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Public Comments – Davidon Homes & Perkins Coie

Truchard Family Winery P14-00330-UP & P14-00331-VAR
Planning Commission Hearing Date September 20, 2017

DAVIDON HOMES

May 2, 2017

Planning Commission Mtg.

MAY 03 2017

Agenda Item # 8B

VIA EMAIL AND FEDERAL EXPRESS

Charlene Gallina
Supervising Planner
County of Napa
1195 Third Street, Suite 210
Napa, CA 94559

Re: Truchard Family Winery Project Proposed Use Permit #P14-0033-1-UP, Variance #P14-00331-VAR, and Negative Declaration/Initial Study

Dear Ms. Gallina:

I am writing on behalf of Davidon Homes, the immediate neighbor of the proposed Truchard Family Winery Project, to request that the Planning Commission hearing scheduled for May 3, 2017 be postponed to a date to be determined. As the enclosed comment letter demonstrates, the Negative Declaration/Initial Study for the Project does not meet CEQA requirements and an environmental impact report is required. In addition, the applicants have not satisfied the legal requirements to obtain the variance they seek. Davidon Homes requests that the Planning Commission's consideration of the Project await proper CEQA review because the environmental impacts of the Project with respect to biological resources, and potentially with respect to other resources, may affect the Davidon Homes property.

Thank you for your consideration of this request. You can reach me at the phone number provided below or at my mobile number, 925-260-4698.

Sincerely,
DAVIDON HOMES

Steve B. Abbs
Vice President

Enclosures

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May 2, 2017

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Re: Truchard Family Winery Project Proposed Use Permit #P14-0033-1-UP, Variance #P14-00331-VAR, and Negative Declaration/Initial Study

Dear Ms. Gallina:

We are writing on behalf of Davidon Homes to comment on the proposed Use Permit #P14-00330-UP, Variance #P14-00331-VAR, and Negative Declaration for the winery and associated well (collectively, the "Project") on the Truchard property in Napa County. We request you include this letter in the Project record and present it to the Planning Commission prior to any decision on the Project.

Davidon Homes owns an 80.63-acre site in the City of Napa, west of State Route 29 and south of Old Sonoma Road. The Davidon site has long been proposed for residential development and open space preserve, and is directly adjacent to the proposed winery and well site.

Based on our review of the available documents, we conclude that the Negative Declaration does not meet CEQA standards and that there is substantial evidence of a fair argument that the Project may cause significant environmental effects, so that an environmental impact report is required. In addition, it appears the applicants have not met one of the essential requirements under state and local law for the grant of a variance.

I. THE NEGATIVE DECLARATION

A strong presumption in favor of requiring preparation of an environmental impact report is built into CEQA. This presumption is reflected in the "fair argument" standard, under which an agency must prepare an EIR whenever substantial evidence in the record supports a fair argument that a project may have a significant effect on the environment. If substantial evidence supports a fair argument that a project may have a significant environmental effect, the lead agency must prepare an EIR even if other substantial evidence before it indicates the project will have no significant effect. CEQA Guidelines section 15064(f)(1). As described below, in several respects the proposed Negative

Declaration for the Project does not actually analyze whether the Project may have a significant effect on the environment, and in other respects there is substantial evidence of a fair argument that the Project may have such effects. Accordingly, the Project is subject to the normal CEQA requirement that an EIR be prepared.

A. Aesthetics

The Initial Study concludes, without conducting an adequate analysis, that the Project would not have a substantial adverse effect on a scenic vista. The discussion does not mention that Old Sonoma Road, which borders the Project site, is designated in the Napa County General Plan as a scenic roadway, and asserts that the Project "will have a minimal visual impact from the road" because it is "set at a lower elevation and screened by natural vegetation." However, the visual simulations included in the project materials show that the Project would not be screened at all, and would be visually prominent, from Camera View #1 on Old Sonoma Road. In addition, as described in the publicly available planning documents for Davidon's property, Davidon proposes a public trail system on its property, from which the winery will be visible to the general public. The Draft EIR for the Project must include a full analysis of its aesthetic impacts.

B. Air Quality

The Initial Study's discussion of air quality states that the Bay Area Air Quality Management District's 2010/2011 CEQA thresholds of significance remain under review by the California Supreme Court. In fact, the Supreme Court decided that litigation in 2015. *California Building Industry Ass'n v. Bay Area Air Quality Mgt. Dist.*, 62 Cal. 4th 369 (2015). On remand, the First District Court of Appeal held in 2016 that BAAQMD's thresholds of significance were invalid only to the extent that they purported to require analysis of the impacts of the existing environment on future project users. *California Building Industry Ass'n v. Bay Area Air Quality Mgt. Dist.*, 2 Cal. App. 5th 1067 (2016). Neither court criticized BAAQMD's 2010/2011 CEQA thresholds of significance for a project's impacts on the environment.

Nevertheless, the County has decided not to use BAAQMD's 2010/2011 thresholds and instead uses BAAQMD's 1999 thresholds of significance, which do not address effects such as health risk from construction emissions. This approach is not typical of the approach taken by other lead agencies within the Bay Area Air Basin. In addition, the County *has* decided to use BAAQMD's 2010/2011 thresholds with respect to the Project's greenhouse gas emissions (see Initial Study section VII and section E below). The Draft EIR for the Project should either use recent air quality thresholds or describe what substantial evidence supports use of BAAQMD's 1999 thresholds in 2017.

C. Biological Resources

The most serious defects in the Initial Study, and those that demonstrate most clearly that an EIR is required, are in the Biological Resources section. The Initial Study is internally inconsistent in its conclusions regarding special status species; makes factual statements that are contradicted by documents in the record and other readily available evidence; and improperly defers both CEQA analysis and the identification of potential mitigation measures to another agency.

1. Internal Inconsistency and Failure to Survey

The Initial Study states, in section a/b on page 8, that "The project would not have a substantial adverse effect on any special status species, or species of particular concern, *as there are none identified in the project area*." (Emphasis added.) On the same page, however, in section c/d/e, the Initial Study states that "*as conditioned* [by the California Department of Fish and Wildlife in a Lake and Streambed Alteration Agreement that does not yet exist] the potential for this project to have an impact on special status species is less than significant." (Emphasis added.) Both of these sentences cannot be accurate; either special status species are not present in the project area, in which case no mitigation is required (section a/b) or they are or could be present, in which case mitigation is required (section c/d/e).

In fact, the Initial Study's conclusion in section a/b that "no known candidate, sensitive, or special status species have been identified as occurring within the project boundaries" is not supported by substantial evidence. The fact that no "known" species in these categories are identified on Countywide maps is not evidence that they are not present on the Project site. The record includes no survey for candidate, sensitive or special status species, even though the Project site includes a stream with riparian habitat (and calls for work in the stream) and is adjacent to irrigation ponds. Such surveys must be conducted.

2. Substantial Evidence of Special-Status Species Impacts

There is substantial evidence that special status species are present. For example, the western pond turtle is a federal and state species of special concern. As the Project applicants are aware, in February 2011, an expert herpetologist conducted site-specific surveys for the proposed Davidon Homes project, which is immediately adjacent to the Project's proposed well and near the proposed winery construction. The expert reported that he "was able to observe (with binoculars) basking or swimming adult WPTs [western pond turtles] *in every irrigation pond adjacent to the property within a distance of about a quarter of a mile*." (See enclosed Biological Assessment,

Attachment 8, July 2011 (emphasis added).) Although the expert found the Davidon Homes property to be totally unsuitable for WPT nesting or estivation, the risk that WPT might venture onto the property from the Truchard property ponds was sufficient for him to recommend mitigation on the Davidon site. *Id.* The fact that the winery Project would include construction in close proximity to ponds where WPT have been sighted is itself substantial evidence of a fair argument that the Project may have a significant impact on this special status species. *Id.*

In addition, contrary to the statement in section a/b of the Initial Study that there are no special status species identified in the Project area, the Project applicants reported the potential presence of WPT, as well as numerous other special-status species, in their Notification of Lake or Streambed Alteration submitted to the California Department of Fish and Wildlife, which is part of the record. Section 11.C of the supporting documents for the Notification states that the site of the bridge replacement has potential for occurrence of WPT, the pallid bat, and the California giant salamander, each of which is a species of special concern. Thus even without addressing the effects of Project construction beyond the bridge replacement, the Notification demonstrates that the Project may have a significant impact on special status species. Given that the Project includes not only work in and around the stream, but construction near ponds, and excavation/grading sufficient to generate 8,000 cubic yards of spoils to be off-hauled, the potential for a significant impact to special status species is evident.

3. Improper Deferral to California Department of Fish and Wildlife

The Initial Study improperly transfers responsibility for both analysis and potential mitigation from the County, the CEQA lead agency, to the Department of Fish and Wildlife, which is responsible for the Lake and Streambed Alteration Agreement (LSAA) process. A CEQA lead agency (here the County) must first analyze impacts and then identify mitigation measures for any potentially significant impacts. The lead agency cannot avoid the first step by asserting that another agency will analyze the impacts. *See Banning Ranch Conservancy v. City of Newport Beach*, California Supreme Court Case No. S227473 (Mar. 30, 2017) and authorities cited therein (lead agency cannot defer analysis of potential environmentally sensitive habitat areas to subsequent Coastal Commission process). Here, the Initial Study defers both analysis and potential mitigation for impacts to biological resources, including special status species, to the California Department of Fish and Wildlife's consideration of an LSAA. The Initial Study anticipates that after the County has approved the Project, the LSAA process will result in plans to demonstrate that "the new bridge and associated construction will not cause harm to the creek environs and associated riparian plant and animal species." These measures are not part of the project; rather they are potential mitigation designed to reduce or eliminate disturbance to the creek environs and associated species

anticipated from the bridge replacement activity -- impacts that the County has not analyzed in its Initial Study. Because CEQA prohibits the process contemplated in the Initial Study and because substantial evidence supports a fair argument that the Project will cause significant impacts to biological resources, an EIR must be prepared before the County can consider the Project.

4. Other Defects

In section c/d/e, the Initial Study states that the irrigation pond on the Project site "is one of those features identified as artificially excavated freshwater ponds and are not considered natural habitat for species." Natural or not, the 2011 survey demonstrated that WPT were basking or swimming in all of these ponds.

Section c/d/e asserts that there will be no effect on a wildlife corridor, but does not analyze whether the stream where Project work will be performed is in fact a wildlife corridor. Nor does it analyze the potential for WPT to travel through the upland portions of the Project site where the winery facilities would be placed. The Draft EIR must address wildlife corridors rather than dismiss them from consideration based on conjecture.

Finally, the Draft EIR's project description should identify the location of the valet parking that the Project would use for large events. We have not discovered any discussion of where the Project would find parking for more than 65 vehicles for the largest winery events; the Draft EIR should disclose and analyze the proposed parking location, and describe what impacts may occur in habitat areas. In addition, if such parking occurs on a parcel other than the Project site, the Draft EIR should disclose and describe the potential impacts as well as analyze how such winery parking would be permissible on agriculturally zoned property under the County Code.

D. Cultural Resources

Where an existing structure will be demolished, a CEQA analysis should identify the age of the structure so that the need for a historic resource analysis can be determined. The Draft EIR for the Project should provide this information regarding the wooden bridge that would be replaced as part of the Project.

E. Greenhouse Gases

At page 13, the Initial Study asserts that the Project falls below the greenhouse gas emissions screening levels set forth in BAAQMD's 2011 CEQA Guidelines and therefore that GHG emissions will be less than significant. The Initial Study states:

"Using comparable land use categories as described in the Air Quality discussion, a project with 9,000 square feet of hospitality area or 121,000 square feet of barrel storage/production area would potentially generate more than 1,100 $MTCO_2e$ annually and would be considered to have a potentially significant impacts on the environment...." The Initial Study then asserts that because the Project's hospitality area will comprise 8,960 rather than 9,000 square feet and the production area will comprise 24,018 square feet compared to 121,000 square feet, the Project would not have a significant greenhouse gas impact. This analysis is erroneous.

First, although it refers to the Initial Study's Air Quality discussion for an explanation of the "comparable land use categories" as described in BAAQMD's 2011 CEQA Guidelines, the Air Quality discussion includes no such explanation. As noted in section B above, the Air Quality discussion asserts that the 2010/2011 BAAQMD CEQA Guidelines do not apply to the Project and reverts to the 1999 BAAQMD CEQA Guidelines.

Second, a review of the 2011 BAAQMD CEQA Guidelines screening thresholds for operational GHGs demonstrates that the Initial Study misapplies those thresholds. The Initial Study appears to use the 9,000 square-foot "quality restaurant" threshold from the BAAQMD list for the Project's hospitality area and the 121,000 square-foot "general light industry" threshold for the Project's production area. The Initial Study then asserts that because viewed separately, neither element of the Project would exceed its individually applicable screening threshold, the Project as a whole falls below BAAQMD's screening thresholds. Therefore, the Initial Study asserts, no GHG emissions quantification is required to establish that the Project would not cause a significant GHG impact. The BAAQMD screening thresholds do not, however, allow a project to be segmented in this way. If they did, a project such as the Project proposed here, which has one element that falls just below a screening threshold, could add many other elements that also fall below their respective thresholds, and no GHG analysis would be required. Such an approach is contrary to the BAAQMD CEQA Guidelines and contrary to CEQA, which prohibits segmenting a project into its individual elements and analyzing them separately so as to avoid a finding of a significant impact. The fact that the Project's hospitality area falls 40 square feet short of one GHG screening threshold, and that the Project also includes more than 24,000 square feet of a light industrial use, constitutes substantial evidence of a fair argument that the Project as a whole would cause a significant GHG impact.

F. Hydrology

The Initial Study states that water use for the Project would be less than existing groundwater recharge, but does not analyze the effect of reduced groundwater

recharge on aquifer volume, a lowering of the local groundwater table level, or effects on the production rate of pre-existing nearby wells. Instead, proposed Condition of Approval 4.9 contemplates analyzing the effects of the Project's increased groundwater usage after the Project is approved, constructed and operating. This is not permitted under CEQA. The Draft EIR for the Project must analyze the effects of the Project.

G. Mandatory Findings of Significance

As described above, there is substantial evidence of a fair argument that the Project may "reduce the number or restrict the range" of animals, including the western pond turtle, thereby triggering a Mandatory Finding of Significance. In addition, the Initial Study does not analyze the cumulative impacts of the Project in combination with the Davidon Homes project, particularly with respect to biological resources. The Draft EIR for the Project must include a cumulative impacts analysis.

II. THE APPLICANTS HAVE NOT SHOWN THAT THE PROJECT IS ELIGIBLE FOR A VARIANCE.

The Project's variance application does not provide an adequate basis for the County to grant the variance under state planning law or the County's zoning ordinance. Among other requirements, Government Code section 65906 states that variances can be granted "only when, because of special circumstances applicable to the property," the strict application of the zoning ordinance deprives such property of privileges enjoyed by other property in the vicinity and under identical zoning classification. The County zoning ordinance similarly requires finding that the "[g]rant of the variance is *necessary* for the preservation and enjoyment of substantial property rights."[1] Both the state law and local ordinance require that any variance granted to be "subject to such conditions as will assure that the adjustment thereby authorized shall not constitute a grant of special privileges inconsistent with the limitations upon other properties in the vicinity and zone in which such property is situated."[2]

The Project's variance application does not meet these requirements. The application requests a 178-foot encroachment into the required setback from Old Sonoma Road so that Truchard Family Winery may "enjoy the property right to have an agricultural processing facility to process their estate grown fruit."[3] The entire application is based on the premise that the *parcel* upon which the winery is proposed is too narrow to accommodate both a winery and the County's requirement for a 600-foot setback from

[1] Napa Cty. Code § 18.128.060(A)(3) (emphasis added).

[2] Cal. Gov't Code § 65096; Napa Cty. Code § 18.128.050.

[3] Truchard Family Winery Variance Statement P14-00331 p. 2.

Old Sonoma Road. But the applicants own every parcel that adjoins APN 043-040-001, the parcel where they propose to build their winery. Nothing in the record explains why the applicants could not simply obtain a lot line adjustment or voluntary merger with one of their adjoining parcels and then locate their winery so that it complies with the setback required by the Zoning Ordinance. (The cases cited by the applicants in their explanation for the need for a variance do not address this fact pattern.) The application thus fails to demonstrate that the application of the County's zoning requirements would deprive Truchard Family Winery of any substantial property rights. The issuance of a variance would grant this winery the special privilege of violating the setback requirement merely on the basis of the (adjustable) configuration of lot lines on parcels commonly owned by the applicants.

Very truly yours,

Julie Jones

Enclosure

cc: Steve Abbs

BIOLOGICAL ASSESSMENT

NAPA OAKS PROJECT

NAPA, CALIFORNIA

Prepared for:

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July 2011

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LIST OF ATTACHMENTS

ATTACHMENT 1. Figures

ATTACHMENT 2. Tables

This report should be cited as: *Biological Assessment for the Napa Oaks Project, Napa, California.* July 2011. San Rafael, California. 46 pp. plus attachments. Prepared for Davidon Homes, California.

1.0 INTRODUCTION

On behalf of our client, Davidon Homes, Huffman-Broadway Group, Inc. (HBG) has prepared a biological assessment of proposed development of an 80.64-acre site in Napa, California. The project site covers four assessor's parcels (#043-040-008, 043-040-010, 043-040-13 and 043-040-025). The proposed project includes development plans for 54 single family residential units. With the inclusion of a 0.3 acre area to accommodate an access easement from Old Sonoma Road, the site area totals 80.94 acres.

It is expected that this Biological Assessment report will be incorporated into an environmental document prepared by the City of Napa to satisfy requirements of the California Environmental Quality Act (CEQA). This report describes biological resources present on the property and ecological constraints to development of the site, including the presence of sensitive habitats and an evaluation of the potential for rare, threatened, or endangered species of flora and/or fauna to occur on site or in the project vicinity. It also evaluates environmental effects of the proposed project and provides mitigation recommendations.

Our analysis included a review of pertinent literature on habitat characteristics of the site, species of plants and animals expected to utilize the site, a review of planning documents referencing ecological aspects of the site, and field site surveys. HBG also has conducted a detailed delineation of wetlands and waters of the United States at the property according to criteria of the U.S. Army Corps of Engineers. The results of the wetland delineation are summarized herein. The California Natural Diversity Data Base (CNDDB) was consulted to determine if any populations of endangered, threatened, or rare species have occurred historically or currently are known to exist in the project vicinity.

The approximately 81-acre study site was surveyed by HBG biologists between January and June of 2011. Protocol rare plant surveys were conducted during the flowering period of target plants by Virginia Dains between March and July of 2011. Mark Jennings of Rana Resources conducted habitat assessments of the property for the federally-listed threatened California red-legged frog and California tiger salamander, and provided technical information related to other special status species. A separate Tree Report was prepared by HortScience and results are incorporated herein. These relevant technical reports are attached to this Biological Assessment report.
The discussion in the Biological Assessment is based in part on the above-mentioned surveys and analyses. Biological studies were also conducted on the site by Zander Associates in 1998. Field surveys were conducted between January and April of 1998, and included California tiger salamander surveys, a general floristic survey and wetland delineation. Results of these evaluations are summarized in this report. These previous biological studies were to be incorporated into an Environmental Impact Report (EIR) at that time, but a formal Draft EIR was never prepared or circulated for review.

2.0 PROJECT DESCRIPTION

2.1 Location of Project Site

The 80.64 acre project site is bounded on the east by residential uses along Casswall Street, on the north by Old Sonoma Road and large residential parcels, and on the west and south by agricultural land planted in vineyard. Figure 1 shows the project site location. Figure 2 shows the property on a U.S.G.S. topographic map, and Figure 3 shows an aerial photograph of the project area. The project site covers four assessor's parcels (#043-040-008, 043-040-010, 043-040-13 and 043-040-025). Most of the property is oak woodland and grassland, but the northwestern portion of the property is developed with a house and several ranch structures including a corral and a couple of out-buildings.

2.2 Project Description

The conceptual development plan for the project is shown in Figure 4. The proposed project includes development plans for 54 single family residential units. Of the 80.64 acres at the site, residential uses are proposed for 27.1 acres (34% of the land area of the site). Residential units are to be maintained by individual homeowners. A private roadway maintained by a Homeowner's Association will encompass 7.3 acres (9% of the site). Four separate parcels (Parcels A-D) totaling 46.2 acres (57% of the site) will be dedicated as open space managed by the Homeowner's Association. The site is currently zoned AR (Agricultural Resource) and RS-10 and the proposed zoning is PD-Planned Development. Water will be provided by the City of Napa Water Division and sewer will be provided by the Napa Sanitation District. For purposes of biological review the overall project site includes an additional 0.3-acre area in the northwest corner of the property to accommodate an access easement onto the property from Old Sonoma Road.

