench prior to backfilling to ascertain the number and size of roots cut and to suggest further remedial repairs. Documenting large root encounters will help with future mitigating treatments.

SECTION IV: REMEDIAL REPAIRS, PENALTIES

The arborist on the job shall have the responsibility of observing all ongoing activities that may affect the tree(s) and prescribing necessary remedial work to insure the health and stability of said tree(s). This includes, but is not limited to, all arborist activities specified in SECTIONS I, II, and III. In addition, pruning, as outlined in the "Pruning Standards" of the Western Chapter of the International Society of Arboriculture, shall be prescribed as necessary. Fertilizing, mulching, aeration, irrigation, drainage, pest control, and other activities shall be prescribed according to the tree needs, local site requirements, and State Agricultural Pest Control Laws. All specifications shall be in writing. For a list of licensed pest control operators or advisors, consult the local County Agricultural Commissioner's Office or California Department of Pesticide Regulation.

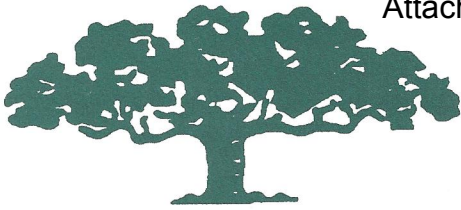
Penalties, based on the cost of remedial repairs and the appraised values provided in the Evaluation Guide published by the International Society of Arboriculture, shall be assessed for damages to the trees. Do not damage any roots, limbs, or trunks. Do not attach any cables, chains, etc. to any protected tree.

SECTION V: FINAL INSPECTION

Upon completion of the project, the arborist shall review all work undertaken that impacted the existing trees. Special attention shall be given to cuts and fills, compaction, drainage, pruning, and future remedial work. The arborist should submit a final report in writing outlining the ongoing remedial care following the final inspection.

PREPARED BY THE MAYNE TREE EXPERT COMPANY – JANUARY 1, 1994

REVISED – MAY 11, 2016



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November 1, 2016
(Revised March 7, 2017)

Mr. Mel Casey
Casey Construction, Inc.
619 Sylvan Wy.
Redwood City, CA 94062

Dear Mr. Casey,

RE: CANYON LANE, REDWOOD CITY (UNINCORPORATED)

At your request, I visited the above-referenced site to inspect and comment on trees along an existing road that could be impacted by the expansion and paving of that road.

Method

Each tree was identified and given a number. This number is scribed onto a metal foil tag and placed at eye level on the trunk of the tree. The identification numbers were also placed on the provided site map to show the approximate locations of the trees on the site. The diameter of each tree was found by measuring its trunk at 54 inches off the natural grade as described in the San Mateo County Significant Tree Ordinance. The height and canopy spread of each tree was estimated to show the tree's approximate dimensions. A condition rating was then given to each tree; this rating is based on form and vitality and can be further defined by the following table:

0	–	29	Very Poor
30	–	49	Poor
50	–	69	Fair
70	–	89	Good
90	–	100	Excellent

Lastly, a comments section is provided to give more individual detail for each tree.

Attachment H - Applicant's Arborist Report

Canyon Ln., Redwood City (uninc)

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November 1, 2016
(Rev. March 7, 2017)

Tree Survey

Tree #	Species	Diameter (inches)	Condition (percent)	Height (feet)	Spread (feet)	Comments
1	Monterey Cypress	9.5	65	25	18	Root crown covered; wound on northeast side of the trunk; poorly attached limb at 4½ feet; measured below limb.
2	Coast Live Oak	15.6	45	20	24	Root crown covered; two-stem at 1 foot (measured below two-stem attachment); smaller stem has grown through the fence; several codominant attachments in the upper canopy.
3	Monterey Pine	27.8	65	40	27	Root crown covered; large deadwood present; fair vigor and form.
4	Valley Oak	19.4	50	30	36	Root crown covered; several codominant attachments in the canopy; abundance of interior deadwood; most of the canopy growth is to the west; fair vigor.
5	Coast Live Oak	34.2	50	45	42	Root crown covered; located on north side of road; codominant at 3 feet with included bark; measured below codominant attachment; low leader growing over the road; abundance of interior deadwood and sprouts; excess end weight on the lateral limbs.
6	Valley Oak	7.5 (est.)	45	30	12	Root crown covered; Poison Oak around the trunk and base; leans east; good vigor.
7	Buckeye	8.0 (est.)	50	12	18	Root crown covered; four-stem at base; no tag; Poison Oak around the base.
8	California Bay Laurel	13.8	50	35	15	Partially covered root crown; located on the north side of road; codominant at 10 feet; tip dieback present in the upper canopy.
9	Valley Oak	33.3	45	45	51	Partially covered root crown; located on the north side of road; codominant at 15 feet; leans heavily to the southwest; large deadwood present; fair vigor.
10	Valley Oak	7.2	45	40	12	Root crown covered; leans northeast; codominant at 8 feet with included bark; good vigor.
11	Valley Oak	11.6	40	20	24	Root crown covered; top leans heavily to the south; good vigor, poor form; Poison Oak around the trunk.