3.0 EXISTING SETTING

3.1 Site Description

Vegetation within the approximately 81-acre site consists of primarily non-native annual grassland and oak woodland with scattered wetlands. The site is within the Napa River Browns Valley Watershed as shown in Figure 5. No perennial, seasonal or ephemeral streams are present on the project site; the nearest named stream is Raynes Creek located about 0.25 miles from the southwest portion of the site. The site is currently used for cattle grazing. Elevations within the Napa Oaks property range from about 180 feet msl at the northeast corner to approximately 309 feet along the ridgeline at the southwest corner of the site. Slopes within the property range from flat topography at the tops of hills and along ridgelines and within lower valleys, to fairly steep slopes over much of the area. The project site is not subject to inundation by floodwaters and does not lie within the 100-year floodplain as shown in Figure 6. Figure 7 shows the location of historic marsh margin in the vicinity of Napa, and shows that the project site is not located within the historic margins of baylands.

A review of the Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service, SCS) Soil Survey maps for Napa County (USDA 1977) and shows that four soil types occur in within the project site. Soils within the southwest portion of the property are Bressa-Dibble complex, 30 to 50 percent slopes. Soils within a small area traversing the middle of the property are Forward gravelly loam, 9 to 30 percent slopes. Soils in the northeast corner of the property are Perkins gravelly loam, 5 to 9 percent slopes. The soils on the majority of the site are Forward-Kidd complex, 50 to 75 percent slopes. A soil map of the project site is shown in Figure 8. Field investigations on the project site confirmed that the NRCS soils mapping is reasonably accurate throughout the project area. Some earthwork has occurred on the property resulting in some areas of fill rather than natural soils.

3.2 Biological Setting

3.2.1 Plant Communities

HBG biologists conducted field reconnaissance of the project site between January and June of 2011. All habitats on the project site were surveyed on foot and assessed for similarity to sites known to support special status species within the area. Qualitative information on the composition and distribution of plant species on the site was obtained during the site visits. Plant communities were identified on aerial photographs of the site. Botanical surveys were conducted by Virginia Dains and her botanical report related to the property is included in Attachment 3.

Vegetation communities are assemblages of plant species growing in an area of similar biological and environmental factors. Terrestrial vegetation community types discussed in this report are generally based on the classification described by Sawyer and Keeler-

Wolf (1995). According to this classification, the habitat types on site consist of annual grassland and Coast live oak woodland. The California Wildlife Habitat Relationships (WHR) System for habitat classifications (Mayer and Laudenslayer 1988) defines aquatic as well as terrestrial habitats, and is one of the few systems that include urban areas. The project site contains four habitat types according to the California Wildlife Habitat Relationships System: annual grassland (49.65 acres), valley foothill hardwood (Coast live oak woodland, 27.31 acres), fresh emergent marsh (1.21 acres) and Urban (2.77 acres). According to nomenclature from the *List of Natural Communities Recognized by the Natural Diversity Database* (1997) the three natural habitats would be classified as California Annual Grassland, Coast Live Oak Woodland and Valley Freshwater Marsh. Wetland habitats on-site were further classified using the U.S. Fish and Wildlife's Service's "Classification System for Wetland and Deepwater Habitats" (Cowardin et al. 1979); the wetlands at the property are defined as palustrine emergent wetlands according to the Cowardin et al criteria. Figure 9 shows the extent and distribution of vegetation types on the property using the WHR nomenclature to include wetland habitats and developed areas. A list of plant species identified on the property during surveys conducted by Virginia Dains is included in Attachment 2, Table 1.

Annual Grassland

Annual grassland is the predominant habitat type on site, comprising 49.65 acres, or approximately 61% of the land area. The annual grassland found on the Napa Oaks property is comprised largely of non-native grasses and forage species such as soft chess *(Bromus hordeaceus*), subterranean clover (*Trifolium subterraneum*), rose clover (*T. hirtum*), ripgut brome (*B. diandrus*), wild oats (*Avena fatua*) and filaree (*Erodium botrys*). This community is grazed by cattle and the effects of this use are evident in the community structure and composition. Level and gently sloping areas of the grassland are more accessible to livestock and are more heavily used. Later in the spring, patches of unpalatable exotics such as yellow bartsia (*Parentucellia viscosa*) and purple star thistle (*Centauria calcytrapa*) are present.

Despite this history of grazing, some portions of the annual grassland have assemblages of native species such as native perennial needlegrass (*Nasella pulchra*) and wildflowers including sun-cups (*Camissonia ovata*), purple owl's clover (*Castilleja exserta* ssp. *exserta*), orange-flowered Menzies' fiddleneck (*Amsinckia mesziesii* var. *intermedia*), California poppy (*Eschscholzia californica*) and blue-eyed grass (*Sisyrinchium bellum*).

Coast Live Oak Woodland

The Coast live oak woodland is found on 27.31 acres, or 34% of the land area. Coastal live oak (*Quercus agrifolia*) is the woodland dominant of the valley and foothill hardwood woodland present on the property. Other tree species found as isolated individuals in the woodland at the site include California buckeye (*Aesculus californicus*) and Pacific madrone (*Arbutus menziesii*). Additional tree species such as valley oak (*Q. lobata*) and black oak (*Q. kelloggii*) are present, particularly along the eastern edge of the property. The understory of the onsite woodland is highly disturbed, consisting mostly

of non-native grassland species with few shrubs and saplings of young oaks. Where present, the herbaceous understory contains species such as poison oak (*Toxicodendron diversilobum)* and the noxious and invasive Italian thistle (*Carduus pychnocephalus*) and milk thistle (*Silybum mariamun*). In disturbed areas, a dense canopy of young oak trees provides protected sites for chaparral shrubs such as coyote brush (*Baccharis pilularis*), toyon (*Heteromeles arbutifolia*), and horticultural escapes such as plum (*Prunus cerasifera*) and viburnum (*Viburnum tinus*). Open dry areas in the oak woodlands are covered with dogtail (*Cynosurus echinatus*).

A tree survey conducted on the site by HortScience (see Attachment 4) found 1,375 trees of 33 species (8 native species) present on the property. Native species constituted 94% of the trees and of these, 50% were young trees with diameters of less than 12 inches. The tree survey found Coast live oak as by far the most common tree on the property (86% of the trees); these trees were considered healthy with only 6% found to be in poor condition. Certain native species with at least one trunk of 12 inches or greater in diameter are regulated as Protected Native trees by ordinance of the City of Napa. By this definition, 622 trees (45% of the total number of trees) are considered Protected Native trees, including 102 with trunk diameters of 30 inches or greater. Detailed information regarding all trees on the property is included in the Tree Report (HortScience 2011, see Attachment 4), including information on species, size, condition, suitability for preservation and whether the tree is considered Native Protected by ordinance of the City of Napa.

The California Oak Woodlands Conservation Program recognizes oak woodlands as a vital statewide resource providing benefits including wildlife habitat, monetary and ecological value, and an ability to reduce soil erosion, enhance water quality and moderate temperatures.

Fresh Emergent Marsh

Several small wetland areas (total of 1.21 acre) within the grassland support seasonally-saturated soils and growth of fresh emergent marsh vegetation such as species of rush (*Juncus* sp.), pennyroyal (*Mentha pulegium*), and curly dock (*Rumex crispus*), among others. The vegetation in the wetland areas has also been affected by the grazing by cattle. The wetlands in the southwestern portion of the property drain in the direction of Raynes Creek which is located south of the property.

3.2.2 Animal Populations

The species discussed in this study are based on review of available literature from the CNDDB and habitat observations made during qualitative surveys on January 10 and May 9, 2011 conducted by HBG wildlife biologists. Species specific site assessments of the site have been conducted by Rana Resources for the federally-listed threatened California red-legged frog and California tiger salamander, and the results are included in Attachments 5 and 6, respectively.

A list of wildlife species observed on-site or expected to utilize the site was obtained through habitat reconnaissance, field observation, and literature sources. Supplemental information was obtained from the literature, particularly for wildlife taxa not observed during the surveys. A complete listing of the references from which information was compiled on the flora and fauna inhabiting the region is contained in the References section. Attachment 2, Table 2 provides species lists based on these reconnaissance level observations for reptiles, amphibians, birds and mammals. The table lists wildlife species observed or expected to occur on the project site. The table includes the scientific names of all species mentioned in the text.

The disturbed annual grassland, valley foothill hardwood and wetland habitats onsite support a variety of wildlife species. The complex of habitats includes the presence of standing water, on a seasonal basis, which can accommodate wildlife adapted to aquatic areas, and trees and shrubs which provide nesting and roosting sites for birds, in addition to foraging areas for species of mammals, reptiles, amphibians and birds.

A number of wildlife species were observed on the site during the winter season field review conducted by Gary Deghi of HBG on January 10, 2011. All species that were observed are common to abundant in the region and would be expected in the combination of disturbed grassland and woodland habitats present at the site. Raptors observed in the project area during this winter survey included turkey vulture, red-tailed hawk, Cooper's hawk and American kestrel. A sharp-shinned hawk was observed by Mark Jennings of Rana Resources on February 1, 2011. Additional birds documented within on-site grasslands during the winter survey by HBG included killdeer, mourning dove, black phoebe, Say's phoebe, American crow, Western bluebird, yellow-rumped warbler, lark sparrow, savannah sparrow, Western meadowlark, Brewer's blackbird, American goldfinch and lesser goldfinch. Birds observed primarily in oak woodlands included wild turkey (a flock of over 40 in the northeastern portion of the site), California quail, Northern flicker, acorn woodpecker, Nuttall's woodpecker, downy woodpecker, hairy woodpecker, Western scrub-jay, Stellar's jay, common raven, American robin, European starling, Northern mockingbird, oak titmouse, bushtit, white-breasted nuthatch, ruby-crowned kinglet, Hutton's vireo, orange-crowned warbler, California towhee, spotted towhee, white-crowned sparrow, golden-crowned sparrow, dark-eyed junco and house finch. A white-throated swift observed flying high over the ridge was unseasonal but not totally unexpected. The winter of 2010-2011 saw an incursion of evening grosbeaks into many residential areas in the Coast Range, including some within the City of Napa; so three seen flying over the ridge during the site survey were also not completely unexpected.

Mammals documented at the site included western gray squirrel, California ground squirrel (presence of dens), Botta's pocket gopher (burrows) and coyote (scats). Despite attempts at searching under boards and rocks, no reptiles or amphibians were observed during the January surveys.

While some of the bird species observed during the winter reconnaissance of the property by HBG would be expected only during the winter months (e.g., Say's phoebe, ruby-crowned kinglet, yellow-rumped warbler, golden crowned sparrow), most of the bird species observed are resident species that could be expected to nest in suitable grassland and oak woodland habitats at the site. Resident bird species expected in the winter that were observed at the site during a spring survey conducted on May 9, 2011 included red-tailed hawk, red-shouldered hawk, turkey vulture, killdeer, wild turkey (heard calling from adjacent property to the south), Anna's hummingbird, mourning dove, band-tailed pigeon, California quail, Northern flicker, acorn woodpecker, Nuttall's woodpecker, black phoebe, American crow, common raven, Western scrub-jay, Stellar's jay, American robin, European starling, Northern mockingbird, oak titmouse, bushtit, white-breasted nuthatch, Western bluebird, Hutton's vireo, California towhee, spotted towhee, song sparrow, dark-eyed junco, Brewer's blackbird, red-winged blackbird, lesser goldfinch and house finch. Additional neo-tropical migrants, some of which may nest at the site, that were observed during the spring survey included tree swallow, barn swallow, violet-green swallow, western kingbird, ash-throated flycatcher and Bullock's oriole. A red-tailed hawk nest was observed in a tree near the pond on the adjacent property to the south. The nest site is approximately 500 feet south of the Napa Oaks property boundary.

Mammals observed during the spring surveys of the site included California ground squirrel, western gray squirrel and black-tailed jackrabbit. Additional mammals that would be expected to occur at the site include deer mouse, Virginia opossum, raccoon, striped skunk, bobcat and mule deer. Western fence lizards were the only reptile observed during the May field review, and the only amphibian observed was an arboreal salamander found under a rotting log. Other expected amphibians and reptiles would include Pacific treefrog, California toad, Northern alligator lizard, gopher snake and western terrestrial garter snake.

3.2.3 Wetland Delineation

Definitions of Wetlands and Other Waters of the U.S.

The Department of the Army, acting through the U.S. Army Corps of Engineers (Corps), has the authority to permit the discharge of dredge or fill material in waters of the U.S. under Section 404 of the Clean Water Act (CWA), and permit work and placement of structures in navigable waters of the U.S. under Section 10 of the Rivers and Harbors Act of 1899 (RHA). As described in the Corps/EPA Clean Water Act regulations (33 CFR § 328.3(a)), the term "waters of the United States" is defined as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce (excluding commerce associated with migratory birds), including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including

intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
iii. Which are used or could be used for industrial purpose by industries in interstate commerce;

4. All impoundments of waters otherwise defined as waters of the United States under the definition;
5. Tributaries of waters identified in above paragraphs (1)-(4);
6. The territorial seas; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in above paragraphs (1-6).

The Corps defines wetlands as: "sites that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [(33 CFR § 328.3(b)]. Implicit in the definition is the need for a site to meet certain water, soil, and vegetation criteria to qualify as a jurisdictional wetland. These criteria and the methods used to determine whether they are met are described in the Corps' 1987 wetland delineation manual.

Under Section 10 of the Rivers and Harbors Act of 1899, the Corps also regulates the construction of structures in, over, or under; excavation of material from; or deposition of material into navigable waters. Consistent with above paragraph (1), the Corps defines "navigable waters of the United States" as "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce" (33 CFR § 329.4). A determination of navigability, once made by the Corps, applies laterally over the entire surface of the water body, and is not extinguished by later actions or events which impeded or destroy navigable capacity. Based on this provision, the Corps also has the discretion to regulate activities in historically navigable waters. Historically navigable waters are areas that were navigable in the past, but are no longer navigable as a result of artificial modifications, such as levees, dikes, and dams.

Detailed Wetland Delineation-Methodology

HBG conducted a detailed wetland delineation in accordance with Code of Federal Regulations (CFR) definitions of jurisdictional waters, the Corps' 1987 *Wetlands Delineation Manual* (1987 Manual), the Corps' 2006 *Interim Regional Supplement to Corps of Engineers Wetland Delineation Manual: Arid West* (Arid West Regional Supplement) and supporting guidance documents.. The 1987 Manual provides technical

guidance and procedures, from a national perspective, for indentifying and delineation wetlands that may be subject to Section 404 of the CWA. Pursuant to the 1987 Manual, key criteria for determining the presence of wetlands are: (a) the presence of inundated or saturated soil conditions resulting from permanent or periodic inundation by groundwater or surface water; and (b) a prevalence of vegetation typically adapted for life in saturated soil conditions (i.e., hydrophytic vegetation). Explicit in the definition is the consideration of three environmental parameters: hydrology, soil, and vegetation. The Arid West Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region. The combined use of the 1987 Manual and Arid West Regional Supplement enhances the technical accuracy, consistency, and credibility of wetland determinations.

HBG conducted onsite evaluations of the geographic extent of wetlands and other waters of the U.S. potentially subject to Corps jurisdiction commencing in January 2011. Existing land forms, vegetation, hydrology, and soil conditions were studied to identify areas that would likely contain wetland and aquatic habitats. These areas were classified using the U.S. Fish and Wildlife Service's "Classification System for Wetland and Deepwater Habitats" (Cowardin *et al.* 1979). The landward extent or boundary of these areas was further defined using the methodology currently in use by the Corps, published Corps regulatory guidance letters, and San Francisco District regulatory policy.

A 2010 digital orthophoto National Agricultural Imagery Program color aerial photograph was obtained. The digital orthophoto was brought into GIS software and CAD contour data were overlaid on the aerial photo. A hand-held Trimble global positioning system (GPS) unit and a topographic survey map were used to locate the extent of potential waters of the U.S. subject to Corps jurisdiction. Representative sites were selected for detailed analysis of wetland indicators using a transect-based sampling approach. Site selection was based on an examination of sites that would likely pond, flood, or saturate based on their geographic position, soil permeability, and drainage characteristics in relationship to well-drained upland sites (as determined by NRCS soils data). Once field data collection was completed, HBG mapped the potential wetland locations on the aerial photograph as shown in Figure 10.

Detailed Wetland Delineation-Results

Based on data obtained in the investigations, the geographic extent of wetlands and waters of the U.S. potentially subject to Corps jurisdiction under Clean Water Act Section 404 were delineated. Areas potentially subject to Corps jurisdiction on the project site are shown in Figure 10 and total 1.21 acres. The 1.21 acres consists of vegetated wetlands potentially subject to Corps jurisdiction. The 1.21 acres of potential wetlands are palustrine emergent seasonal wetlands according to Cowardin et al. (1979) criteria (equivalent to the area of fresh emergent marsh shown in Figure 9). The identified palustrine wetlands contained low chroma soils, evidence of wetland hydrology and vegetation adapted for life in saturated soil conditions. The 1.21 acres of wetlands and waters serve the functions of flood flow alteration, groundwater recharge, sediment

stabilization, sediment/toxicant retention, nutrient removal/ transformation, production export, and wildlife habitat.

Aquatic resources within the Study Area and adjacent to the Study Area were examined with respect to the SWANNC exclusion from Clean Water Act regulation. No areas were found that could either potentially be exempted or excluded from regulation in accordance with SWANNC. A review of the wetlands with respect to the *Rapanos v. United States* and *Carabell v. United States* significant nexus evaluation by HBG is ongoing as of this writing. Results of this evaluation will be contained within a detailed wetland delineation report to be submitted to the San Francisco District U.S. Army Corps of Engineers.

3.2.4 Special Status Species

Rare, endangered, or threatened species as well as species that are proposed for listing or candidates for listing are afforded various levels of protection under the federal Endangered Species Act of 1973 (16 USC § 1531 *et seq.* and rules there under, i.e., 50 CFR § 17.11 and 17.12), the California Native Plant Protection Act of 1977 (California Fish & Game (CFG) Code § 1900 *et seq.*), and the California Endangered Species Act of 1970 (CFG Code § 2050 *et seq.* and rules there under, i.e., Title 14, California Code of Regulations (CCR) Sections 670.2 and 670.51). The California Environmental Quality Act (CEQA) (January 1984) requires that the California Department of Fish and Game (CDFG) be consulted during the CEQA review process as to the impact of proposed projects on endangered and threatened species, and regulations provide additional protection for unlisted species that meet the "rare" or "endangered" criteria.

The CDFG maintains records for the distribution and known occurrences of sensitive species and habitats in the California Natural Diversity Database (CNDDB). Sensitive species include those species listed by the federal and state governments as endangered, threatened, or rare or candidate species for these lists. The CNDDB also included species that are included within the U.S. Fish and Wildlife Service (USFWS) category of "species of special concern." This is an informal term that refers to those species which the USFWS believes might be declining or in need of concentrated conservation actions to prevent decline. These species receive no legal protection under the federal Endangered Species Act. The CNDDB also includes state species of special concern designated by the CDFG because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as "species of special concern" is to halt or reverse their decline by calling attention to their plight and address the issues of concern early enough to secure their long term viability. Not all "species of special concern" have declined equally; some species may be just starting to decline, while others may have already reached the point where they meet the criteria for listing as a "Threatened" or "Endangered" species under the state and/or federal Endangered Species Acts, but are not listed.

The CNDDB is organized into map areas based on 7.5 minute topographic maps

produced by the U.S. Geological Survey. All known occurrences of sensitive species and important natural communities are mapped onto the quadrangle map. The database gives further detailed information on each occurrence, including specific location of the individual, population, or habitat (if possible) and the presumed current state of the population or habitat. The project site is located on the Napa 7.5-minute quadrangle; the relevant adjacent quads are the Rutherford, Yountville, Capell Valley, Mt. George, Cordelia, Cuttings Wharf, Sears Point and Sonoma quadrangles. A search of the CNDDB records of occurrence for special status animals and plants and natural communities within these quadrangles indicated that none of the special status species or natural communities is known to occur on the project site itself. However, even the absence of a special animal, plant, or natural community from the report does not necessarily mean they are absent from the area in question, but only that no occurrence data have been entered for that species or natural community in the CNDDB inventory. The occurrence of special status plant and animal species in the vicinity of the project area may be an indication that they also could occur in the project area. Therefore, occurrences of special status species throughout the quadrangles mentioned above were noted in considering the potential presence of these species on the project site.

The U.S. Fish and Wildlife Service was consulted for their list of species listed as endangered or threatened under the Endangered Species Act within an area encompassing nine USGS quadrangles around the project area, and this list is included in Attachment 5. In addition, a list of special status plant species found within the nine-quad area in habitats similar to those found on the project site was obtained from the California Native Plant Society (CNPS), and this list is also included in Attachment 5.

Table 1 presents a list of special status plant species that have been reported in the vicinity of the project site. The special status plant species listed in Table 1 include all species mentioned in the CNDDB and occurring within 10 miles of the project site. Table 4 presents a list of special status animals that have been reported in the project vicinity. The special status animal species listed in Table 4 include those noted in the CNDDB as occurring within 10 miles of the site, the federally listed species from a nine-quad area highlighted by the USFWS in their list in Attachment 5, and those that are known to occur in the general vicinity based on the knowledge of HBG biologists.

3.2.4.1 Special Status Plant Species

Special-status plant species include species listed as Threatened or Endangered under provisions of the federal Endangered Species Act (ESA) of 1973 (16 USC 1531 et. seq., as amended) (U.S. Fish and Wildlife Service [USFWS] 2007a); and species listed as Rare, Threatened, or Endangered by the state of California under provisions of the 1984 California Endangered Species Act (CESA) and the 1977 Native Plant Protection Act (NPPA) (California Department of Fish and Game [CDFG] 2007). Plant species formally proposed for federal listing by the U.S. Fish and Wildlife Service (taxa for which a proposed rule has been published in the Federal Register; USFWS 2007b) are afforded limited legal protection under ESA, and federal Candidate species (USFWS

2007c) are also considered special-status species, although they are not specifically protected under the ESA. The Wildlife Branch of CDFG administers the state rare species program and maintains the list of designated Endangered, Threatened, and Rare species.

Other special-status plant species are those on List 1A (Plants Presumed Extinct in California), List 1B (Plants Rare, Threatened, or Endangered in California and Elsewhere), or List 2 (Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere) of the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (Tibor 2001; CNPS 2007). These species are subject to state regulatory authority under the California Environmental Quality Act (CEQA) Guidelines. Also considered as special-status plant species are those included on List 3 (Plants About Which We Need More Information—A Review List) and List 4 (Plants of Limited Distribution—A Watch List) of the CNPS *Inventory*. These plant species are considered to be of lower sensitivity, and generally do not fall under specific state or federal regulatory authority. Specific mitigation considerations are generally not required for species in these categories.

A target list of special status plants found within 10 miles of the site (Table 1), and additional species mentioned in the CNPS inventory search for the nine quad area (Attachment 5) were used to schedule survey dates during flowering periods of target species. The surveys are summarized in the Botanical Survey report included in Attachment 4. The property does not represent high quality habitat for special status plants. Cattle grazing over a long period of time has altered habitats and made them less likely to support rare species. The impact of grazing and shading of cattle under the oak canopy has left an understory largely dominated by the noxious and invasive Italian thistle or milk thistle. Wooded areas with dense canopy cover on shaded north slopes are largely unvegetated but with soil churned by cattle. Also, earthwork and loss of natural soils have also affected the habitat suitability for special status plants and left a soil surface of broken rocky substrates.

Most of the plant species mentioned in Table 1 require habitat conditions that are not found at the site (see Table 1 for scientific names of all species mentioned). For instance, many of the species are found only in salt marsh or brackish marsh conditions that do not occur at the project site. Such plants include Pappose tarplant, soft bird's-beak, Suisun marsh aster, Delta tule pea and Mason's lilaeopsis. Others found strictly in vernal pool wetlands such as Sonoma sunshine, Sebastopol meadowfoam, dwarf downingia, Contra Costa goldfields, saline clover, and few-flowered navarretia would not be likely due to the lack of vernal pool wetland habitats at the project site. Others found only in alkaline soils such as San Joaquin spearscale would also not be found. Special status plants found only in chaparral such as holly-leaved ceanothus, Sonoma ceanothus, Greene's narrow-leaved daisy and Marin checkerbloom would also not find suitable conditions at the site. Other plants such as Tiburon Indian paintbrush are strictly limited to serpentine soils and would, therefore, not be expected. Some target species are restricted to riparian

situations, like California black walnut, and would not be present. Narrow-anthered California brodiaea, which is limited to broadleafed upland forest, chaparral or lower montane coniferous forest, would also not find suitable conditions. Field surveys conducted by Zander Associates in 1998 for Sebastopol meadowfoam, Sonoma sunshine, Contra Costa goldfields and dwarf downingia were negative.

Although some of the remaining plants are sometimes found in serpentine, they are not strictly limited to serpentine soils, and their habitat requirements could be satisfied by conditions found at the project site. These plants, along with their flowering periods (Munz and Keck 1973) include: Franciscan onion (March to June), Napa false indigo (May to July), Clara Hunt's milk-vetch (April to May), big-scale balsamroot (March to June), seaside tarplant (May to October), Cobb Mountain lupine (April to May), Napa bluecurls (June to October), showy Indian clover (April to June), and oval-leaved viburnum (May to June).

Systematic protocol surveys were scheduled to coincide with the flowering periods of these species. Field surveys of the Napa Oaks property were conducted by Virginia Dains on March 29, April 28, and June 15, 2011. Special status plants were sought in all habitats but special attention was given to those few areas such as protected rocky outcrops, thin soils or steeper slopes, or areas supporting groups of native plants where grazing pressure was reduced or special habitats existed. The entire site was surveyed by walking meandering transects through individual patches of habitat.

No special status plant species were observed at the property during floristic surveys conducted from March to June of 2011 (See botanical report in Attachment 3).

3.2.4.2 Special Status Animal Species

The special status animal species evaluated in Table 4 include those noted in the CNDDB as occurring within 10 miles of the site, the federally listed species from a nine-quad area highlighted by the USFWS in their list in Attachment 5, and those that are known to occur in the general vicinity based on the knowledge of HBG biologists. Key species are either known to occur in the vicinity of the property or with a potential to occur at the site, or that require specific study to determine presence/absence, are discussed below.

Steelhead Trout

Central California populations of steelhead trout (*Oncorhynchus mykiss*) were federally listed as threatened in August 1997. Steelhead have been divided into ESUs, all of which were listed as threatened under the Federal Endangered Species Act in August 1997. Steelhead in the Central Coast ESU occur from the Russian River south to Soquel Creek and to, but not including, the Pajaro River, and including San Francisco and San Pablo Bays. Steelhead require well-oxygenated streams with riffles and loose, silt-free gravel substrate for spawning.

Juvenile steelhead require a period of residency in a stream before migrating downstream to the ocean. The length of freshwater residency may vary from one to three years or more depending on the living conditions in the stream. The major downstream migration of juvenile steelhead occurs during the period from February through June, depending on the water year and pattern of winter-spring runoff. Fish habitat is physically reduced to a minimum during the low-flow period of July through October. In the Napa River and its tributaries, adult steelhead begin their upstream migration during the first heavy rains of November and December and continue their upstream migration into March and April. Salmonid smolts migrate downstream to the Napa River and the Pacific Ocean during the winter and spring with fish movements tapering off in the middle of May.

Steelhead are known to occur in the Napa River and some tributaries; the sightings documented in the CNDDB nearest to the project site are from Highway 121 crossing of Huichica Creek, about four miles southwest of Napa. Steelhead would not be expected to occur within the Napa Oaks project site due to the lack of perennial streams traversing the site. Steelhead in the Napa River or its tributaries could only be affected by downstream changes in water quality. Water quality controls as described in Section 4.4 will prevent impacts to aquatic resources and populations of fish.

California Tiger Salamander

Distinct population segments of the California tiger salamander (*Ambystoma californiense*) in Sonoma and Santa Barbara Counties were listed as federally endangered on July 22, 2002. On August 4, 2004 the California tiger salamander was listed as a threatened species throughout its range, at which time the Sonoma and Santa Barbara County populations were also downgraded to threatened status. On August 19, 2005, a U.S. District Court reinstated the Service's listing of the Sonoma and Santa Barbara populations, and these populations are currently federally-listed as endangered. This species is also a California species of special concern.

California tiger salamander (CTS) occurs in central California from the central Sacramento Valley to the central San Joaquin Valley and surrounding foothills of both the Coast Range and the Sierra Nevada. The species also has been recorded in the San Francisco Bay area, the Monterey Bay area, and valleys and foothills in San Luis Obispo and Santa Barbara Counties. The actual occurrence of the species within this range is restricted to locations where breeding ponds are surrounded by suitable upland habitat. Adult CTS inhabit grassland, savanna, or deciduous oak woodland habitats that contain natural ponds, vernal pools, intermittent streams, or stock ponds. They usually are not found unless there is this combination of ponded water for breeding and surrounding upland, with a predominant ground cover of grazed or ungrazed grassland. They spend the majority of their time below ground, in rodent burrows, or other natural crevices. The major threat to the CTS is the loss of breeding pools and ponds and the conversion of upland habitat for agriculture and urban development.

California tiger salamanders spend most of the year underground in the burrows of

California ground squirrels and pocket gophers, feeding on insects (Loredo, *et al.* 1996). Following heavy winter rains (normally December-March) adults emerge briefly to lay their eggs in ponds. California tiger salamanders are known to travel large distances from breeding ponds or pools into upland habitats. Upland terrestrial habitat for Ambystomids is usually within 300 meters (984 feet) of aquatic breeding sites, but movements have been reported as far away as 800 meters (2,246 feet) (Trenham 2001). California tiger salamanders in Santa Barbara County have been recorded to disperse 1.3 miles from breeding ponds (Sweet, *in litt.* 1998). Breeding habitat is considered suitable if water is present at a minimum of 12 inches for a minimum period of 4 months. Terrestrial habitat is considered suitable if small mammals are present and the site has not been disturbed from previous activities, such as road construction or other ground disturbing activities, such as grading or excavation.

According to the CNDDB, no documented sightings of CTS are known within 10 miles of the Napa Oaks project site. The closest known historic populations are located approximately 18 miles to the southeast of the site in the vicinity of Fairfield (near Travis Air Force Base) in Solano County, and 19 miles to the northwest at the southern edge of the Santa Rosa Plain (near Cotati and Rohnert Park) in Sonoma County. Spotlight surveys for CTS were conducted by Zander Associates on two rainy nights during the winter of 1998. Although these surveys do not comply with current protocol, results were negative

Wetlands found at the proposed site do not have inundation characteristics that would enable breeding by CTS. However, stock ponds that could provide breeding habitat for the species are located to the south and west of the Napa Oaks property at a distance that is within the migration distance for CTS, and ground squirrel burrows found in several locations at the site provide suitable refugial habitats. Because of the above factors, a Phase 1 Habitat Assessment for California tiger salamander was prepared by Dr. Mark Jennings of Rana Resources.

Results of the Habitat Assessment showed that the site is outside of the known native range for CTS, it is not within any of the USFWS critical habitat areas designated for the species, and it lacks suitable breeding habitat for CTS. Although the numerous irrigation ponds within the vineyards adjacent to the site are potentially suitable for CTS breeding, CTS would not be found there due to the presence of introduced western mosquitofish (*Gambusia affinis*), which was observed in the pond closest to the property, and introduced bullfrogs (*Rana catesbeiana*) that are known to be abundant in aquatic habitats within the Napa area. These negative factors, coupled with the lack of CNDDB records for CTS within any part of Napa County suggest that CTS do not inhabit the area. In-between the project site and the closest known populations are extensive areas of natural waterways (including rivers), mountain ranges, urbanization, freeways, and agricultural areas that would prevent movement of CTS to the project area.

The habitat assessment report for the California tiger salamander is included as

Attachment 6.

California Red-legged Frog

The California red-legged frog (CRLF, *Rana draytonii)* is a federally-listed threatened species and California species of special concern. The historical range of the California red-legged frog extended from the vicinity of Point Reyes National Seashore in Marin County southward to northwestern Baja California, Mexico and inland to approximately Redding in Shasta County (61 Federal Register 25813). The frog has sustained a 70 percent reduction in its geographic range. The project area is not part of the critical habitat designated under the Endangered Species Act for the CRLF.

California red-legged frogs have been observed in a number of aquatic and terrestrial habitats, including marshes, streams, lakes, reservoirs, ponds and other permanent, or near permanent, sources of water. Although they occur in ephemeral streams or ponds, CRLF are expected to thrive in permanent deep-water pools with dense stands of overhanging willows (*Salix* spp.) and emergent vegetation. However, they have been observed in a variety of aquatic environments, including stock ponds and artificial pools with little to no vegetation. California red-legged frogs usually are observed near water, but can move long distances over land between water sources during the rainy season.

The nearest location to the project site where CRLF is known to occur is approximately 8 miles to the south-southeast of the site in the hills in the vicinity of Napa Junction, Napa County. In addition, there are two historic 1912 museum records for two miles southwest of the City. Wetlands found at the proposed site do not have inundation characteristics that would enable breeding by CRLF. However, stock ponds that could provide breeding habitat for the species are located to the south and west of the Napa Oaks property at a distance that is within the migration distance for CRLF. Uplands and wetlands immediately adjacent to an offsite stock pond along the southern border of the property and ground squirrel burrows at more distant locations at the site could provide suitable refugial habitat. Because of the above factors, a Phase 1 Habitat Assessment for the CRLF was conducted by Dr. Mark Jennings of Rana Resources.

Results of the Habitat Assessment showed that although the site lies is within the native range for this species, it is currently not within any of the USFWS critical habitat areas designated for CRLF, and it lacks any suitable breeding habitat for CRLF. Although there are a number of adjacent vineyard irrigation ponds in the vicinity of the site, none of these water bodies appear to harbor CRLF due to the presence of dense populations of introduced bullfrogs and introduced predatory fishes. The high summer and fall air temperatures of the vicinity make the local aquatic habitats optimal for bullfrog reproduction and growth, which has presumably resulted in the localized extinction of CRLF in the vicinity of Napa. In-between the project site and the closest known population 8 miles away are extensive areas of natural waterways (including the Napa River), urbanization, freeways, and agricultural areas that, along with the climatic factors, would prevent movement of CRLF to the project site.

The habitat assessment report for the California red-legged frog is included as Attachment 7.

Western Pond Turtle

The western pond turtle (*Actinemys marmorata*) is both a federal and state species of special concern. It occupies ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. The western pond turtle is associated with permanent or nearly permanent water in a wide variety of habitat types. Individuals normally are associated with permanent ponds, lakes, streams, irrigation ditches or permanent pools along intermittent streams. They rely on suitable upland areas of scrub and woodlands for estival refugia. The species currently is known to occur broadly throughout the state.

The nearest location for western pond turtle noted in the CNDDB is at a duck pond at the south end of the City of Napa about 2 miles southeast of the project site. Suitable habitat for breeding by western pond turtle does not occur at the project site due to the lack of aquatic areas of sufficient inundation to the support the species. However, Mark Jennings of Rana Resources surveyed the site on February 1, 2011, and observed (with binoculars) basking or swimming adult western pond turtles in every irrigation pond adjacent to the property within a distance of about a quarter of a mile. Although the project site is totally unsuitable for western pond turtle nesting and estivation due to the rocky nature of the soil, the very close proximity of one of these irrigation ponds to the southern boundary of the site makes it likely that western pond turtle could move across a small part of the property near its southern boundary.

A technical letter report related to potential presence of the western pond turtle at the site is included in Attachment 8.

Western Burrowing Owl

Western Burrowing Owl (*Athene cunicularia*) is a BLM sensitive species, US Fish and Wildlife Service bird of conservation concern, and a California species of special concern. Burrowing owls are small terrestrial owls commonly found in open grassland topography ranging from western Canada to portions of South America. Burrowing Owl habitat can be found in annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation (Zarn 1974). In California, burrowing owls most commonly inhabit ground squirrel burrows (Thomsen 1971), but they also may use manmade structures, such as concrete culverts; concrete, asphalt, or wood debris piles; or openings beneath concrete or asphalt pavement. Burrowing Owls exhibit high site fidelity, reusing burrows year after year (Rich 1984, Feeney 1992). Burrowing Owls may use a site for breeding, wintering, foraging, and/or migration stopovers during migration. Occupancy of suitable burrowing owl habitat can be verified at a site by an observation of at least one burrowing owl, or, alternatively, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance.

The California Department of Fish and Game has adopted survey protocol and mitigation guidelines as described in an October 17, 1995, Staff Report (CDFG 1995). The guidelines adopted by CDFG provide information on the conduct of burrowing owl surveys. If possible, the nesting season survey should be conducted during the peak of the breeding season, between April 15 and July 15. Winter surveys should be conducted between December 1 and January 31, during the period when wintering owls are most likely to be present. The CDFG guidelines assume that a site is occupied if at least one Burrowing Owl has been observed occupying a burrow there within the last 3 years. CDFG states that the following should be considered impacts to the species: (1) disturbance within 50 meters (approximately 160 feet) which may result in harassment of owls at occupied burrows; (2) destruction of natural and artificial burrows (culverts, concrete slabs and debris piles that provide shelter to burrowing owls); and (3) destruction and/or degradation of foraging habitat adjacent (within 100 meters) of an occupied burrow(s). Mitigation measures, if necessary, are intended to "avoid and minimize impacts to burrowing owls at a project site and preserve habitat that will support viable owl populations." The guidelines stipulate that "mitigation actions should be carried out from September 1 to January 31 which is prior to the nesting season."

The nearest documented occurrence of burrowing owl in the CNDDB is on Skaggs Island, over 8 miles from the project site. The presence of California ground squirrel burrows at the project site and grasslands suitable as foraging habitat for the species makes the project site suitable to support nesting or wintering individuals of this species. No burrowing owls were observed at the site during winter surveys conducted in January of 2011 or spring surveys conducted in May of 2011. A definitive determination of the presence or absence of burrowing owl at the site would require that protocol wintering and nesting surveys be conducted. Preconstruction surveys to ensure that burrowing owl is not present at the site during construction are warranted. Any owls found to occur in construction areas would need to be relocated out of harm's way.

California Horned Lark

The California horned lark (*Eremophila alpestris actia)* is a California species of special concern. California horned lark is a common to abundant resident in open, level or rolling short-grass prairies, plains, and meadows. Grasslands and open habitat with low, sparse vegetation and surface irregularities, such as rocks, litter, and clods of soil, which provide cover, are preferred habitat for the California Horned Lark. Suitable foraging and nesting habitat for this species occurs in the grasslands on the project site. Individuals of this species were not observed during surveys conducted in January or May of 2011.

Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus*) is a state species of special concern. Loggerhead shrikes are resident and winter visitors in lowlands and foothills throughout California, and are rare along the coast in winter north to Mendocino County. Preferred habitat includes open areas such as desert, grasslands, and savannah. Loggerhead shrikes

nest in thickly foliaged trees or tall shrubs, and forage in open habitats which contain trees, fence posts, utility poles, and other perches. Loggerhead shrikes are usually solitary birds. They feed on insects, reptiles, and small mammals, which they frequently impale on thorns and barbed wire after capturing. Suitable foraging habitat for loggerhead shrike occurs in the grassland habitats of the project site, and suitable habitat for nesting is present in woodlands. Individuals of this species were not observed during surveys conducted in January or May of 2011.

Pallid Bat

Seven species of bats that are California species of special concern, or are recognized as having conservation priority by the Western Bat Working Group, the Bureau of Land Management, or the U.S. Forest Service have potential to occur within the project boundaries. These include pallid bat (*Antrozous pallidus*), Townsend's big-eared bat *(Corynorhinus townsendii),* Western red bat (*Lasiurus blossevillii*), long-eared myotis *(Myotis evotis)*, fringed myotis (*Myotis thysanodes*), Yuma myotis (*Myotis yumanensis*), and Western mastiff bat (*Eumops peroti*). These seven species have potential to occur in Napa County (Pierson et al. 2006, Western Bat Working Group Website 2007). The study site provides potential foraging habitat for all seven bat species. Roosting habitat, a more critical resource for California bat species, includes bridges, large trees, and buildings. The residential structures and outbuildings in the project area may provide summer or winter (hibernacula) roosting sites. Six of the seven bat species sometimes roost in buildings. Construction in or demolition of barns or stables may result in destruction of maternity roosts, hibernacula, day roosts, and/or night roosts of bats. During an HBG site visit in January 2011, no obvious signs of bat usage (staining, guano) were observed but bats may still have been present.

A roost site supporting three species of bat was present at a site along Shreveland Lane in Napa as recently as 2004. This historic site contained thousands of Brazilian free-tailed bats and Yuma myotis and approximately 150 pallid bat females (a California Species of Special Concern) and their young. The bats were using a barn that was removed to accommodate development of a housing project in 2004, and all bats roosting there were extirpated. This rural residential site was vegetated by grazed non-native grassland with oaks, bay laurel, and some non-native trees which provided excellent foraging habitat for the bats. After development the site contained residential structures and non-native plantings. The site was known to researchers for many years and studied prior to development.

The historic bat roost on Sheveland Lane was located less than one mile from the Napa Oaks project site. Although the barn providing the roosting habitat for the bats was destroyed, the bats would have survived and have undoubtedly taken up residence in abandoned buildings in the vicinity. An unoccupied house and several ranch buildings in the northern portion of the project site nearest to Old Sonoma Road could serve as suitable bat roosts and very likely could support some of the bats extirpated from the historic roost site on Sheveland Lane. The habitat conditions at the project site are

similar to those at the above referenced site; surrounding oak woodlands and grasslands provide suitable foraging habitats for bats. It is possible that there could be roosting bats, including species of special concern (pallid bats), and Yuma myotis, Brazilian free-tailed bats, or even other bat species, in structures located at the northern end of the site. These structures will be demolished prior to development of the site for residential uses. Bat surveys would be necessary to determine if bats are present in these structures prior to their demolition.