Attachment H - Applicant's Arborist Report

Canyon Ln., Redwood City (uninc)

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November 1, 2016
(Rev. March 7, 2017)

Tree #	Species	Diameter (inches)	Condition (percent)	Height (feet)	Spread (feet)	Comments
12	Valley Oak	7.0	40	20	15	Root crown covered; significant lean to the southeast; good vigor, poor form.
13	California Bay Laurel	14.0, 8.3	40	35	18	Root crown covered; two-stem at the base; healthy canopy located on north side of the road.
14	Valley Oak	8.3	45	25	18	Root crown covered; significant lean to the north; good vigor.
15	Buckeye	18.0 (est.)	50	20	27	Root crown covered; five-stem at base; side-pruned along the road; good vigor; located on the north side of road.
16	California Bay Laurel	14.0 (est.)	40	30	27	Root crown covered; two-stem at the base; lower trunk covered by Poison Oak; tip dieback present in the upper canopy; wound on the trunk at 1 foot on the southeast side; no tag.
17	Valley Oak	28.8	50	35	24	Root crown covered; leans southeast; large dead limbs present; fair vigor.
18	Coast Live Oak	20.4	50	30	36	Root crown covered; slight lean to the west; heavy lateral limbs.
18A	Buckeye	7.9, 3.9	60	25	21	Leans north; two-stem at base; partially covered root crown; moderate amount of interior deadwood.
18B	California Bay laurel	13.8	50	35	21	Partially covered root crown; abundance of lower deadwood; several poorly attached limbs present.
19	Coast Live Oak	12.0 (est.)	45	18	21	Located on the north side of road; root crown covered; canopy leans over the road; codominant at 5 feet; Poison Oak around the base.
20	California Bay Laurel	18.0 (est.)	45	35	33	Root crown covered; three-stem at the base; located on the north side of road; canopy leans over the road; several codominant attachments in the upper canopy.
21	California Bay Laurel	11.3	65	30	15	Partially covered root crown; located on the north side of road; fair form and vigor; wound at 3 feet on the east side of the trunk.
22	Coast Live Oak	11.4	45	25	18	Root crown covered; located on the north side of road; top leans over the road; large interior deadwood present; fair vigor.

Attachment H - Applicant's Arborist Report

Canyon Ln., Redwood City (uninc)

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November 1, 2016
(Rev. March 7, 2017)

Tree #	Species	Diameter (inches)	Condition (percent)	Height (feet)	Spread (feet)	Comments
23	California Bay Laurel	11.3	40	35	27	Root crown covered; codominant at 8 feet; large dead limbs present; portion of the canopy leans over the road.
24	Coast Live Oak	9.0 (est.)	40	15	18	Root crown covered; codominant at 4 feet; vines cover the trunk; small portion of the canopy overhangs the road.
25	Coast Live Oak	16.0 (est.)	45	35	39	Root crown covered; codominant at 1 foot; vines on the trunk; abundance of interior deadwood, some large; good vigor.
26	California Bay Laurel	11.9	45	45	21	Partially covered root crown; codominant at 12 feet; fair vigor and form.
27	Coast Live Oak	8.9	25	12	9	Partially covered root crown; mostly dead.
28	Coast Live Oak	14.6	50	30	21	Partially covered root crown; adjacent 6-inch diameter stub near the base; top leans south; poor form.
29	California Bay Laurel	9.0, 5.2, 4.4	40	30	24	Root crown covered; three-stem at base; poor form.
30	Coast Live Oak	11.0 (est.)	45	30	24	Partially covered root crown; cavity present on south side of the trunk; top leans east; poor form; Poison Oak around the base; no tag.
31	Monterey Cypress	41.9	40	50	39	Significant decay on the south side of the trunk; partially covered root crown; abundance of interior deadwood; slight lean to the north; heavy lateral limbs.
32	Monterey Cypress	23.1	35	35	39	Partially covered root crown; one-sided canopy growth; top leans to the southeast; abundance of interior deadwood.
33	Plum	10.2	30	25	21	Root crown covered; significant lean northwest; broken top; poor form.
34	Coast Live Oak	9.8, 9.8	40	18	21	Root crown covered; codominant at base; cavity at base; tops lean northwest; poor form.
35	Coast Live Oak	13.1	45	18	36	Partially covered root crown; significant lean to the northwest; stag-headed crown; poor form.