4.0 REGULATORY AGENCIES AND POLICIES

The following is a description of federal, state, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process.

FEDERAL

Clean Water Act-Section 404

The U.S. Army Corps of Engineers regulates discharges of dredged or fill material into Waters of the United States under Section 404 of the Clean Water Act (CWA). "Discharge of fill material" is defined as the addition of fill material into Waters of the U.S., including but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 C.F.R. §328.2(f)). In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency are responsible for implementing the Section 404 program. Section 404(a) authorizes the Corps to issue permits, after notice and opportunity for comment, for discharges of dredged or fill material into waters of United States. Section 404(b) requires that the Corps issue permits in compliance with EPA guidelines, which are known as the Section 404(b)(1) Guidelines. Specifically, the Section 404(b) (1) guidelines require that the Corps only authorize the "least environmentally damaging practicable alternative" (LEDPA) and include all practicable measures to avoid and minimize impacts to the aquatic ecosystem. The guidelines also prohibit discharges that would cause significant degradation of the aquatic environment or violate state water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 C.F.R. §328.3(b)).

Furthermore, Jurisdictional Waters of the U.S. can be defined by exhibiting a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris,

or other appropriate means that consider the characteristics of the surrounding areas" (33 C.F.R. §328.3(e)).

Tidal waters are also under the jurisdiction of the Corps. The landward limits of jurisdiction in tidal waters extend to the high tide line . . . "or, when adjacent non-tidal waters of the United States are present, to the limits of jurisdiction for such non-tidal waters" (33 C.F.R.§328.4(b)) High tide is further defined to include the line reached by spring high tides and other high tides that occur with periodic frequency (33 C.F.R.§328.3(d)).

All wetlands in the area of study were reviewed to determine if they could be disclaimed from Corps jurisdiction as isolated wetlands following two recent US Supreme Court decisions. In *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers (SWANCC), No. 99-1178 (2001),* some isolated wetlands may be excluded from the Corps' Section 404 jurisdiction because they are (1) non-tidal, (2) non-navigable, (3) not hydrologically connected to navigable waters or adjacent to such waters, and (4) not subject to foreign or interstate commerce.

Subsequent to SWANCC, the U.S. Supreme Court decided on *Rapanos v. United States* and *Carabell v. United States*, 126 U.S. 2208 (2006) (herein referred to as Rapanos). In 2007, guidance was given to EPA regions and Corps districts to implement the Supreme Court's decision which addresses the jurisdiction over waters of the U.S. under the Clean Water Act. The Rapanos guidance requires the Corps to conduct detailed analysis of the functions and values of wetlands and other waters of the U.S. potentially onsite and in some cases offsite, determine if there is a nexus to traditional navigable waters and the significance of the nexus to the traditional navigable water. Neither the Court nor the recently-issued guidance draw a clear line with regard to the geographic reach of jurisdiction, particularly in drainages where flows are ephemeral and where wetlands are adjacent to but not directly abutting relatively permanent water, such as the wetlands delineated on the study site.

The guidance includes requirements for additional documentation, particularly with regard to whether or not there is a "significant nexus" to a traditionally-navigable water (TNW). For water bodies that are traditionally navigable (and their adjacent wetlands), and for tributaries that are "relatively permanent waters" (RPW's: streams that are not perennial but that flow for 3 months or more annually, and their adjacent wetlands that directly abut the RPW's), the Corps and EPA will assert jurisdiction under the Clean Water Act, without the need for any exhaustive documentation of "significant nexus." There is no dispute that Clean Water Act jurisdiction encompasses traditionally-navigable waters and their perennial and relatively-permanent tributaries. Activities that result in discharges of pollutants into these waters can adversely affect the physical, chemical, and biological integrity of navigable waters.

For wetlands adjacent to but not directly abutting a RPW, jurisdiction may be asserted under the Clean Water Act if there is a "significant nexus" and for tributaries that typically do not flow more 3 months or more annually, and if there adjacent wetlands associated with these non-relatively permanent waters (non-RPW's), jurisdiction may be asserted under the Clean Water Act if there is a "significant nexus." A significant nexus analysis, using the Corps' approved jurisdictional determination form, "will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW." These factors include (a) the capacity to carry pollutants or flood water into a TNW; (b) the capacity to provide habitat for species that are present in the downstream TNW; (c) the capacity of transferring nutrients and organic carbon to a TNW; or (d) other "relationships to the physical, chemical, or biological integrity of the TNW.

Clean Water Act-NPDES Requirements

In 1972, the Clean Water Act was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollution Discharge Elimination System (NPDES) permit. The 1987 amendments established a framework for regulating municipal, industrial, and construction-related storm water discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that establish storm water permit application requirements for specified categories of industries. The regulations provide that discharges of storm water from construction projects that encompass one or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. The California State Water Resource Control Board has developed a general construction storm water permit to implement this requirement.

Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. The FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. The FESA establishes an official listing process for plants and animals considered to be in danger of extinction; requires development of specific plans of action for the recovery of listed species; and restricts activities perceived to harm or kill listed species or affect critical habitat (16 USC 1532, 1536).

The FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined as harassing, harming (including significantly modifying or degrading habitat), pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species, or any attempt to engage in such conduct (16 USC 1532, 50 CFR 17.3) Taking can result in civil or criminal penalties. Federal regulation 50 CFR 17.3 further defines the term harm in the take definition to mean any act that actually kills or injures a

federally listed species, including significant habitat modification or degradation. Additionally, FESA prohibits the destruction or adverse modification of designated critical habitat. In the Service's regulations at 50 CFR 402.2, destruction or adverse modification is defined as a "direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species.

The ESA also requires federal agencies to ensure that their actions do not jeopardize the continued existence of listed species or adversely modify critical habitat (16 USC 1536). Therefore, the ESA is invoked when the property contains a federally listed threatened or endangered species that may be affected by a permit decision. In the event that listed species are involved and a Corps permit is required for impacts to jurisdictional waters, the Corps must initiate consultation with USFWS (or the National Marine Fisheries Service, NMFS) pursuant to Section 7 of the ESA (16 USC 1536; 40 CFR § 402). If formal consultation is required, USFWS or NMFS will issue a biological opinion stating whether the permit action is likely to jeopardize the continued existence of the listed species, recommending reasonable and prudent measures to ensure the continued existence of the species, establishing terms and conditions under which the project may proceed, and authorizing incidental take of the species.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act is administered by the USFWS. The Act provides that it is unlawful to: pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product unless permitted by regulations. Most bird species within California fall under the provisions of the Act. Excluded species include nonnative species such as house sparrow, starling, and ring-necked pheasant and native game species such as quail.

Fish and Wildlife Coordination Act

The USFWS also has responsibility for project review under the Fish and Wildlife Coordination Act. This statute requires that all federal agencies consult with USFWS, NMFS, and the state's wildlife agency (California Department of Fish and Game, CDFG) for activities that affect, control, or modify streams and other water bodies. Under the authority of the Fish and Wildlife Coordination Act, USFWS, NMFS, and CDFG review applications for permits issued under Section 404 and provide comments to the Corps about potential environmental impacts.

STATE

California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. The CESA is similar to the FESA but pertains to state-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Game (CDFG) when preparing California Environmental Quality Act (CEQA)

documents to ensure that the state lead agency actions do not jeopardize the existence of listed species. CESA directs agencies to consult with CDFG on projects or actions that could affect listed species, directs CDFG to determine whether jeopardy would occur, and allows CDFG to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. Agencies can approve a project that affects a listed species if they determine that 'overriding considerations" exist; however, the agencies are prohibited from approving projects that would result in the extinction of a listed species.

The CESA prohibits the taking of state-listed endangered or threatened plant and wildlife species. CDFG exercises authority over mitigation projects involving state-listed species, including those resulting from CEQA mitigation requirements. CDFG may authorize taking if an approved habitat management plan or management agreement that avoids or compensates for possible jeopardy is implemented. CDFG requires preparation of mitigation plans in accordance with published guidelines.

Section 401 of the Federal Clean Water Act/Porter Cologne Water Quality Act

Pursuant to section 401 of the Federal Clean Water Act, projects that require a Corps permit for the discharge of dredge or fill material must obtain water quality certification that confirms a project complies with state water quality standards before the Corps permit is valid. State water quality is regulated/administered by the State Water Resources Control Board and its nine Regional Water Quality Control Boards (RWQCB). The state also maintains independent regulatory authority over the placement of waste, including fill, into waters of the State under the Porter-Cologne Act.

The California State Water Resource Control Board has developed a general construction storm water permit to implement the requirements for the federal National Pollution Discharge Elimination System (NPDES) permit. The permit requires submittal of a Notice of Intent to comply, fees, and the implementation of a Storm Water Pollution Prevention Plan.

CDFG Species of Special Concern

CDFG tracks species in California whose numbers, reproductive success, or habitat may be threatened. Even though not formally listed under FESA or CESA, such plant and wildlife species receive additional consideration during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern" developed by the CDFG. CDFG has also designated special-status natural communities which are considered rare in the region, support special status species or otherwise receive some form of regulatory protection. Documentation pertaining to these communities, as well as special status species (including species of special concern), is kept by CDFG as part of the California Natural Diversity Data Base (CNDDB).

Natural Community Conservation Planning Act

The Natural Communities Conservation Planning Act (NCCP) program, which began in 1991 under the California Natural Community Conservation Planning Act, is broader in its orientation and objectives than CESA and ESA; these laws are designed to identify and protect individual species that are already listed as threatened or endangered and their habitats. The primary objective of the NCCP program is to conserve natural communities at the ecosystem scale while accommodating compatible land use (CDFG 2003).

California Department of Fish and Game-Streambed Alteration Agreement

Section 1602 of the California Fish and Game Code requires any person, governmental agency, or public utility proposing any activity that will divert or obstruct the natural flow or change the bed, channel or bank of any river, stream, or lake, or proposing to use any material from a streambed, to first notify CDFG of such proposed activity. CDFG may propose reasonable modifications, based on the information contained in the notification form and a possible field inspection, CDFG may propose reasonable modifications in the proposed construction as would allow for the protection of fish and wildlife resources. Upon request, the parties may meet to discuss the modifications. If the parties cannot agree and execute a Lake and Streambed Alteration Agreement, then the matter may be referred to arbitration.

California Department of Fish and Game Fish and Game Code 3503 and 3503.5

Section 3503 of the Fish and Game Code makes it unlawful to take, possess, or needlessly destroy the nests or eggs of any bird. Section 3503.5 makes it unlawful to take or possess birds of prey (hawks, eagles, vultures, owls) or destroy their nests or eggs.

California Department of Fish and Game Fully Protected Species

Species classified as Fully Protected Species by the California Department of Fish and Game may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Public Resources Code Section 21084.4 for Oak Woodlands Conservation

As of January 2005, Public Resources Code Section 21083.4 requires California Counties acting as Lead Agencies under CEQA to determine whether a project "may result in a conversion of oak woodlands that will have a significant effect on the environment." If individual or cumulative impacts to oak woodlands are identified, the law requires that the impacts be mitigated. Acceptable mitigation measures include, but are not limited to, conservation of other oak woodlands through the use of conservation easements, planting replacement trees which must be maintained for seven years, contribution to the Oak Woodland Conservation Fund established under Section 1363(a) of the Fish and Game Code, or other measures.

LOCAL

Napa County General Plan

In addition to federal and state regulations, the development of the property must be accomplished consistent with the land use designations and natural resource and other policies of the Napa County General Plan.

OTHER STATUTES, CODES, AND POLICIES AFFORDING LIMITIED PROTECTION

California Native Plant Society

The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Plants of California (Tibor2001). Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The following identifies the definitions of the CNPS listings:

List 1A:	Plants believed extinct.
List 1B:	Plants rare, threatened, or endangered in California and elsewhere.
List 2:	Plants rare, threatened, or endangered in California, but more numerous elsewhere.
List 3:	Plants about which we need more information – a review list.
List 4:	Plants of limited distribution – a watch list.

5.0 IMPACTS AND MITIGATION MEASURES

5.1 Standards of Significance

The project would be considered to have a significant impact on biological resources if it would:

(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.

(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.2 Relevant Project Characteristics

The proposed project includes development plans for 54 single family residential units. Of the 80.94 acres at the site, residential uses are proposed for 27.1 acres (34% of the land area of the site). Residential units are to be maintained by individual homeowners. A private roadway maintained by a Homeowner's Association will encompass 7.3 acres (9% of the site). Four separate parcels (Parcels A-D) totaling 46.2 acres (57% of the site) will be dedicated as open space managed by the Homeowner's Association.

5.3 Impacts and Mitigation Measures

5.3.1 Plant Communities and Vegetation

Impacts to biological resources will result from vegetation removal due to the conversion

of upland areas composed of annual grassland, and valley foothill hardwood habitat, and due to the filling of wetland areas to accommodate the proposed development. The acreage of each of the vegetation communities found on the property, and impacts resulting from site development as planned are shown in Table A. Figure 11 shows the development footprint as an overlay of the vegetation communities found on the project site. The grading footprint for the proposed project would total approximately 37.53 acres (46% of the site). At some proposed residential units, grading for building pads and ancillary facilities would not require grading over the entire lot. Ungraded areas within proposed residential lots totals 3.85 acres. In these ungraded areas it was assumed that trees would not be removed, but that impacts to biological resources would result as these areas would serve as rear yards for residents and could be converted to landscaping or other uses. The impact acreage in Table 1 reflects the total area of impact including graded footprint and the impacted area extending to the edge of each residential lot.

TABLE A. IMPACTS TO VEGETATION COMMUNITIES

Habitat Type	Existing Acreage in Overall Study Area (acres)	Impacted Acreage (acres)
California Annual Grassland	49.65	25.93
Coast live oak woodland	27.31	12.52
Freshwater marsh	1.21	0.36
Urban	2.77	2.57
TOTAL	**80.94**	**41.38**

5.3.2 Wetlands and Waters of the U.S.

Wetlands and waters of the U.S. are regulated by state and federal agencies and would be considered sensitive natural communities as defined by CEQA. Impacts to waters of the U.S. would be potentially significant if appropriate mitigation was not implemented for all regulated wetlands as required by state and federal regulations.

The ecological constraints to development at the site include approximately 1.21 acres of wetlands and waters of the U.S. potentially subject to Corps jurisdiction pursuant to Section 404 of the Federal Clean Water Act as shown in Figure 10. As the palustrine emergent wetlands are scattered throughout the project area, complete avoidance of seasonal wetlands would not be possible. Impacts to wetlands and waters of the U.S. potentially subject to Corps jurisdiction are shown in Figure 12. The development plan for the site would permanently impact 0.36 acres of palustrine emergent wetlands located on the site that are potentially under the jurisdiction of the Corps under Clean Water Act Section 404. Installation of a stormwater pipeline within 0.006 acres of jurisdictional wetlands would be considered a temporary impact; the pipeline would be installed in a trench that would be backfilled to original grade allowing wetlands to reform in that area. Approximately 30% of the wetlands on the property would be impacted by the proposed

project, with the remaining 70% of the wetlands not subject to impacts and preserved within an open space area of approximately 46 acres managed by the Homeowner's Association. Without mitigation, project impacts to wetlands or waters of the U.S. would be significant.

Impact 1: Direct (fill) impacts to 0.36 acres of waters of the U.S. would result from implementation of the proposed site plan.

> **Mitigation Measure 1-1:** The developer will submit applications for a Nationwide permit from the Corps of Engineers (see Section 4.5, Permit Requirements), and Section 401 water quality certification from the San Francisco Bay Regional Water Quality Control Board (RWQCB), required for the Corps permit to be valid. Appropriate wetland mitigation would be required by the Corps and RWQCB for impacts to the 0.36 acres of seasonal wetlands located at the site, and a wetland mitigation plan to mitigate impacts to jurisdictional areas would need to be developed as part of the Corps and RWQCB permit process. Corps jurisdictional areas must be replaced at a minimum 1:1 ratio through wetland creation (preferably on-site) to ensure that no net loss of acreage or functions and values to these areas occurs. The required ratio of replacement acreage to impacted acreage will be decided by regulatory agencies on a site-specific basis based on the functions and values present on the project site, but requirement for a mitigation ratio of 2:1 would be likely. Mitigation wetlands totaling approximately 0.72 acres would be created within the onsite open space preserve. A detailed mitigation plan would need to be prepared that includes monitoring and reporting requirements, responsibilities, performance success criteria, reporting procedures, and contingency requirements.

Approximately 0.85 acres of wetlands would be preserved within an onsite open space preserve along with an additional acreage of created onsite mitigation wetlands. The proposed open space area would consist of approximately 46 acres of grasslands, Coast live oak woodlands and wetlands. During construction of the project, use of development setbacks, construction fencing and other barriers may be necessary to prevent unintended impacts to preserved sensitive habitats within the open space area. In the long term, these preserved sensitive habitats could experience indirect impacts from disturbances associated with residential projects such as from residents, vehicles and pets, or from introductions of invasive vegetation. Over the long term, fencing or signage may be required to restrict access to preserved sensitive areas, and means to lessen intrusion of pets (e.g., enforcement of leash laws) may be necessary. Vegetation management to control invasive vegetation may necessary as well. Long term management of the open space area by the Homeowner's Association will need to occur pursuant to a management plan with identified goals and a monitoring plan with management inspections and maintenance actions.

Impact 2: Preserved wetlands within the proposed open space preserve could be subject to indirect impacts during construction if not protected.

Mitigation Measure 2-1: During construction and prior to any clearing, grading, or construction activities, temporary barriers should be placed around all wetlands that are to be avoided by the development plan. These barricades should create at least a 20-foot buffer area around these areas. No clearing, operation of heavy equipment, or storage of construction materials should be permitted within this area.

Impact 3: Without long term management, preserved sensitive habitats, including mitigation wetlands, could experience indirect impacts from disturbances associated with residential projects such as from residents, vehicles, and domestic pets, introduction of invasive species, or other factors.

Mitigation Measure 3-1: Prior to construction, the applicant should prepare a management plan for the onsite open space preserve with habitat goals and objectives and a monitoring plan that provides for management inspections and maintenance actions. The monitoring plan must include monitoring and reporting requirements, responsibilities, performance success criteria, reporting procedures and contingency requirements. A long-term protection plan for the open space should be included in the management plan through use of a deed restriction and management of the preserve area into perpetuity by the Homeowner's Association. The management plan should include measures such as fencing or signage to restrict access to preserved sensitive areas, and means to lessen intrusion of pets (e.g., enforcement of leash laws). Vegetation management practices should also be included in the management plan (see Mitigation Measure 5-1).

5.3.3 Oak Woodlands

Project construction would result in the loss of approximately 12.52 acres (46% of the valley foothill hardwood or Coast live oak woodland) habitat on the site (see Figure 10). Tree removal and impact to oak woodland habitat was assumed within the graded footprint of the project. Ungraded portions of yards within each residential lot were included within the calculated acreage of impact to oak woodland habitat.

HortScience (see Attachment 4) calculated that the project would require the removal of 620 trees, including 200 Native Protected trees. A total of 392 trees would be impacted by lot grading, 158 by road grading, 60 by slope and swale grading, 26 by construction of the detention pond, 8 by construction of new entry onto Old Sonoma Road, and 4 by installation of retaining walls. Implementation of the proposed project would allow for preservation of 755 trees, including 422 Native Protected trees.

Oaks woodlands provide significant wildlife habitat value. Oak woodlands are protected by the California Department of Fish and Game, State of California regulations including Public Resources Code Section 21083.4, policies of the City of Napa. Although 14.79

acres of oak woodland would be protected within an open space preserve managed by the Homeowner's Association, the loss of just over 12.52 acres of oak woodland as a result of the project is significant. Public Resources Code Section 21083.4 directs Counties to mitigate significant effects of oak woodland conversion, and would not apply to a project reviewed by the City of Napa as a CEQA Lead Agency. However, the impact evaluation and development of mitigation measures recommended herein are intended to be consistent with the Public Resource Code as if this were a project proposed in an unincorporated area.

Indirect project impacts on oak trees not directly affected could occur unless appropriate precautions are taken. The impacts could result from increased soil compaction in the root zone of the trees, summer watering within the root zone, and excessive pruning to allow development of structures and open up views. Death of oak trees could result from oak root fungus (*Armillaria mellea*) resulting from operation of landscape irrigation systems in developed areas up slope from the native oak trees. Movement of heavy construction vehicles and equipment could cause impacts such as broken branches, compaction of soils within root zones, etc. which could result in a weakening and eventual death of the tree. The response of individual trees will depend on the amount of excavation and grading, the care with which demolition is undertaken and the construction methods. A tree protection plan will be developed to mitigate these indirect impacts, and will include recommendations prepared by the arborist as part of the tree survey (see Attachment 4). All landscape plans will be reviewed by the arborist as well.

Impact 4: The project would require construction within 12.52 acres of valley foothill hardwood (Coast live oak woodland) habitat, the direct removal of a large number of mature trees, and could result in indirect project impacts on trees not directly affected, unless appropriate precautions are taken.

> **Mitigation Measure 4-1:** The applicant should establish oak woodland preserves totaling 37.56 acres to mitigate the loss of oak woodlands due to construction of the project at a mitigation ratio of 3:1. Approximately 14.79 acres of oak woodlands could be preserved within the onsite open space preserve subject to deed restriction and managed by the HOA (see mitigation measure 3-1), with the remainder (22.77 acres) preserved in an offsite preserve protected by conservation easement.
>
> **Mitigation Measure 4-2:** Removal of oak trees will require the implementation of a tree replacement plan, and work in the vicinity of oak woodlands will require preparation of a tree protection plan. An Oak Woodland Mitigation Plan would contain tree replacement and protection activities as follows:
>
> - The applicant should prepare and implement a Tree Replacement Plan including: (i) replacement of trees at ratios prescribed by the City of Napa; (ii) the specific location of the tree planting, (including a map and planting

plan); (iii) schedules and methodologies for maintaining and monitoring the success of the Plan; and (iv) performance standards.

- The applicant must follow Tree Preservation Guidelines that include construction guidelines and measures to maintain long-term tree health (Tree Preservation Guidelines are detailed on pages 19 and 20 in the Tree Survey report by HortScience; see Attachment 4). These guidelines include design recommendations, preconstruction treatments and recommendations, and recommendations for tree protection during construction. Included in the guidelines is the establishment of Tree Protection Zones around each preserved tree. Tree Protection Zones will be marked with fencing and within these zones no grading, excavation (including for underground services such as utilities or sub-drains), or storage of materials or dumping of materials can occur without consultations with the project arborist.

- The City of Napa should review final project grading and construction plans to minimize encroachment within the drip line of any trees not eliminated as part of site grading. This review should include assurances that the design of roads, utilities, slope stabilization work, subdrains, and other types of infrastructure avoid the area within the dripline of native trees where possible; and that all grading is designed to drain water away from the base of trees so as not to create areas of ponding within the dripline.

5.3.4 Landscaping/Invasive Species

Invasive, exotic weeds compete with native vegetation and can degrade the quality of wildlife habitats. Project landscaping and construction activity has the potential to introduce invasive, exotic, non-native vegetation, some of which may not now exist in the area. Also, highways and various construction projects provide a pathway for dispersal of invasive plants. Invasive plant species include those designated as noxious weeds by the U.S. Department of Agriculture, problem species listed by the California Department of Food and Agriculture, and other invasive plants designated by the California Invasive Plant Council. Where appropriate, vegetation removed as a result of project activities should be replaced with native species which are of value to local wildlife. Native plants generally are more valuable as wildlife food sources and require less irrigation, fertilizers, and pesticides than exotic species.

Impact 5: Project landscaping is expected to introduce exotic, non-native vegetation, some of which may not exist in the area.

> **Mitigation Measure 5-1:** Landscaping should be designed to enhance the wildlife value and aesthetic quality of undeveloped portions of the project site. Where appropriate, vegetation removed as a result of project activities should be

replaced with native species which are of value to local wildlife, and native vegetation should be retained. Weed management practices may be warranted, including identification and removal of infestations of noxious weeds prior to construction, use of construction equipment and materials such as fill and erosion control devices that are known to be weed-free, and removal of invasive species from areas within the project boundary set aside for conservation purposes as part of project mitigation.

5.3.5 Animal Species

Loss of vegetation associated with the habitats on site will disrupt and displace existing wildlife. Some bird roosting, nesting, and foraging areas will be eliminated. Reptiles, amphibians, and small mammals that utilize these areas will be displaced to remaining undisturbed areas. Open space areas near the project area should be capable of accommodating these species. Animal species that have adapted to living in close association with human disturbance can be expected to increase after the proposed project. These species include mammals such as raccoon, California ground squirrel, deer mouse, and house mouse, and birds such as rock dove, mourning dove, American robin, European starling, house sparrow, Brewer's blackbird and brown-headed cowbird.

Grading, placement of fill material and other ground-disturbing activities could promote erosion and allow elevated levels of sediment to wash into downstream creeks, where potential impacts to fish and wildlife species would be possible. In the absence of water quality controls, indirect impacts to animal populations in wetlands and other aquatic habitats could result from the proposed project due to elevated contaminants in stormwater runoff. However, the requirement for the implementation of a Stormwater Pollution Prevention Plan (SWPPP), with identification of proper construction techniques and Best Management Practices (BMPs) will minimize adverse effects associated with these activities. Furthermore, standard techniques to control contaminants in stormwater such as oil and grease traps will be employed to mitigate water quality concerns.

Nesting bird species protected by the federal Migratory Bird Treaty Act that could be impacted during project construction. The removal of trees and shrubs during the February 1 to August 1 breeding season could result in mortality of nesting avian species if they are present. Many species of raptors (birds of prey) are sensitive to human incursion and construction activities, and it is necessary to ensure that nesting raptor species are not present in the vicinity of construction sites. During the spring survey of the Napa Oaks property, a red-tailed hawk nest was observed on adjacent property over 500 feet away from the property boundary for the project site. If this nest were active during construction of the Napa Oaks project, the nest would be sufficient distance from construction operations that disruptions to nesting birds would not occur. The presence of both red-tailed hawks and red-shouldered hawks on the project site in May of 2011, indicates that these species may nest somewhere on the property as well. Therefore, mitigation measures are recommended below.

Impact 6: The removal of trees and shrubs during the February 1 to August 1 breeding season could result in mortality of nesting avian species if they are present.

> **Mitigation Measure 6-1:** If feasible, construction work should take place outside of the February 1 to August 1 breeding window for nesting birds. If construction is to be conducted during the breeding season, a qualified biologist should conduct a pre-construction breeding bird survey in areas of suitable habitat within 30 days prior to the onset of construction activity. If bird nests are found, appropriate buffer zones should be established around all active nests to protect nesting adults and their young from construction disturbance. Size of buffer zones should be determined in consultation with wildlife agency staff based on site conditions and species involved.
>
> **Mitigation Measure 6-2:** Pre-construction surveys should include surveys for nesting by raptors generally expected to nest in the region including tree nesting species such as red-tailed, red-shouldered, Cooper's and Sharp-shinned hawk, white-tailed kite, great horned owl and American kestrel, and ground nesting species such as burrowing owl, short-eared owl and Northern harrier. If nesting raptors are found during pre-construction surveys, construction activity in the vicinity of the nest should be delayed until after young have fledged (usually by August), or buffer zones around nest sites of at least 200 feet should be established when construction equipment is present.

Impact 7: Placement of fill and other ground disturbing activities could prompt erosion and allow elevated levels of sediment to wash into downstream riparian areas.

> **Mitigation Measure 7-1:** During construction, vegetation should only be cleared from the permitted construction footprint. Areas cleared of vegetation, pavement, or other substrates should be stabilized as quickly as possible to prevent erosion and runoff. Best Management Practices and all requirements as detailed in the Stormwater Pollution Prevention Plan shall be implemented to control erosion and migration of sediments offsite.

5.3.6 Special Status Animal Species

A review of habitat requirements of sensitive animal species documented by the CNDDB as occurring in the project vicinity, and sensitive animal species known to occur in the general vicinity, was conducted by HBG and Rana Resources biologists. Animal species of special concern are present or possible as described below.

Breeding habitat for California red-legged frog (CRLF) and California tiger salamander (CTS) does not occur on the Napa Oaks project site. However, artificial ponds located in the vicinity of the site display the inundation characteristics necessary for them to serve as breeding sites for either species if they were to occur in the area. If breeding by either species were to occur in these ponds, the project site could serve as refugial habitat for

these species. Results of the Habitat Assessment for CTS (Attachment 6) showed that the site is outside the known native range of the species. Results of the Habitat Assessment for CRLF (Attachment 7) showed that although the site lies is within the native range for this species, high summer and fall air temperatures make the local aquatic habitats optimal for bullfrog reproduction and growth, which has presumably resulted in the localized extinction of CRLF in the vicinity of Napa. Although there are a number of adjacent vineyard irrigation ponds in the vicinity of the site, none of these water bodies appear to harbor CTS or CRLF due to the presence of dense populations of introduced bullfrogs and introduced predatory fishes. As neither CTS nor CRLF would be expected to occur at or near the site, impacts to these species are not anticipated due to construction of the proposed project.

Although the project site is unsuitable for western pond turtle nesting and estivation, the species was observed in irrigation ponds in the project vicinity by Rana Resources (see technical report related to this species in Attachment 8). As one of these irrigation ponds harboring the species occurs along the southern boundary of the site, it is possible that a western pond turtle could move across a small part of the property and be impacted during construction operations (e.g., could be crushed by construction vehicles). To avoid any potential negative effects to western pond turtle, mitigation measures are recommended below.

Impact 8: Construction operations could impact western pond turtles that have been observed in the adjacent irrigation pond and that could possibly move across the southern portion of the property.

> **Mitigation Measure 8-1:** Establish a setback of at least 200-feet between the southern grading limits of the project and the high water edge of the irrigation pond;
>
> **Mitigation Measure 8-2:** Install silt fencing at the southern edge of the development area during all construction operations to prevent western pond turtle from potentially entering the construction area. The fence could be examined by a qualified biologist on a regular basis during the construction period to make sure that it is functioning properly.

The State of California designates several raptor species with a potential to occur on the site as species of special concern based on the presence of nesting habitat. These species include burrowing owl (species of federal and state concern), white-tailed kite and Cooper's hawk. Preconstruction surveys for tree-nesting species (e.g., white-tailed kite, Cooper's hawk) will be necessary if tree removal occurs during the February 1 to August 1 nesting season. If an active raptor nest is identified, appropriate mitigation measures shall be developed and implemented in consultation with CDFG. Mitigation would include development of a construction plan that establishes of buffer zones around active nests during construction activity and/or until young have fledged.

Impact 9: Construction during the nesting season could impact any of three raptor species of special concern, Cooper's hawk, white-tailed kite or burrowing owl.

> **Mitigation Measure 9-1:** Preconstruction surveys for tree-nesting species (e.g., white-tailed kite, Cooper's hawk) will be necessary if tree removal occurs during the February 1 to August 1 nesting season. If an active raptor nest is identified, appropriate mitigation measures shall be developed and implemented in consultation with CDFG. Mitigation would include development of a construction plan that establishes buffer zones around active nests during construction activity and/or until young have fledged.
>
> **Mitigation Measure 9-2:** A preconstruction survey for burrowing owl should be conducted to ensure impacts to burrowing owls, if present in the construction area, do not occur to nesting or wintering burrowing owls. Preconstruction surveys should be conducted within 30 days of initiation of construction activity. If any burrowing owls are detected during the preconstruction surveys, all appropriate mitigation recommended by the Burrowing Owl Consortium and CDFG will be adopted.

Four raptor species that could occur are designated as state species of special concern based on presence of wintering habitat (ferruginous hawk, golden eagle, sharp-shinned hawk, and merlin). One of these species (sharp-shinned hawk) was identified at the site during winter surveys conducted in 2011. These species are wide-ranging species often wintering over a broad area, and incidental use of the site by any these species in winter is certainly possible. The site, however, contains no unique habitat features that would highlight the importance of the site as a wintering location for any of these species.

Two other avian species of special concern are possible on the site: California horned lark (state species of special concern) and loggerhead shrike (a species of both federal and state special concern). As potentially suitable nesting habitat is present for either species, preconstruction surveys should be conducted of the development area to determine if nesting is occurring. If nests of either species are found, a construction plan would need to be developed that would allow successful nesting (fledging of young birds).

Impact 10: Construction during the nesting season could impact California horned lark and/or loggerhead shrike.

> **Mitigation Measure 10-1:** Preconstruction surveys should be conducted of the development area to determine if nesting by either California horned lark or loggerhead shrike is occurring. If nests of either species are found, a construction plan would need to be developed that would allow successful nesting (fledging of young birds).

Seven species of bats that are California species of special concern, or are recognized as having conservation priority by the Western Bat Working Group, the Bureau of Land Management, or the U.S. Forest Service have potential to occur within the project boundaries, including the pallid bat, which is a designated species of special concern and for which roost sites have occurred in the project vicinity. The project area provides potential foraging and roosting habitat for these species. The residential structures and outbuildings in the project area may provide summer or winter (hibernacula) roosting sites. Construction in or demolition of barns or stables may result in destruction of maternity roosts, hibernacula, day roosts, and/or night roosts of bat species, including the pallid bat. Depending on the design of existing structures and the time of year demolition of structures take place, bat surveys and implementation of additional mitigation measures may be warranted.

Impact 11: Construction in or demolition of buildings could result in destruction of maternity roosts, hibernacula, day roosts, and/or night roosts of bat species, including pallid bat.

> **Mitigation Measure 11-1:** Generalized preconstruction bat surveys should be conducted prior to building demolition. Exclusion devices should be employed to prevent impacts to bats if surveys demonstrate presence of bats. The surveys should be conducted no earlier than 45 days and no later than 20 days prior to any activity within 200 feet of the structures. If it is determined that threatened, endangered, or sensitive bat species are present within structures, an appropriate bat exclusion specialist should be consulted. The bat exclusion specialist should be licensed by the State of California. If breeding special status bat species are present, exclusion may only be conducted before May 1 or after August 31 to avoid separating mothers from pups. Exclusion devices can include one-way netting, plastic sheeting, or tubes, and must remain in place for at least 5 to 7 days prior to activity. After that, if demolition is not to occur immediately, exclusion points must be sealed. Ultrasonic devices, chemical repellents, and smoke may not be used for exclusion.

6.0 AGENCY PERMIT REQUIREMENTS

Any potential impacts to jurisdictional wetlands or waters of the U.S. at the site will require authorization from the Army Corps of Engineers pursuant to Section 404 of the Clean Water Act. NWP 39 authorizes "discharges of dredged or fill material into non-tidal waters of the U.S., excluding non-tidal wetlands adjacent to tidal waters, for the construction or expansion of residential, commercial, and institutional building foundations and building pads and attendant features that are necessary for the use and maintenance of the structures" provided the activities meet the following criteria:

- The discharge does not cause the loss of greater than 0.5-acre of non-tidal waters of the U.S.;
- The discharge does not cause the loss of greater than 300 linear feet of a stream bed (unless the criterion is waived by the District Engineer);
- The discharge is part of a single and complete project;
- The permittee avoids and minimizes discharges into waters of the U.S. to the maximum extent practicable;
- The discharge does not cause more than minimal degradation of water quality or more than minimal changes to stream flow characteristics; and
- The permittee establishes and maintains vegetated buffers next to open water to the maximum extent practicable.

As the 0.36 acres of seasonal wetlands are scattered throughout the site and avoidance of these wetlands would be problematic with any layout of land uses, a permit from the Corps is a certainty for development at this site. Wetland impacts would not exceed the 0.5 acre limit of Nationwide Permit 39, therefore the Corps would determine that the proposed project would qualify for a Nationwide Permit 39, and an Individual Permit would not be required. A wetland mitigation plan describing procedures to mitigate impacts to jurisdictional areas would need to be developed as part of the Corps permit process. The applicant would need to demonstrate that wetlands have been avoided to the extent possible and provide documentation of how the project has been minimized to reduce onsite impacts.

The requirement for a Clean Water Act Section 404 Nationwide permit means that any development project at this site will also require Section 401 water quality certification from the San Francisco Bay Regional Water Quality Control Board (RWQCB) for the Corps permit to be valid. Prior to issuance of the water quality certification, RWQCB will require the applicant to demonstrate that requirements of the City of Napa pursuant to the California Environmental Quality Act (CEQA) have been satisfied. Mitigation of wetlands will be required to obtain Corps and RWQCB approval.

If detailed studies to be conducted in 2011 reveal the presence of a federally-listed species, a Section 7 consultation with USFWS may be required.

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ATTACHMENT 1.

Figures

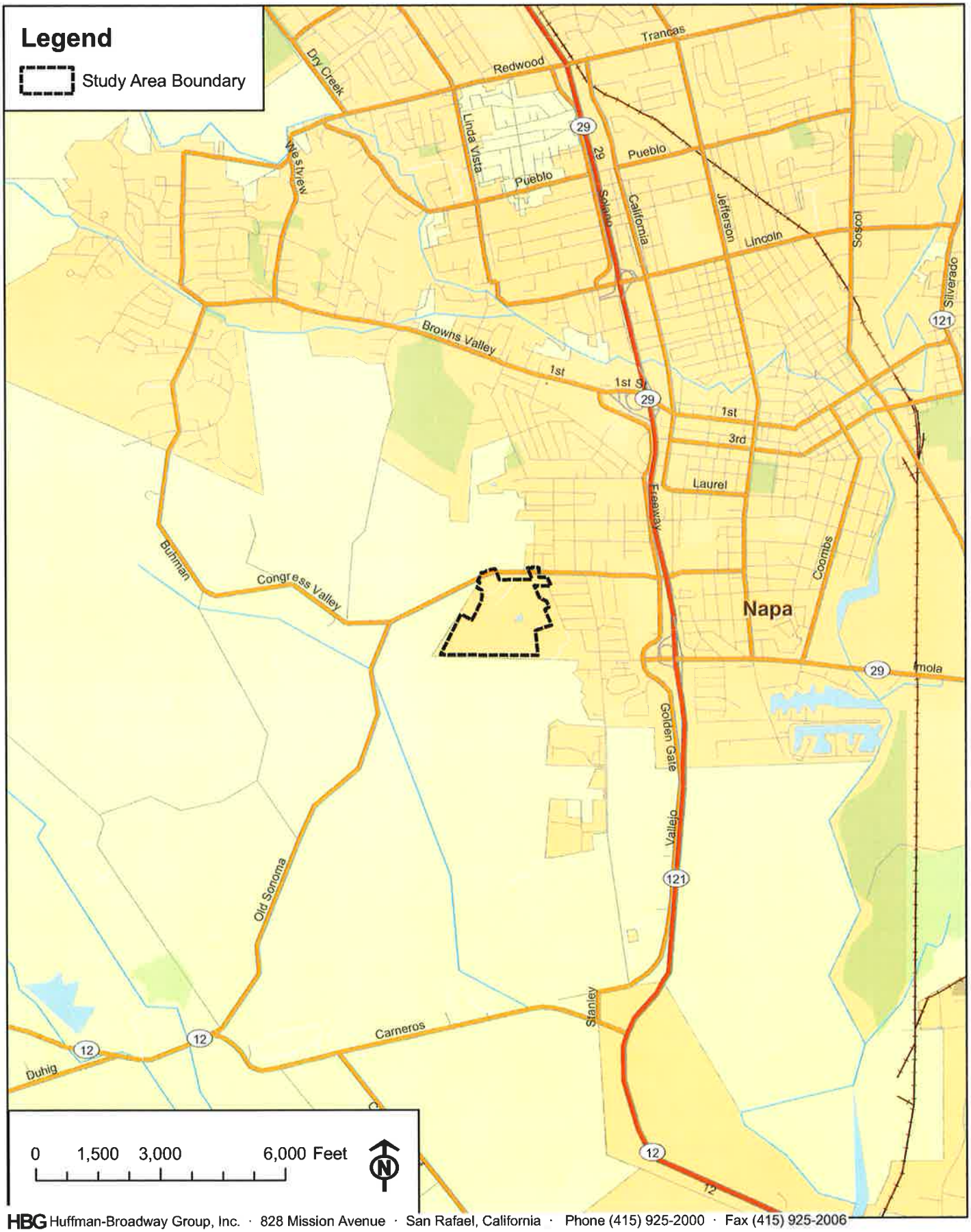

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Figure 1. Project Area Location Map
Napa Oaks Project
City of Napa, Napa County, California