Attachment H - Applicant's Arborist Report

Canyon Ln., Redwood City (uninc)

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November 1, 2016
(Rev. March 7, 2017)

Tree #	Species	Diameter (inches)	Condition (percent)	Height (feet)	Spread (feet)	Comments
36	Coast Live Oak	18.1	50	35	30	Top leans southwest; good vigor; large interior deadwood present; located on the north side of road.
37	California Bay Laurel	12.7	30	35	12	Top mostly dead; partially covered root crown; abundance of trunk sprouts; lower portion of the trunk is hollow.
37A	Coast Live Oak	11.5	45	35	15	Partially covered root crown; leans southwest; small cavity at 6 feet; upper limb in contact with adjacent tree.
38	Coast Live Oak	9.4	40	30	21	Partially covered root crown; top leans southeast; poor form, fair vigor.
39	California Bay Laurel	15.7	45	45	27	Sprouts around the base; multi-stem top; good vigor.
40	California Bay Laurel	8.2	50	45	18	Sprouts around the base; slight lean northwest; codominant top at 35 feet.
41	California Bay Laurel	13.7, 14.1	45	40	48	Root crown covered; codominant at base; tops growing north; large deadwood present; good vigor, poor form.
42	Coast Live Oak	23.4	30	35	36	Root crown covered; bark lifting off of the trunk; lower trunk is hollow; leans southwest; poor form; large dead limbs present.
43	California Bay Laurel	28.0 (est.)	40	45	36	Root crown covered; three-stem at the base; Poison Oak around the base; fair vigor and poor form; no tag; located on the north side of road.
44	California Bay Laurel	Average Diameter is 15.0	35	40	27	Total of five trees; two are dead and the remaining three are alive; root crown covered; Poison Oak around the base; no tag.
45	California Bay Laurel	29.0 (est.)	45	50	18	Located on the north side of road; overhanging drainage swale; slight lean north; no tag; three-stem at 18 feet with included bark; good vigor; poor form.
45A	California Bay Laurel	13.1, 13.2	45	45	42	Partially covered root crown; codominant at 2 feet; leans east; moderate amount of interior deadwood; heavy lateral limbs; located on a hillside.
45B	Valley Oak	25.0	50	45	39	Root crown covered; two-stem at 10 feet; large deadwood present; good vigor.

Attachment H - Applicant's Arborist Report

Canyon Ln., Redwood City (uninc)

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Tree #	Species	Diameter (inches)	Condition (percent)	Height (feet)	Spread (feet)	Comments
45C	California Bay Laurel	19.9, 8.7, 7.3	35	40	39	Root crown covered; tip dieback present; three-stem at base with one stem partially failed across the swale; top leans northeast.
46	Coast Live Oak	12.9	70	40	27	Partially covered root crown; good vigor and form.
47	Coast Live Oak	10.0	40	20	18	Cavity at the base; leans south; cavity at 8 feet; poor form and fair vigor.
47A	California Bay Laurel	8.9	45	25	27	Partially covered root crown; codominant at 2 feet; trunk measured below codominant attachment; leans southwest; abundance of interior deadwood.
48	Valley Oak	10.2	45	25	18	Root crown covered; top leans east over the easement; good vigor and poor form.
49	Valley Oak	14.9	50	30	27	Root crown covered; codominant at 8 feet; fair vigor and form; slight lean east.
50	Coast Live Oak	12.0 (est.)	35	18	15	Located behind a fence downhill; no tag; canopy is covered with Poison Oak; leans significantly uphill to the southeast.
51	Coast Live Oak	15.0 (est.)	40	15	18	Root crown covered; three-stem at 4 feet; located above a retaining wall; moderate amount of deadwood.
52	Coast Live Oak	12.0 (est.)	0	12	15	Tree is dead and covered in ivy.
53	Coast Live Oak	17.3	45	40	33	Root crown covered; old wound at the base on east side of the trunk; frass at the base in same area; slight lean west; ivy on the trunk.
54	Valley Oak	9.0 (est.)	40	30	27	Root crown covered; two-stem at 3 feet; slight lean southwest; good vigor; no tag.
54A	California Bay Laurel	26.6	45	45	36	Partially covered root crown; ivy growing up the trunk into the canopy; several codominant attachments present in the canopy; heavy lateral limbs, leans northeast.
54B	California Bay Laurel	6.6	30	20	12	Partially covered root crown; leans west.
54C	California Bay Laurel	9.6	30	25	18	Significantly covered root crown; ivy on the trunk growing into the upper canopy and covering the top; top leans significantly due to ivy growth.

Attachment H - Applicant's Arborist Report

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Recommendations

Due to the type of project, I recommend removing all the trees that are designated for removal prior to performing any tree maintenance. After the removal stage of the project is completed, I recommend safety pruning to eliminate potentially hazardous large dead limbs, heavy lateral limbs, and exposing the root crowns of the trees to give them the best chance of survival into the future. All work performed shall be done by a qualified licensed tree care professional.

Observations

The location of this project is in a canyon. On one side of the existing road is a drainage swale and on the other is a steep hillside. All the trees on this report have received little-to-no maintenance in the past beyond clearance for the existing road. Many of these trees have an abundance of interior deadwood, poor form, and their root crowns are covered by soil and other organic material.

The majority of trees located on the northern side of the existing road are located on a drainage swale. These trees will be only partially affected by the expansion of the new road, as the majority of work is taking place on the opposite side of the existing road to minimize impact on the swale.

To complete the proposed construction plan, there is a list of trees that will need to be removed. I have identified these trees as #1, #3, #4, #6, #10, #11, #12, #14, #18, #18A, #18B, #26, #27, #28, #32, #33, #34, #35, #37, #37A, #38, #39, #40, #41, #42, #45, #45A, #45B, #46, #47, #47A, and #54C. All of the previously-mentioned trees are either in poor condition or will be severely impacted by the proposed construction.

The remaining trees identified in this report, #2, #5, #7, #8, #9, #13, #15, #16, #17, #19, #20, #21, #22, #23, #24, #25, #29, #30, #31, #36, #43, and #44 that are located along the road will be partially impacted by the proposed construction. Either their canopies will need to be raised to provide adequate clearance for the construction traffic or portions of their root zones will be impacted by grade changes and the installation of asphalt for the new road.

Trees #48-#54C are located along a path that is part of a proposed water main installation. Of these trees, only trees #53 and #54C will be removed as a result of this water main installation. The new water main is an 8-inch diameter pipe that will require an excavated trench within the driplines of the identified trees. This trench should have minor impact on the trees' root zones but should not cause significant damage to the trees' health or structural integrity.

Tree #1 will be removed.

Tree #2 will have roughly 45 percent of its root zone impacted by the installation of the new pavement. This tree has adapted to the current compaction associated with the existing road; therefore, any new construction taking place within the footprint of the existing road should have only minimal impact on the future health of this tree.

Tree #3 will be removed.

Tree #4 will be removed.

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Canyon Ln., Redwood City (uninc)

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November 1, 2016
(Rev. March 7, 2017)

Tree #5 will have roughly 50 percent of its root zone impacted by the proposed drive. This tree has adapted to the current compaction associated with the existing road; therefore, any new construction taking place within the footprint of the existing road should have only minimal impact on the future health of this tree. The base of this tree is very near the edge of the new road and, in the future, may cause damage to the road. I recommend hand digging along the edge of the road near the tree's trunk and identifying any roots near this area. Once excavated, an inspection shall take place to determine the next course of action.

Tree #6 will be removed.

Tree #7 will be partially impacted by the installation of the new drainage culvert. Depending on how close the new construction will be, this tree may need to be removed. An inspection shall take place during the excavation for the new drainage lines.