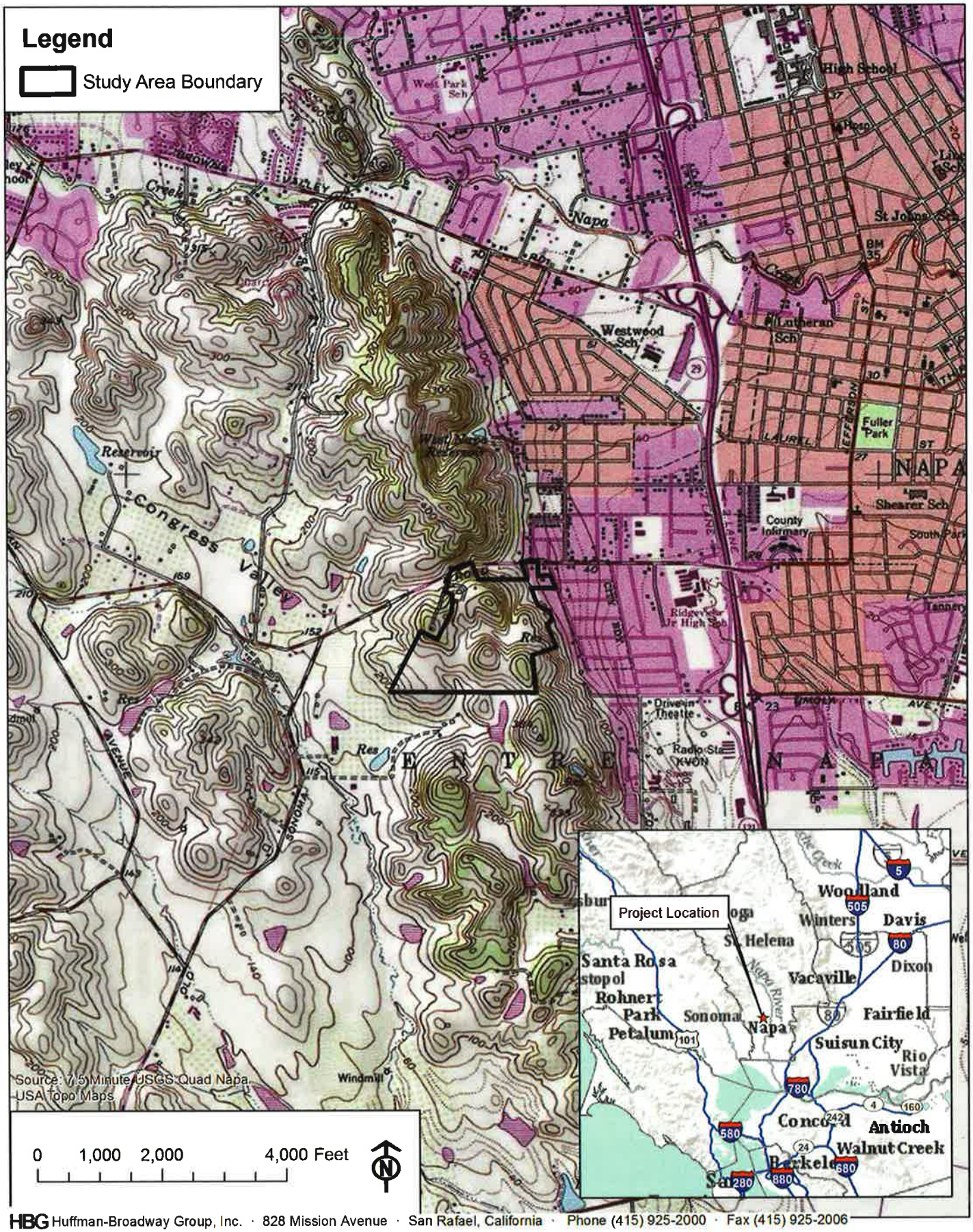

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Figure 2. USGS Map of the Project Site
Napa Oaks Project
City of Napa, Napa County, California

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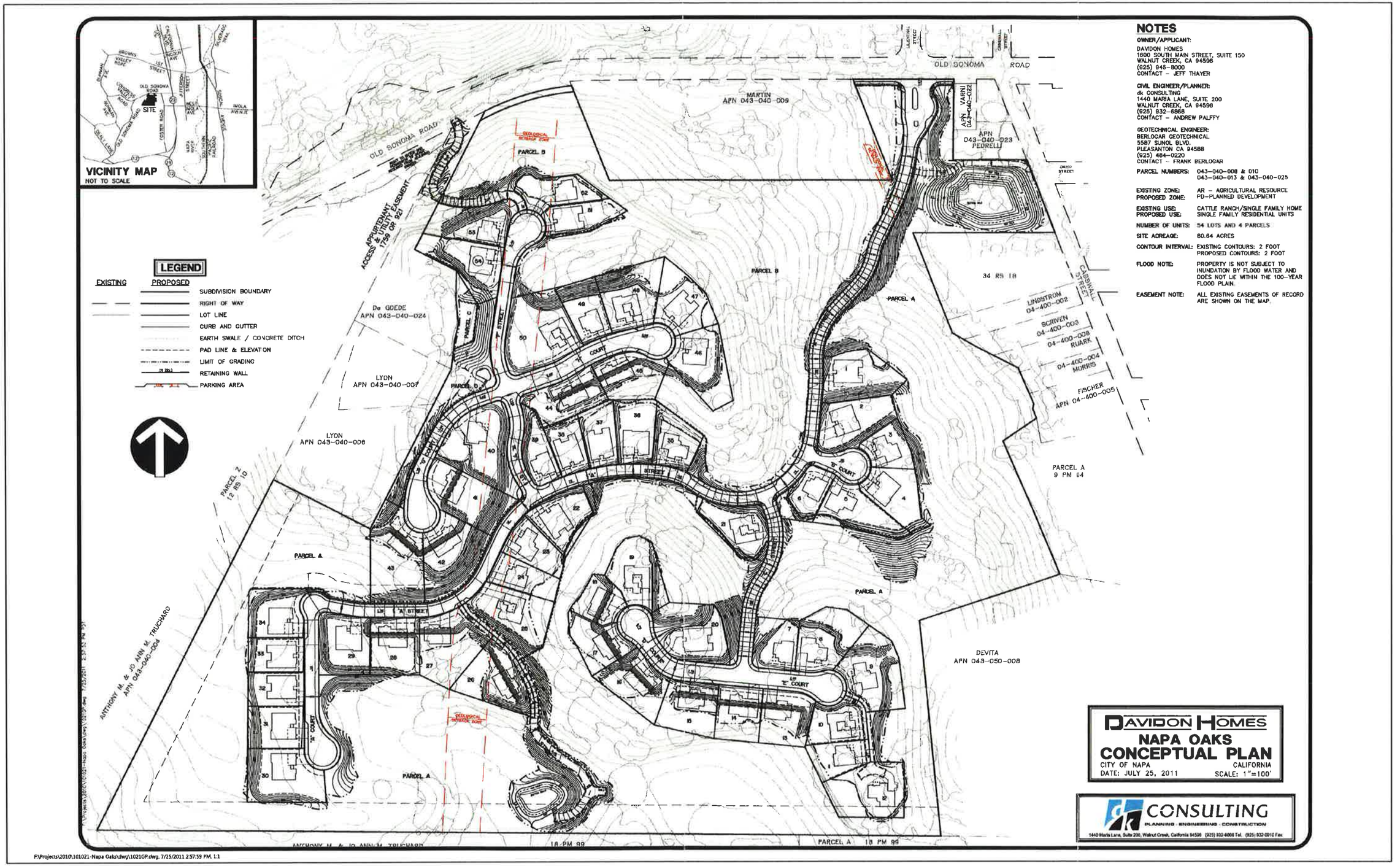
Figure 3. Aerial Photograph of Project Site
Napa Oaks Project
City of Napa, Napa County, California



NOTES

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CONTACT – ANDREW PALFFY

GEOTECHNICAL ENGINEER:
BERLOGAR GEOTECHNICAL
5587 SUNOL BLVD.
PLEASANTON CA 94588
(925) 484-0220
CONTACT – FRANK BERLOGAR

PARCEL NUMBERS:	043-040-008 & 010 043-040-013 & 043-040-025
EXISTING ZONE:	AR – AGRICULTURAL RESOURCE
PROPOSED ZONE:	PD–PLANNED DEVELOPMENT
EXISTING USE:	CATTLE RANCH/SINGLE FAMILY HOME
PROPOSED USE:	SINGLE FAMILY RESIDENTIAL UNITS
NUMBER OF UNITS:	54 LOTS AND 4 PARCELS
SITE ACREAGE:	80.84 ACRES
CONTOUR INTERVAL:	EXISTING CONTOURS: 2 FOOT PROPOSED CONTOURS: 2 FOOT
FLOOD NOTE:	PROPERTY IS NOT SUBJECT TO INUNDATION BY FLOOD WATER AND DOES NOT LIE WITHIN THE 100-YEAR FLOOD PLAIN.
EASEMENT NOTE:	ALL EXISTING EASEMENTS OF RECORD ARE SHOWN ON THE MAP.

DAVIDON HOMES
NAPA OAKS CONCEPTUAL PLAN
CITY OF NAPA CALIFORNIA
DATE: JULY 25, 2011 SCALE: 1"=100'

dk CONSULTING
PLANNING · ENGINEERING · CONSTRUCTION
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Figure 4. Napa Oaks Project Conceptual Plan
Napa Oaks Project
City of Napa, Napa County, California

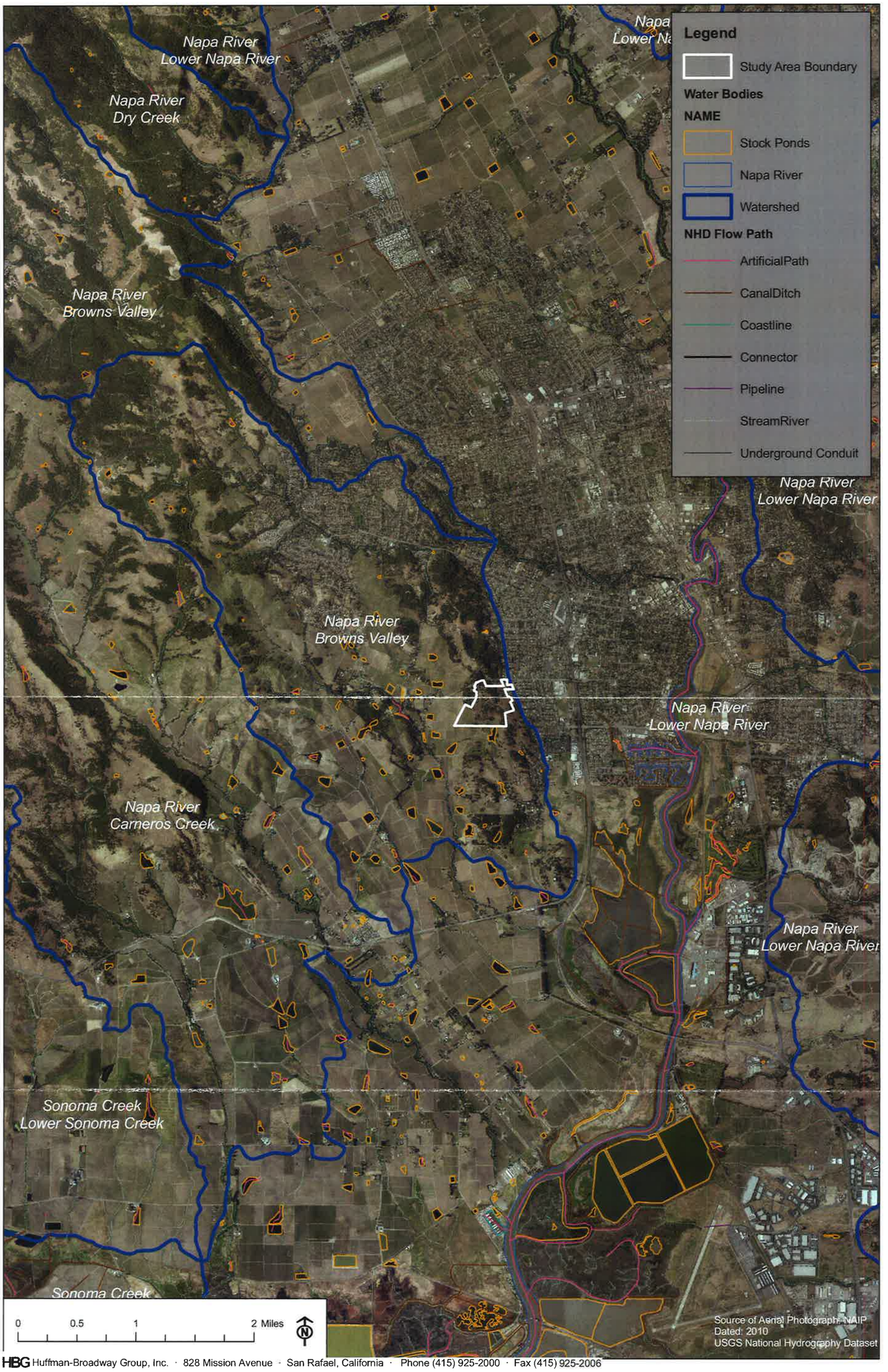

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Figure 5. Watershed Map of the Project Area
Napa Oaks Project
City of Napa, Napa County, California

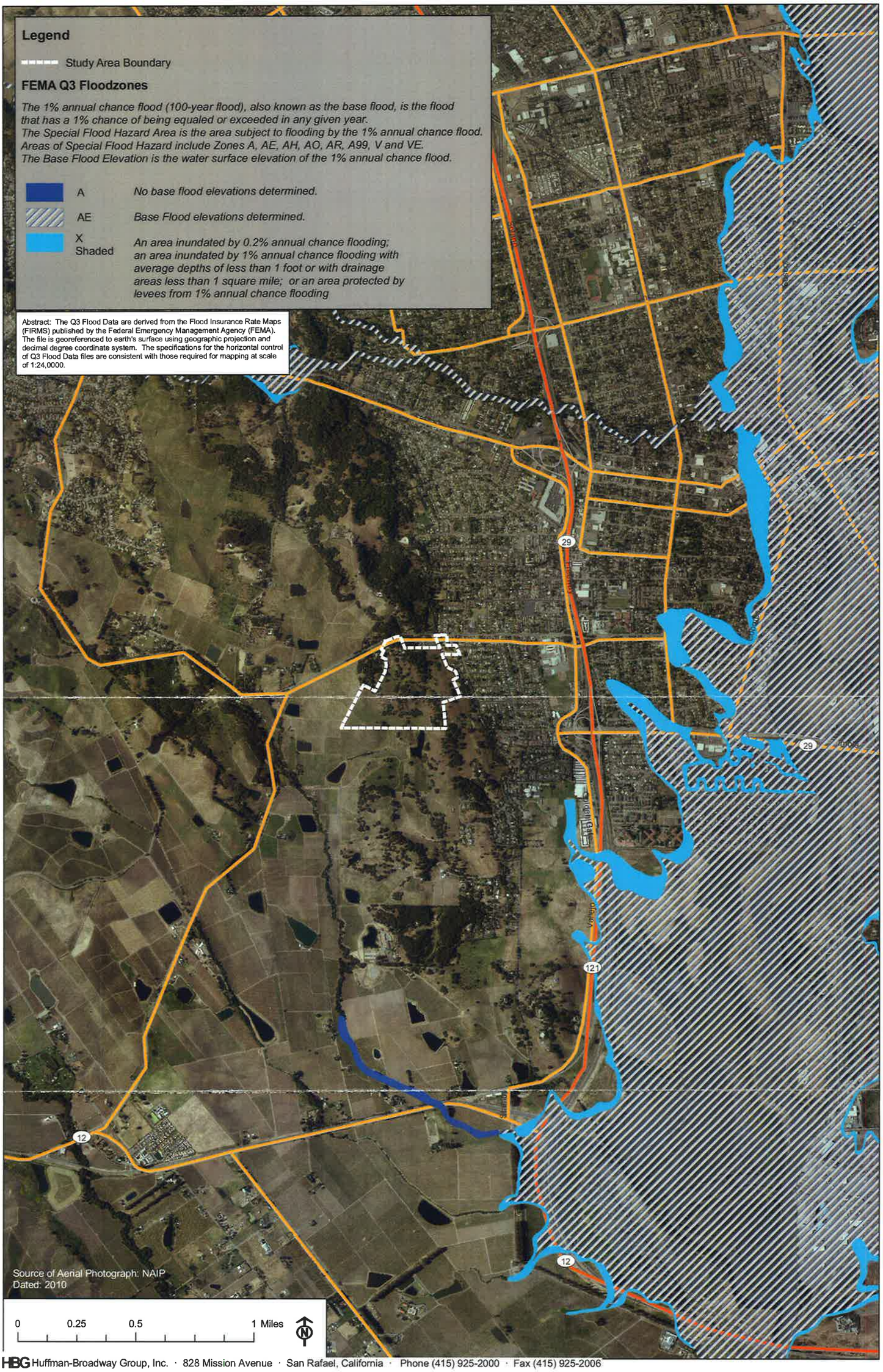

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Figure 6. Fema Map for the Project Vicinity
Napa Oaks Project
City of Napa, Napa County, California

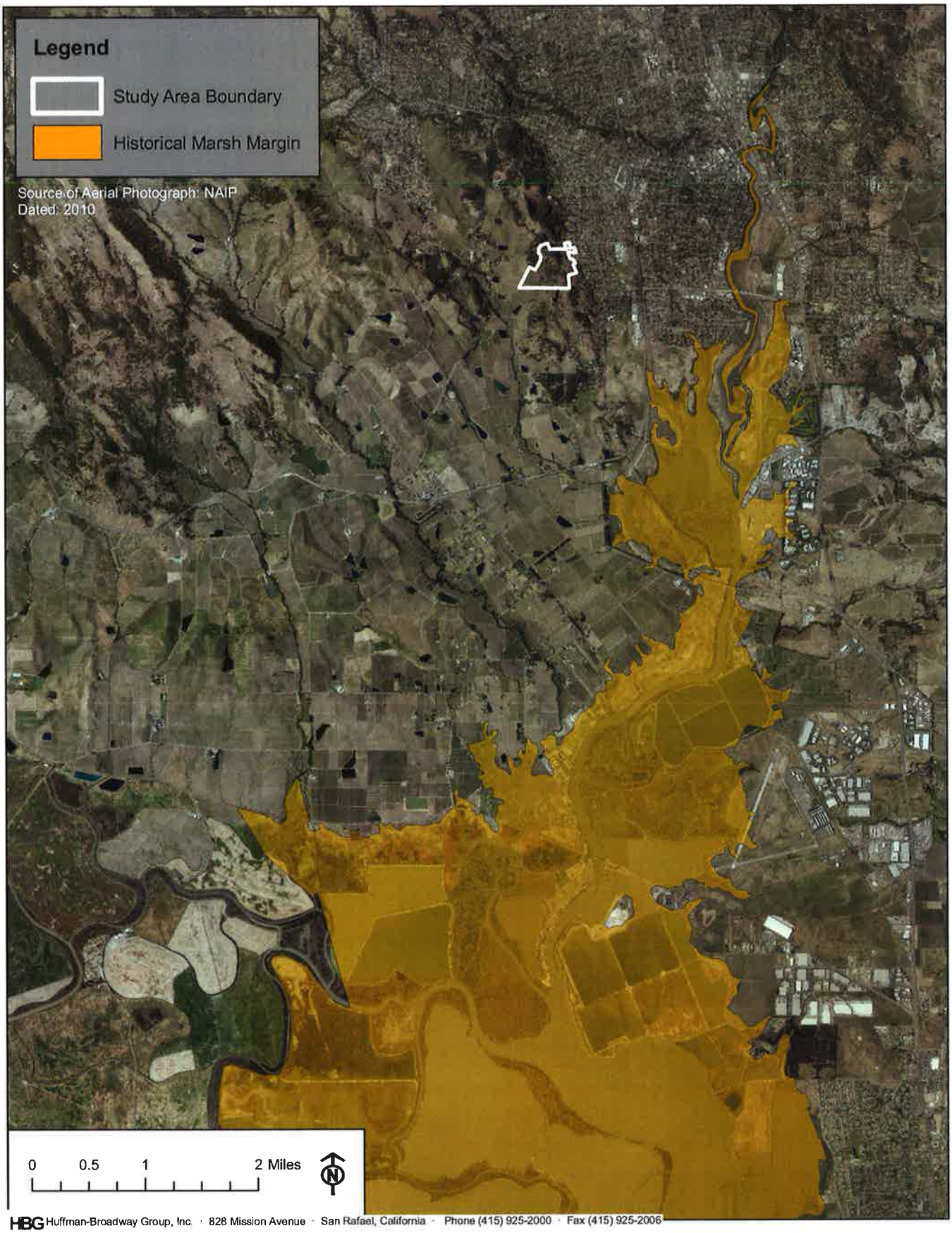

Figure 7. Historic Marsh Margins near Napa
Napa Oaks Project
City of Napa, Napa County, California