Tree #8 will be partially impacted by the installation of the new road. This tree has adapted to the current compaction associated with the existing road; therefore, any new construction taking place within the footprint of the existing road should have only minimal impact on the future health of this tree. An inspection shall take place during the excavation for the new road.

Tree #9 will be impacted by the installation of the new road. This tree has adapted to the current compaction associated with the existing road; therefore, any new construction taking place within the footprint of the existing road should have only minimal impact on the future health of this tree. An inspection shall take place during the excavation for the new road. A portion of this tree's canopy may need to be raised for future vehicle clearance.

Tree #10 will be removed.

Tree #11 will be removed.

Tree #12 will be removed.

Tree #13 will be impacted by the installation of the new road. This tree has adapted to the current compaction associated with the existing road; therefore, any new construction taking place within the footprint of the existing road should have only minimal impact on the future health of this tree. An inspection shall take place during the excavation for the new road. A portion of this tree's canopy may need to be raised for future vehicle clearance.

Tree #14 will be removed.

Tree #15 will be impacted by the installation of the new road. This tree has adapted to the current compaction associated with the existing road; therefore, any new construction taking place within the footprint of the existing road should have only minimal impact on the future health of this tree. An inspection shall take place during the excavation for the new road. A portion of this tree's canopy may need to be raised for future vehicle clearance.

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November 1, 2016
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Tree #16 will be impacted by the installation of the new road. This tree has adapted to the current compaction associated with the existing road; therefore, any new construction taking place within the footprint of the existing road should have only minimal impact on the future health of this tree. An inspection shall take place during the excavation for the new road. A portion of this tree's canopy may need to be raised for future vehicle clearance.

Tree #17 will be impacted by the installation of the new road. This tree has adapted to the current compaction associated with the existing road; therefore, any new construction taking place within the footprint of the existing road should have only minimal impact on the future health of this tree. An inspection shall take place during the excavation for the new road. A portion of this tree's canopy may need to be raised for future vehicle clearance.

Trees #18, #18A, and #18B will all be removed.

Trees #19, #20, #21, #22, #23, #24, and #25 will be impacted by the installation of the new road. These trees have adapted to the current compaction associated with the existing road; therefore, any new construction taking place within the footprint of the existing road should have only minimal impact on the future health of these trees. An inspection shall take place during the excavation for the new road. A portion of these trees' canopies may need to be raised for future vehicle clearance.

Trees #26, #27, and #28 will be removed.

Tree #29 will be impacted by the installation of the new road. This tree has adapted to the current compaction associated with the existing road; therefore, any new construction taking place within the footprint of the existing road should have only minimal impact on the future health of this tree. An inspection shall take place during the excavation for the new road. A portion of this tree's canopy may need to be raised for future vehicle clearance.

Trees #30 and #31 will be impacted by the installation of the new road. These trees have adapted to the current compaction associated with the existing road; therefore, any new construction taking place within the footprint of the existing road should have only minimal impact on the future health of these trees. An inspection shall take place during the excavation for the new road. A portion of the trees' canopies may need to be raised for future vehicle clearance.

Trees # 32, #33, #34, and #35 will be removed.

Tree #36 should not be impacted by the proposed construction.

Trees #37, #37A, #38, #39, #40, #41, and #42 will be removed.

Trees #43 and #44 should not be impacted by the proposed construction.

Tree #45, #45A, and #45B will be removed.

Tree #45C will be partially impacted by the proposed construction as a portion of its canopy is growing over the proposed construction area and will need to be removed.

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Trees #46, #47, and #47A will be removed.

Trees #48, #49, #50, #51, and #52 will be partially impacted by the trench for the new water line. This trench is far enough away from the base of the trees to have only minimal impact on their current and future health. During the excavation, any roots larger than two inches in diameter should be left intact and tunneled under.

Trees #53 and #54 will be removed.

Trees #54A and #54B will be partially impacted by the new trench; however, the overall impact will be minor. During the excavation, any roots larger than two inches in diameter should be left intact and tunneled under.

Tree #54C will be removed.

TREE PROTECTION SPECIFICATIONS

1. Tree protection fencing shall be established along the line designated as "Limit of Disturbed Area" shown on the provided site maps. This fencing should consist of 4-foot tall orange plastic fencing supported by metal stakes that are a maximum of 10 feet apart driven into the ground approximately 2 feet deep.
2. **Avoid the following conditions.**
DO NOT:
 - a. Allow runoff or spillage of damaging materials into the area below any tree canopy.
 - b. Store materials, stockpile soil, or park or drive vehicles within the Tree Protection Zone (TPZ).
 - c. Cut, break, skin, or bruise roots, branches, or trunks without first obtaining authorization from the City Arborist.
 - d. Allow fires under and adjacent to trees.
 - e. Discharge exhaust into foliage.
 - f. Secure cable, chain, or rope to trees or shrubs.
 - g. Trench, dig, or otherwise excavate within the dripline or TPZ of the tree(s) without first obtaining authorization from the City Arborist.
 - h. Apply soil sterilants under pavement near existing trees.
3. Avoid injury to tree roots. When a ditching machine, which is being used outside of the dripline of trees, encounters roots smaller than 2 inches, the wall of the trench adjacent to the trees shall be hand trimmed making clear, clean cuts through the roots. All damaged, torn, and cut roots shall be given a clean cut to remove ragged edges, which promote decay. Trenches shall be filled within 24 hours; but, where this is not possible, the side of the trench adjacent to the trees shall be kept shaded with four layers of dampened, untreated burlap, wetted as frequently as necessary to keep the burlap wet. Roots 2 inches or larger, when encountered, shall be reported immediately to the Project Arborist, who will decide whether the Contractor may cut the root as mentioned above or shall excavate by hand or with compressed air under the root. The root is to be protected with dampened burlap.

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4. Any damage due to construction activities shall be reported to the Project Arborist or City Arborist within six hours so that remedial action can be taken.
5. Violation of any of the above provisions may result in sanctions or other disciplinary action.
6. A certified arborist shall be contracted as the site arborist. The site Arborist should be on call to do onsite inspections during any excavation that happens within the dripline(s) of protected tree(s) that is (are) to remain.

I believe this report is accurate and based on sound arboricultural principles and practices. If I can be of further assistance, please contact me at my office.