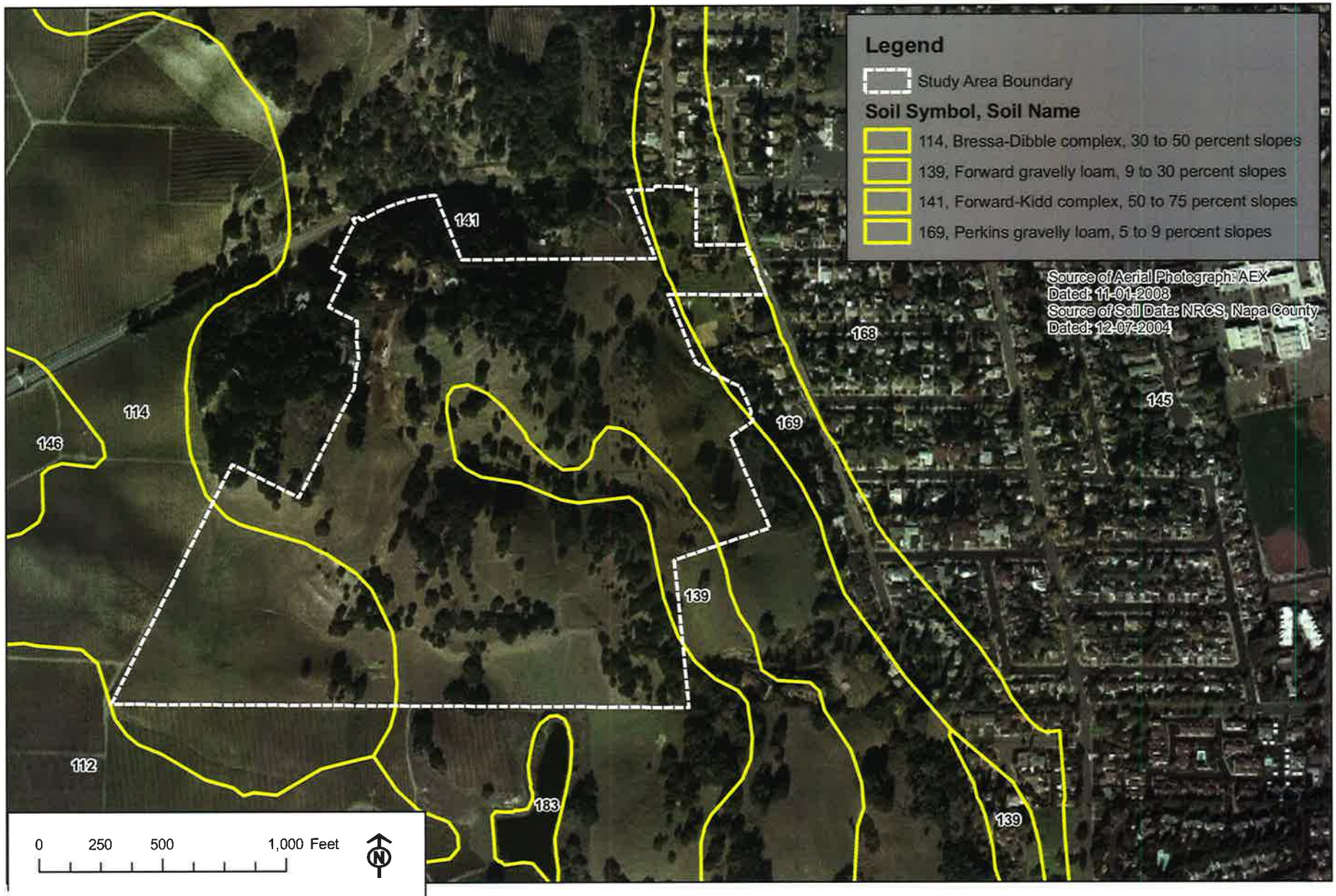

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Figure 8. Soil Map of the Project Area
Napa Oaks Project
City of Napa, Napa County, California

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Figure 9. Map of Plant Communities at the Project Site
Napa Oaks Project
City of Napa, Napa County, California

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Figure 10. Wetlands and Waters of the U.S. Potentially Subject to Corps Jurisdiction
Napa Oaks Project
City of Napa, Napa County, California

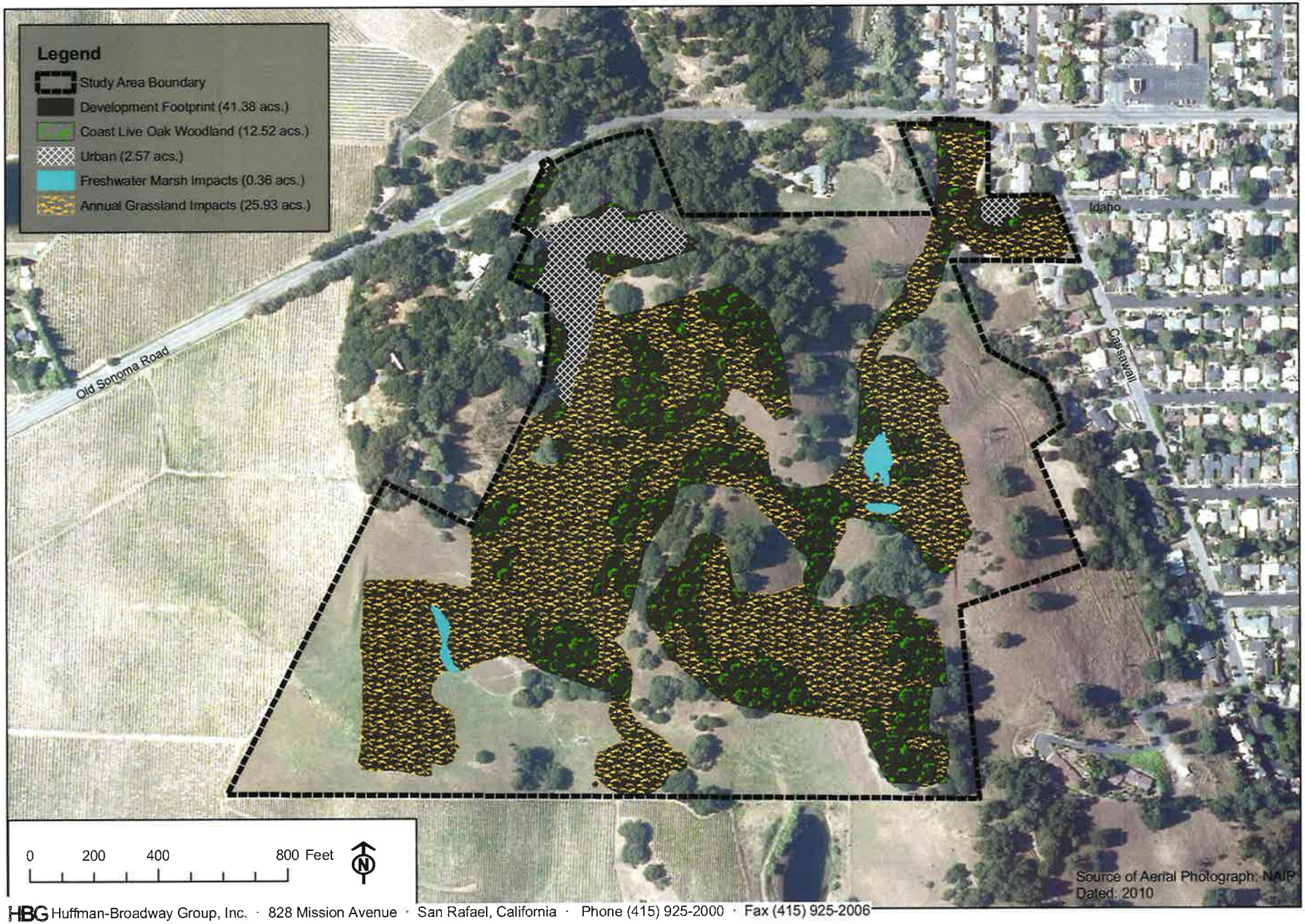

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Figure 11. Impacts to Vegetation Communities Occuring on the Project Site
Napa Oaks Project
City of Napa, Napa County, California

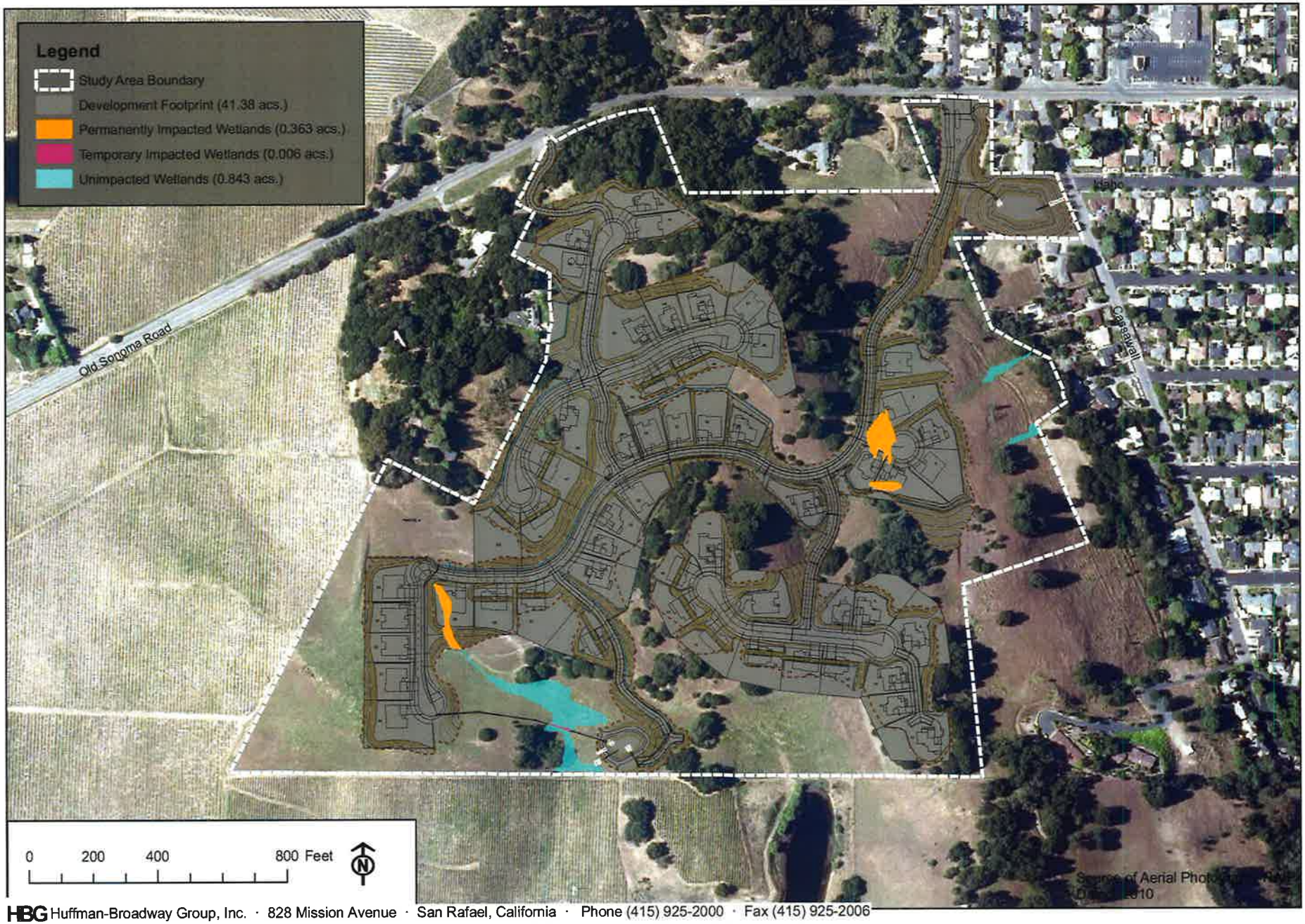

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Figure 12. Impacts to Wetlands and Waters of the U.S. Potentially Subject to Corps Jurisdiction
Napa Oaks Project
City of Napa, Napa County, California

ATTACHMENT 2

ATTACHMENT 2.

SUPPLEMENTAL BIOLOGICAL INFORMATION

Table 1. Status, Distribution, and Habitat of Special-Status Plants with Potential to Occur in the Vicinity of the Napa Oaks Project Plan Area, Napa, California

SCIENTIFIC NAME	STATUS[2]	HABITAT/RANGE	OCCURRENCE
Franciscan onion *(Allium peninsulare* var. *franciscanum)*	--/--/1B	On clay soils on dry hillsides, often on serpentine, in cismontane woodland and valley and foothill grassland. 100-300m. Nearest location is a half mile north of Sonoma, over 8 miles from the site.	Not present. Potential habitats were surveyed in spring and summer of 2011 with negative results.
Napa false indigo (*Amorpha californica* var. *napensis*)	--/--/1B	Broad-leafed upland forest, chaparral, cismontane woodland; openings in forest or woodland or in chaparral (150-2000m). Nearest location is at Patrick Road about 5 miles northwest of the site.	Not present. Potential habitats were surveyed in spring and summer of 2011 with negative results.
Clara Hunt's milk-vetch (*Astragalus clarianus*)	FE/CT/1B	Inhabits open grassy hillsides in thin, volcanic clay soils in cismontane woodland, valley and foothill grassland and chaparral. Not known to occur within 10 miles of the site.	Not present. Potential habitats were surveyed in spring and summer of 2011 with negative results.
San Joaquin spearscale (*Atriplex joaquiniana*)	--/--/1B	Chenopod scrub, alkali meadow in valley and foothill grassland. Alkali scrub and mesic grasslands in the Delta and Central Valley basin. 1-250m. Known from within Napa about a mile from the site.	Not present. Appropriate habitat is not present on site.
Big-scale (California) balsamroot (*Balsamorhiza macrolepis var. macrolepis*)	SLC/--/1B	Chaparral, cismontane woodland, valley and foothill grassland/sometimes serpentinite; 90-1400m. Nearest location is over 8 miles east of the site.	Not present. Potential habitats were surveyed in spring and summer of 2011 with negative results.

SCIENTIFIC NAME	STATUS[2]	HABITAT/RANGE	OCCURRENCE
Sonoma sunshine *(Blennosperma bakeri)*	FE/CE/1B	Vernal pools and swales in valley and foothill grassland. 10-100m. Nearest location is north of Sonoma over 8 miles from the site.	Not present. Appropriate habitat is not present on site.
Narrow-anthered California brodiaea (*Brodiaea californica var. leptandra*)	--/--/1B	Broadleafed upland forest, chaparral, lower montane coniferous forest. 110-915m. Nearest location is at Arrowhead Mountain about 5 miles west of the site.	Not present. Appropriate habitat is not present on site.
Tiburon Indian paintbrush (*Castilleja affinis ssp. neglecta*)	FE/CT/1B	Rocky serpentine sites in valley and foothill grasslands. 75-400 m. Nearest location is in American Canyon nearly 10 miles from the site.	Not present. Appropriate habitat is not present on site.
Holly-leaved ceanothus (*Ceanothus purpureus*)	SLC/--/--	Rocky volcanic slopes in chaparral. 120-640m. Nearest location is near Sugarloaf Summit about 4 miles east of the site.	Not present.. Appropriate habitat is not present on site.
Sonoma Ceanothus (*Ceanothus sonomensis*)	--/--/1B	On sandy, serpentine or volcanic soils in chaparral. 210-800m. Nearest location is along the Sonoma/Napa County line about 6 miles west of the site.	Not present. Appropriate habitat is not present on site
Pappose tarplant (*Centromadia parryi ssp. parryi*)	SLC/--/1B	Vernally mesic, often alkaline sites in coastal prairie, meadows and seeps, coastal salt marsh and valley and foothill grassland. Nearest location is near Highway 121 about 8.5 miles from the site.	Not present. Appropriate habitat is not present on site.

SCIENTIFIC NAME	STATUS[2]	HABITAT/RANGE	OCCURRENCE
Soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*)	FE/CR/1B	Inhabits brackish tidal marsh and seasonal alkali marsh. 0-3m. Known from fewer than 20 populations in Contra Costa, Napa, and Solano Counties. Nearest location is southwest of Cuttings Wharf over 5 miles from the site.	Not present. Appropriate habitat is not present on site.
Dwarf downingia (*Downingia pusilla*)	--/--/2	Margins of vernal pools; mesic sites in valley and foothill grassland. 1-485m. Nearest location is near Highway 12/121 about 5 miles south of the site.	Not present. Appropriate habitat is not present on site.
Greene's narrow-leaved daisy (*Erigeron greenei*)	--/--/1B	Serpentine and volcanic substrates in chaparral. 75-1060m. Nearest location is at Soda Creek Canyon between Napa and Yountville about 7 miles north of the site.	Not present. Appropriate habitat is not present on site
Seaside tarplant (*Hemizonia congesta* ssp. *congesta*)	--/--/1B	Grassy valleys and hills, often in fallow fields, in coastal scrub and valley and foothill grassland. Nearest location is south of Sonoma, over 8 miles from the site.	Not present. Potential habitats were surveyed in spring and summer of 2011 with negative results.
Northern California black walnut (*Juglans hindsii*)	--/--/1B	In deep alluvial soils associated with a stream or creek; in riparian forest and riparian wooldland. 0-395m. Known from a Napa City Park just over a mile from the site.	Not present. Appropriate habitat is not present on site.

SCIENTIFIC NAME	STATUS[2]	HABITAT/RANGE	OCCURRENCE
Contra Costa Goldfields (*Lasthenia conjugens*)	FE/--/1B	Vernal pools, swales, low depressions, in open grassy areas. 1-445m. Extirpated from most of its range. Most remaining occurrences restricted to the Fairfield region. Occurs near Highway 121 near the Napa River.	Not present. Appropriate habitat is not present on site.
Delta Tule Pea (*Lathyrus jepsonii* var. *jepsonii*)	--/--/1B	Inhabits the banks of sloughs and bays in the Suisun Bay and Delta. Found in freshwater and brackish marshes. Nearest location is along the Napa River near the Maxwell Bridge.	Not present. Appropriate habitat is not present on site.
Legenere (*Legenere limosa*)	--/--/1B	Inhabits vernal pools, 1-880m. Known from scattered occurrences in the Delta, north Central Valley, and north SF Bay. Many occurrences are extirpated. Nearest location is about 4 miles south of the site.	Not present. Appropriate habitat is not present on site.
Mason's lilaeopsis (*Lilaeopsis masonii*)	--/CR/1B	Inhabits the edges of mudflats in brackish marsh and riparian scrub in the Delta. 0-10m. Known along the Napa River just over a mile from the site.	Not present. Appropriate habitat is not present on site.
Sebastopol meadowfoam (*Limnanthes vinculans*)	FE/CE/1B	Grows in poorly drained clay and sandy loam soils in swales, wet meadows, and marshy areas. Occurs in mesic meadows and vernal pools in valley and foothill grasslands. 15-115m. Nearest known location is about 10 miles from the site at the Laguna Vista Project.	Not present. Appropriate habitat is not present on site.

SCIENTIFIC NAME	STATUS[2]	HABITAT/RANGE	OCCURRENCE
Cobb mountain lupine (*Lupinus sericatus*)	--/--/1B	Chaparral, cismontane woodland, lower montane coniferous forest; in stands of knob cone pine-oak woodland; on open woodland slopes in gravelly soils; sometimes on serpentine (180-1500m). Nearest location is north of the summit of Hogback Mountain, about 7 miles northwest ofthe site.	Not present. Potential habitats were surveyed in spring and summer of 2011 with negative results.
Few-flowered Navarretia (*Navarretia leucocephala ssp. pauciflora*)	FE/CT/1B	Inhabits volcanic ash flows and volcanic substrates in vernal pools. 400-855m. Not known to occur within 10 miles of the site.	Not present. Appropriate habitat is not present on site.
Marin knotweed (*Polygonum marinense*)	SLC/--/3	Coastal salt marshes and brackish marshes. 0-10m. Nearest location is at Cuttings Wharf over 4 miles south of the site.	Not present. Appropriate habitat is not present on site.
Marin checkerbloom (*Sidalcea hickmanii ssp. viridis*)	--/--/1B	Chaparral. Serpentine or volcanic soils; sometimes appears after burns. 0-430m. Nearest location is at the base of Mt. George about 6 miles northeast of the site.	Not present.. Appropriate habitat is not present on site.
Suisun Marsh aster (*Symphyotrichum lentum*)	--/--/1B	Both brackish and freshwater marshes and swamps. 0-3m. Occurs near the Napa Municipal Golf Course a couple miles from the site.	Not present. Appropriate habitat is not present on site.

SCIENTIFIC NAME	STATUS[2]	HABITAT/RANGE	OCCURRENCE
Napa bluecurls (*Trichostema ruygtii*)	--/--/1B	Open sunny areas in cismontane woodland, chaparral, valley and foothill grassland, vernal pools and lower montane coniferous forest. 30-590m. Nearest location is northeast of Napa about 6 miles from the site.	Not present. Potential habitats were surveyed in spring and summer of 2011 with negative results.
Showy Indian clover (*Trifolium amoenum*)	FE/--/1B	Inhabits moist clay grassland soils; known from one extant occurrence in Marin County. 5-560m. Known from a 1951 sighting near Napa.	Not present. Potential habitats were surveyed in spring and summer of 2011 with negative results.
Saline clover (*Trifolium. hydrophilum*)	--/--/1B	Marshes and swamps, valley and foothill grassland, vernal pools. Found in mesic, alkaline sites. 0-300m. Nearest location is south of Napa about 3 miles from the site.	Not present. Potential habitats were surveyed in spring and summer of 2011 with negative results.
Oval-leaved viburnum (*Viburnum ellipticum*)	--/--/1B	Chaparral, cismontane woodland, lower montane coniferous forest. 215-1400m. Nearest location is at Skyline Park over 5 miles from the site.	Not present. Potential habitats were surveyed in spring and summer of 2011 with negative results.