Sincerely,


Jeromey A. Ingalls
Certified Arborist WE #7076A

JAI:pmd

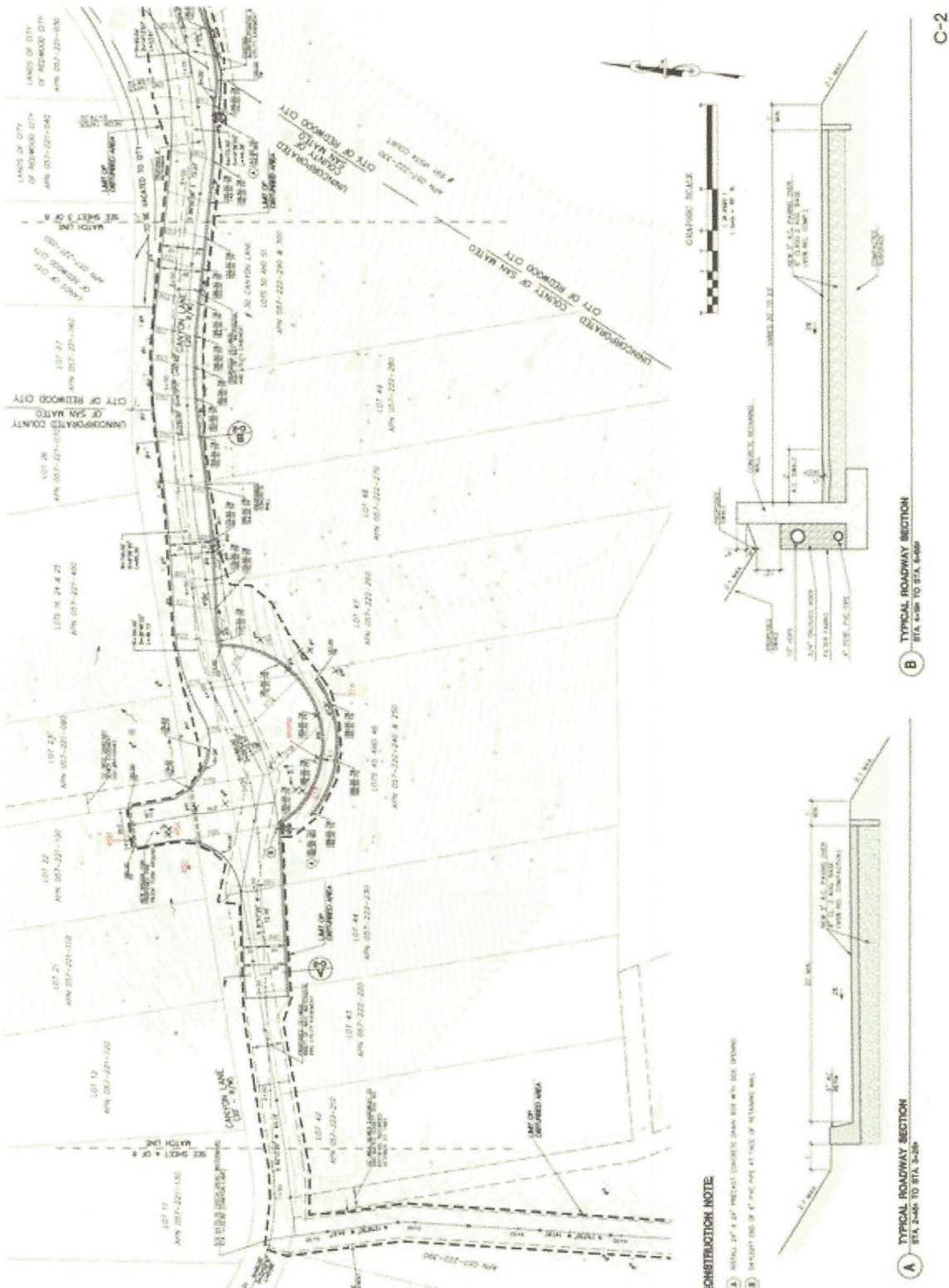


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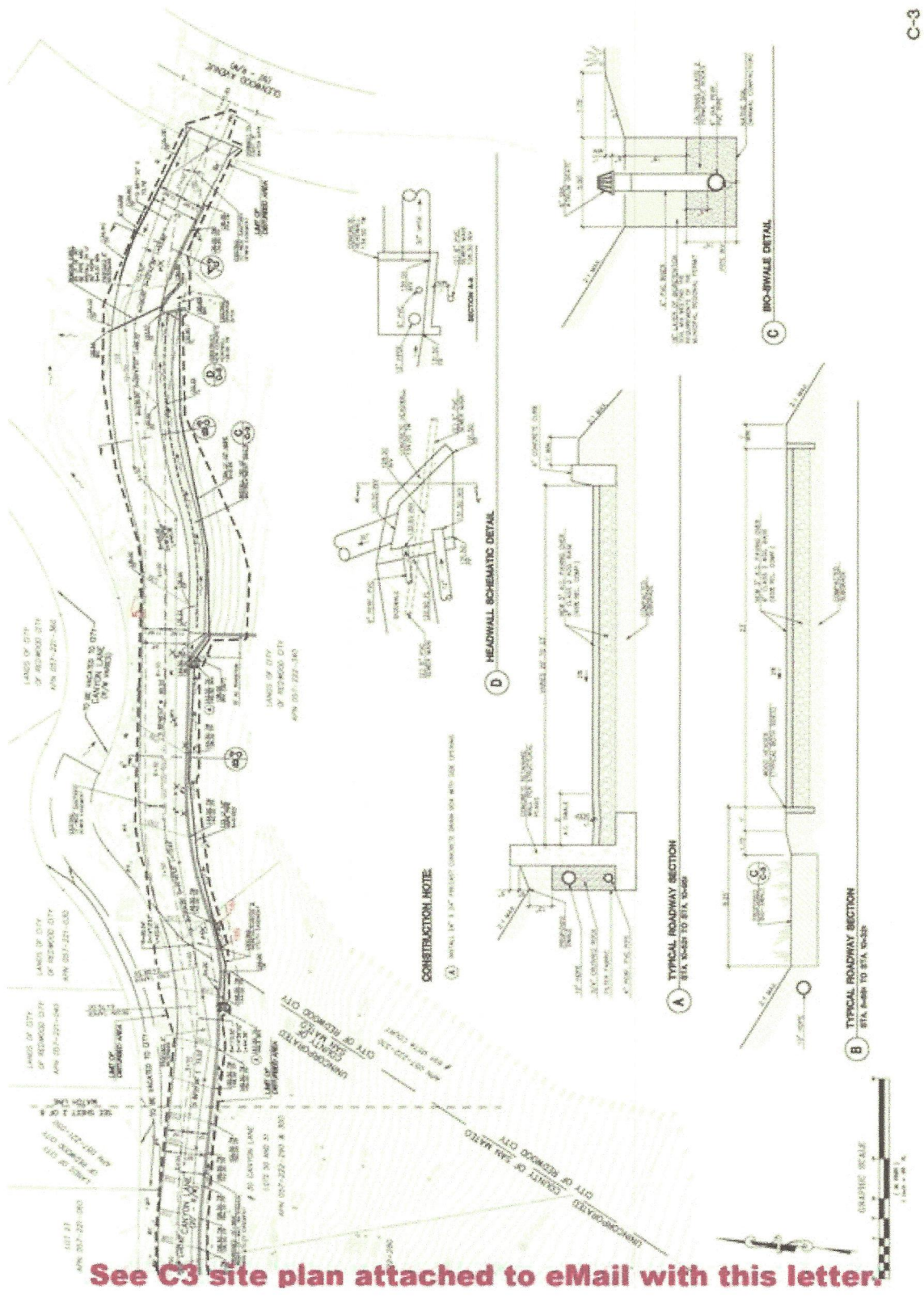
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See C2 site plan attached to eMail with this letter.



See C3 site plan attached to eMail with this letter.

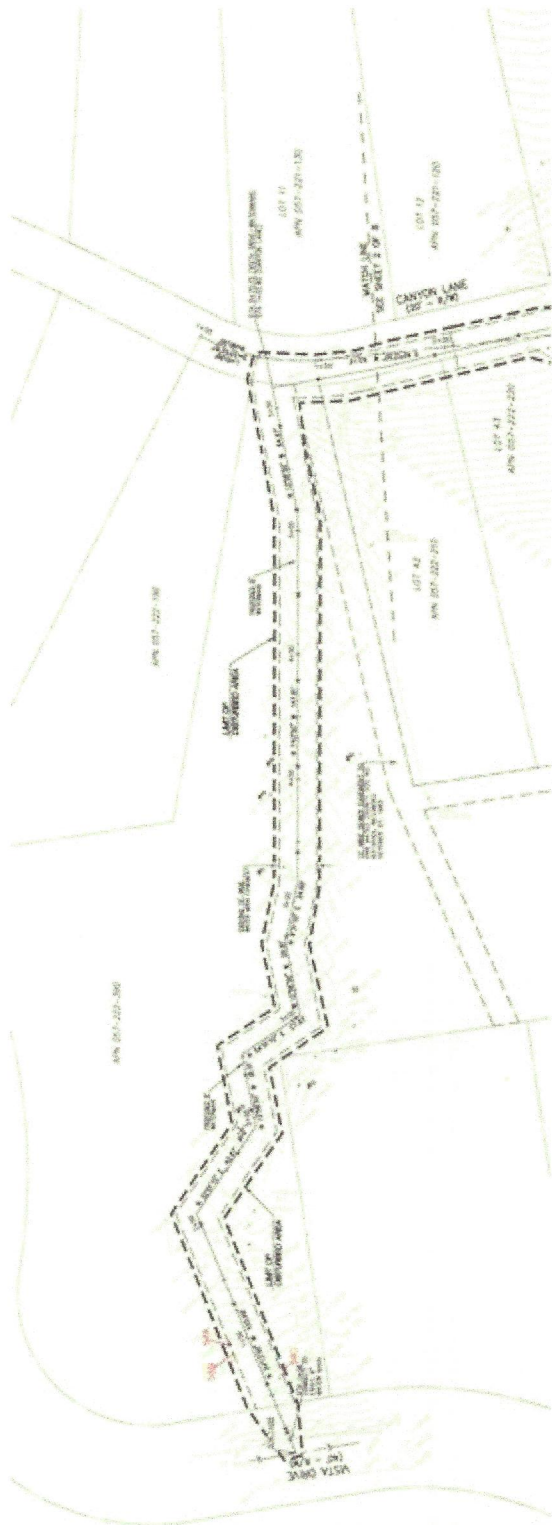
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See C4 site plan attached to eMail with this letter.