1. Source: California Natural Diversity Data Base, Natural Heritage Division, California Department of Fish and Game for the Napa 7.5 Minute Quadrangle Map and surrounding areas, information dated January 2011

2. Status Codes:

FE	Federally Endangered
FT	Federally Threatened
FPE	Federally Proposed Endangered
FPT	Federally Proposed Threatened
FSC	Federal Species of Concern (most are former C2 Candidates and some former C1)
CE	California Endangered
CT	California Threatened
CR	California Rare

CFP	California Fully Protected
CSC	California Species of Special Concern
CNPS 1A	Plants Presumed Extinct in California
CNPS 1B	Plants Rare, Threatened or Endangered in California or elsewhere
CNPS LIST 2	Plants Rare, Threatened or Endangered in California, but more common elsewhere

Table 2. Vascular Plant Species Observed at the Napa Oaks Project Plan Area, Napa, California (list compiled during the spring and summer botanical surveys conducted by Virginia Dains in 2011)

Family	Scientific Name	Common Name
Anacardiaceae		
	Toxicodendron diversilobum	poison oak
Apiaceae		
	Conium maculatum	poison hemlock
	Foeniculum vulgare	fennel
	Sanicula bipinnatifida	purple sanicle
	Sanicula crassicaulis	Pacific sanicle
	Torilis arvensis	field hedge-parsley
Asteraceae		
	Achyrachaena mollis	blow-wives
	Baccharis pilularis	coyote brush
	Carduus pycnocephalus	Italian thistle
	Centaurea calcitrapa	red star-thistle
	Centaurea solstitialis	yellow star-thistle
	Filago californica	California herba impia
	Hedypnois cretica	Cretan hedypnois
	Hypochaeris glabra	smooth cat's ear
	Hypochaeris radicata	rough cat's ear
	Lactuca serriola	prickly lettuce
	Leontodon taraxacoides	hawkbit
	Micropus californicus	slender cottonweed
	Picris echioides	bristly ox-tongue
	Psilocarphus oregonus	Oregon woolly marbles
	Senecio vulgaris	common groundsel
	Silybum marianum	milk thistle
	Soliva sessilis	common soliva
	Sonchus arvensis	perennial sow thistle
	Sonchus asper ssp. asper	prickly sow thistle
	Taraxacum officinale	common dandelion
Boraginaceae		
	Amsinckia menziesii var. intermedia	orange-flowered Menzies' fiddleneck
	Plagiobothrys nothofulvus	rusty-haired popcorn flower
Brassicaceae		

Family	Scientific Name	Common Name
	Brassica nigra	black mustard
	Brassica rapa	field mustard
	Cardamine oligosperma	Idaho bittercress
	Lepidium nitidum	shining pepper-grass
	Raphanus sativus	wild radish
Caprifoliaceae		
	Symphoricarpos mollis	creeping snowberry
	Viburnum tinus	spring bouquet viburnum
Caryophyllaceae		
	Cerastium glomeratum	mouse-ear chickweed
	Stellaria media	common chickweed
Crassulaceae		
	Crassula tillaea	Mediterranean pygmy-weed
Cyperaceae		
	Eleocharis macrostachya	common spikerush
Ericaceae		
	Arbutus menziesii	madrone
Fabaceae		
	Lotus humistratus	short-podded lotus
	Lotus wrangelianus	Chilean lotus
	Lupinus bicolor	miniature lupine
	Lupinus nanus	sky lupine
	Medicago polymorpha	California burclover
	Trifolium campestre	hop clover
	Trifolium dubium	shamrock
	Trifolium glomeratum	clustered clover
	Trifolium hirtum	rose clover
	Trifolium subterraneum	subterranean clover
	Trifolium willdenovii	tomcat clover
Fagaceae		
	Quercus agrifolia	coast live oak
	Quercus lobata	Valley oak
Gentianaceae		
	Centaurium muehlenbergii	Muhlenberg's centaury
	Cicendia quadrangularis	common microcalis
Geraniaceae		
	Erodium botrys	long-beaked filaree
	Erodium cicutarium	red-stemmed filaree

Family	Scientific Name	Common Name
	Geranium dissectum	cut-leaved geranium
	Geranium robertianum	Robert's geranium
Hippocastanaceae		
	Aesculus californica	California buckeye
Iridaceae		
	Sisyrinchium bellum	blue-eyed grass
Juglandaceae		
	Juglans regia	English walnut
Juncaceae		
	Juncus bufonius	toad rush
	Juncus tenuis	poverty rush
	Juncus xiphioides	iris-leaved rush
Juncaginaceae		
	Lilaea scilloides	flowering quillwort
Lamiaceae		
	Marrubium vulgare	horehound
	Mentha pulegium	pennyroyal
	Stachys bullata	southern hedge-nettle
Liliaceae		
	Calochortus luteus	yellow mariposa
	Chlorogalum pomeridianum	soaproot
Lythraceae		
	Lythrum hyssopifolium	hyssop loosestrife
Malvaceae		
	Malva parviflora	cheeseweed
Moraceae		
	Ficus carica	common fig
Oleaceae		
	Olea europaea	olive
Onagraceae		
	Camissonia ovata	sun-cup
	Clarkia unguiculata	woodland clarkia
	Epilobium brachycarpum	autumn willowweed
Oxalidaceae		
	Oxalis pes-caprae	Bermuda buttercup
Papaveraceae		
	Eschscholzia californica	California poppy
Pinaceae		

Family	Scientific Name	Common Name
	Pinus radiata	Monterey pine
Plantaginaceae		
	Plantago erecta	California plantain
	Plantago lanceolata	English plantain
Poaceae		
	Aira caryophyllea	silver hairgrass
	Avena barbata	slender wild oats
	Brachypodium distachyon	purple false-brome
	Briza maxima	big quaking grass
	Briza minor	little quaking grass
	Bromus diandrus	ripgut brome
	Bromus hordeaceus	soft chess
	Cynosurus echinatus	hedgehog dogtail-grass
	Dactylis glomerata	orchard-grass
	Elymus elymoides	squirreltail
	Gastridium ventricosum	nit grass
	Hordeum brachyantherum	meadow barley
	Hordeum murinum ssp. leporinum	foxtail barley
	Lolium multiflorum	Italian rye-grass
	Melica californica	California melic
	Nassella pulchra	purple needlegrass
	Pleuropogon californicus	semaphore grass
	Poa annua	annual blue grass
	Vulpia bromoides	brome fescue
	Vulpia myuros	rattail fescue
Polygonaceae		
	Rumex acetosella	common sheep sorrel
	Rumex crispus	curly dock
	Rumex occidentalis	western dock
	Rumex pulcher	fiddle dock
Portulacaceae		
	Claytonia perfoliata	miner's lettuce
Primulaceae		
	Anagallis arvensis	scarlet pimpernel
Ranunculaceae		
	Ranunculus californicus	California buttercup
	Ranunculus muricatus	spiny buttercup
Rhamnaceae		

Family	Scientific Name	Common Name
	Rhamnus californica	California coffeeberry
Rosaceae		
	Heteromeles arbutifolia	toyon
	Malus sylvestris	domestic apple
	Prunus cerasifera	cherry plum
	Prunus dulcis	almond
	Pyracantha angustifolia	firethorn
	Rubus discolor	Himalaya-berry
Rubiaceae		
	Galium aparine	common bedstraw
	Galium parisiense	wall bedstraw
	Sherardia arvensis	field madder
Saxifragaceae		
	Lithophragma affine	common woodland star
Scrophulariaceae		
	Castilleja exserta ssp. exserta	purple owl's clover
	Parentucellia viscosa	yellow parentucellia
	Triphysaria pusilla	little owl's clover
	Verbascum blattaria	moth mullein
Solanaceae		
	Solanum sisymbriifolium	sticky nightshade
Urticaceae		
	Urtica urens	dwarf nettle

Table 3. Animal Species Observed on the Project Site or Expected to Utilize the Project Site

MAMMALS

	Virginia Opossum	*Didelphis virginiana*
	Broad-footed Mole	*Scapanus latimanus*
	California Myotis	*Myotis californicus*
	Yuma Myotis	*Myotis yumanensis*
	Western Pipistrelle	*Pipistrellus hesperus*
	Big Brown Bat	*Eptesicus fuscus*
	Red Bat	*Lasiurus borealis*
	Pallid Bat	*Antrozous pallidus*
	Brazilian Free-tailed Bat	*Tadarida brasiliensis*
*	Western Gray Squirrel	*Sciurus griseus*
*	California Ground Squirrel	*Spermophilus beecheyi*
*	Black-tailed Jackrabbit	*Lepus californicus*
	Desert Cottontail	*Sylvilagus audubonii*
*	Botta's Pocket Gopher	*Thomomys bottae*
	California Pocket Mouse	*Chaetodipus californicus*
	Western Harvest Mouse	*Reithrodontomys megalotis*
	Deer Mouse	*Peromyscus maniculatus*
	Dusky-footed Woodrat	*Neotoma fuscipes*
	California Vole	*Microtus californicus*
	Norway Rat	*Rattus norvegicus*
	House Mouse	*Mus musculus*
*	Coyote	*Canis latrans*
	Red Fox	*Vulpes fulva*
	Gray Fox	*Urocyon cinereoargenteus*
	Raccoon	*Procyon lotor*
	Long-tailed Weasel	*Mustela frenata*
	Striped Skunk	*Mephitis mephitis*
	Bobcat	*Felis rufus*
	Mule Deer	*Odocoileus hemionus*

REPTILES AND AMPHIBIANS

	Ensatina	*Ensatina eschscholtzi*
	California Slender Salamander	*Batrachoseps attenuatus*
*	Arboreal Salamander	*Aneides lugubris*
	Pacific Treefrog	*Hyla regilla*
**	Western Toad	*Bufo boreus*
*	Western Fence Lizard	*Sceloporus occidentalis*
	Western Skink	*Eumeces skiltonianus*
	Northern Alligator Lizard	*Gerrhonotus coeruleus*
	Ringneck Snake	*Diadophis punctatus*
	Sharp-tailed Snake	*Contia tenuis*
	Racer	*Coluber constrictor*

	Gopher Snake	*Pituophis melanoleucus*
	Common Kingsnake	*Lampropeltis getulus*
	Common Garter Snake	*Thamnophis sirtalis elegans*
	Night Snake	*Hypsiglena torquata*
	Western Rattlesnake	*Crotalis viridus*

BIRDS

*	Turkey Vulture	*Cathartes aura*
	White-tailed Kite	*Elanus caeruleus*
	Northern Harrier	*Circus cyaneus*
*	Sharp-shinned Hawk	*Accipiter striatus*
*	Cooper's Hawk	*Accipiter cooperi*
*	Red-shouldered Hawk	*Buteo lineatus*
*	Red-tailed Hawk	*Buteo jamaicensis*
**	Golden Eagle	*Aquila chrysaetos*
*	American Kestrel	*Falco sparverius*
	Prairie Falcon	*Falco mexicanus*
	Peregrine Falcon	*Falco peregrinus*
	Merlin	*Falco columbarius*
*	Wild Turkey	*Meleagris gallopavo*
*	California Quail	*Callipepla californica*
*	Killdeer	*Charadrius vociferus*
	Wilson's Snipe	*Gallinago delicata*
	Ring-billed Gull	*Larus delawarensis*
	California Gull	*Larus californicus*
*	Rock Pigeon	*Columba livia*
*	Mourning Dove	*Zenaida macroura*
*	Band-tailed Pigeon	*Columba fasciata*
	Barn Owl	*Tyto alba*
	Great Horned Owl	*Bubo virginianus*
	Western Screech-owl	*Otus kennicottii*
*	White-throated Swift	*Aeronautes saxatalis*
*	Anna's Hummingbird	*Calypte annas*
	Lewis' Woodpecker	*Malanerpes lewis*
*	Acorn Woodpecker	*Melanerpes formicivorus*
	Red-breasted Sapsucker	*Sphyrapicus ruber*
*	Northern Flicker	*Colaptes auratus*
*	Nuttall's Woodpecker	*Picoides nuttallii*
*	Hairy Woodpecker	*Picoides villosus*
*	Downy Woodpecker	*Dendrocopos pubescens*
*	Black Phoebe	*Sayornis nigricans*
*	Say's Phoebe	*Sayornis saya*
	Olive-sided Flycatcher	*Contopus borealus*
	Western Wood-pewee	*Contopus sordidulis*
	Pacific-slope Flycatcher	*Empidonax difficilis*

*	Ash-throated Flycatcher	*Myiarchus cinerascens*
*	Western Kingbird	*Tyrannus verticalis*
	California Horned Lark	*Eremophila alpestris*
*	Barn Swallow	*Hirundo rustica*
	Cliff Swallow	*Petrochelidon pyrrhonota*
*	Tree Swallow	*Tachicineta bicolor*
*	Violet-green Swallow	*Tachycineta thalassina*
	Northern Rough-winged Swallow	*Stelgidopteryx serripennis*
*	Western Scrub-jay	*Aphelocoma californica*
*	Stellar's Jay	*Cyanocitta stellari*
*	Common Raven	*Corvus corax*
*	American Crow	*Corvus brachyrhynchos*
	Chestnut-backed Chickadee	*Parus rufescens*
*	Oak Titmouse	*Baeolophus inornatus*
*	Common Bushtit	*Psaltriparus minimus*
*	White-breasted Nuthatch	*Sitta carolinensis*
*	Bewick's Wren	*Thryomanes bewickii*
	House Wren	*Troglodytes aedon*
	Winter Wren	*Troglodytes troglodytes*
*	American Robin	*Turdus migratorius*
	Hermit Thrush	*Hylocichla guttata*
	Swainson's Thrush	*Catharus ustulatus*
*	Western Bluebird	*Sialia mexicana*
	Blue-gray Gnatcatcher	*Polioptila caerula*
*	Ruby-crowned Kinglet	*Regulus calendula*
*	Northern Mockingbird	*Mimus polyglottos*
	American Pipit	*Anthus rubescens*
	Cedar Waxwing	*Bombycilla cedrorum*
	Loggerhead Shrike	*Lanius ludovicianus*
*	European Starling	*Sturnus vulgaris*
*	Hutton's Vireo	*Vireo huttoni*
*	Orange-crowned Warbler	*Vermivora celata*
	Nashville Warbler	*Vermivora ruficapilla*
	Yellow Warbler	*Dendroica petechia*
*	Yellow-rumped Warbler	*Dendroica coronata*
	Townsend's Warbler	*Dendroica townsendi*
	Black-throated Gray Warbler	*Dendroica nigrescens*
	Common Yellowthroat	*Geothlypis trichas*
	Wilson's Warbler	*Wilsonia pusilla*
	Western Tanager	*Piranga ludoviciana*
	Black-headed Grosbeak	*Pheucticus melanocephalus*
	Lazuli Bunting	*Passerina amoena*
*	Spotted Towhee	*Pipilo maculatus*
*	California Towhee	*Pipilo crissalis*
	Chipping Sparrow	*Spizella passerina*
*	Savannah Sparrow	*Passerculus sandwichensis*

*	Lark Sparrow	*Chondestes grammacus*
*	White-crowned Sparrow	*Zonotrichia leucophrys*
*	Golden-crowned Sparrow	*Zonotrichia atricapilla*
	Fox Sparrow	*Passerella iliaca*
*	Song Sparrow	*Melospiza melodia*
	Lincoln's Sparrow	*Melospiza lincolnii*
*	Dark-eyed Junco	*Junco hyemalis*
*	Western Meadowlark	*Sturnella neglecta*
*	Red-winged Blackbird	*Agelaius phoeniceus*
*	Brewer's Blackbird	*Euphagus cyanocephalus*
	Brown-headed Cowbird	*Molothrus ater*
*	Bullock's Oriole	*Icterus bullockii*
*	Purple Finch	*Carpodacus purpureus*
*	House Finch	*Carpodacus mexicanus*
	Pine Siskin	*Carduelis pinus*
*	American Goldfinch	*Spinus tristis*
*	Lesser Goldfinch	*Spinus psaltria*
*	Evening Grosbeak	*Cocoothraustes vespertinus*
*	House Sparrow	*Passer domesticus*

*Observed at the project site by HBG biologists during a field reviews conducted on January 10 and May 9, 2011.

**Additional species observed by Zander Associates in 1998.

Mayer and Laudenslayer (1988)
National Geographic Society (2006)
Reid (2006)
Sibley (2000)
Stebbins (2003)
Zeiner et al. (1990a, 1990b, 1990c)

Table 4. Special Status Animal Species that Have Been Reported in the Vicinity of the Napa Oaks Project Plan Area, Napa, California

SPECIES	STATUS FED/STATE/CNPS [2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
ANIMALS			
Invertebrates			
Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)	FT/--	Endemic to the grasslands of the Central Valley, Central Coast Mountains, and South Coast Mountains in astatic rain-filled pools. Has occurred in inundated depressions at the south end of the Napa Airport, about 6 miles southeast of the site.	Unlikely. Suitable habitat is not present at the site.
Conservancy Fairy Shrimp (*Branchinecta conservatio*)	FE/--	Inhabits large vernal pools, often with turbid water; known from fewer than 15 occurrences in the Delta (Jepson Prairie) and Central Valley. Not known to occur within 10 miles of the site	Unlikely. Suitable habitat is not present at the site.
Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)	FT/--	Inhabits blue elderberry bushes (host plant); restricted to the Central Valley and adjacent foothills.	Unlikely. Suitable habitat is not present at the site.
Callippe Silverspot Butterfly (*Speyeria callippe callippe*)	FE/--	Habitat for this species is grassland, often with a significant component of native grasses including the host plant (*Viola pedunculata*) and characterized by shallow rocky soils and numerous rock outcrops.	Unlikely. Site is outside of the range of the endangered subspecies of Callippe silverspot butterfly.
Myrtle's Silverspot Butterfly (*Speyeria zerene myrtleae*)	FE/--	Coastal hills; larvae feed on *viola adunca.*	Unlikely. Site is outside of the range of the species.

SPECIES	STATUS FED/STATE/CNPS[2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
California freshwater shrimp (*Syncaris pacifica*)	FE/CE	Found in shallow pools away from the main streamflow in low elevation, low gradient streams where riparian cover is moderate to heavy. Endemic to Marin, Napa and Sonoma Counties. In winter prefer undercut banks with exposed roots; in summer prefer areas where leafy branches touch water surface. Found in Huichica Creek, 3 miles southwest of the site.	Unlikely. Suitable habitat is not present at the site.
Fish			
Green Sturgeon (*Acipenser medirostris*)	FPT/CSC	Found in streams, rivers, and estuarine habitat as well as marine waters during their lifecycle. Spawn in lower reaches of large rivers with swift currents and large cobble. Found spawning in the Sacramento, Klamath and Rogue Rivers.	Unlikely. Suitable habitat is not present onsite; no large river systems.
Tidewater Goby (*Eucyclogobius newberryi*)	FE/CSC	Brackish water habitats along the Calif. Coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Unlikely. Suitable habitat is not present on the site. Not known from the project vicinity.
Delta Smelt (*Hypomesus transpacificus*)	FT/CT	During spawning they migrate upstream into shallow fresh or slightly brackish tidally-influenced backwater sloughs and channel edges.	Unlikely. Suitable habitat is not present onsite; no large river systems or suitable spawning streams.
Coho Salmon-Central California Coast ESU (*Oncorhynchus kisutch*)	CE[3]/FE[4]	Coho Salmon spawn in streams that are narrow, shallow, clear, and cold with a strong upwelling of water through the gravel. This ESU encompasses the area from Punta Gorda in northern California south to and including tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin river system.	Unlikely. Suitable habitat is not present onsite; no large river systems or suitable spawning streams.

SPECIES	STATUS FED/STATE/CNPS [2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Steelhead-Central California Coastal ESU (*Oncorhynchus mykiss*)	FT[5]/--	Steelhead spawn in streams that are shallow, clear, and cold with a strong upwelling of water through the gravel. The ESU encompasses the San Pablo Bay/Napa River watersheds. Found in Huichica Creek southwest of the project site.	Unlikely. Suitable habitat is not present onsite; no large river systems or suitable spawning streams.
Steelhead-Central Valley ESU (*Oncorhynchus mykiss*).	FT[6] /--	Steelhead spawn in streams that are shallow, clear, and cold with a strong upwelling of water through the gravel. The ESU encompasses the Suisun Bay/Sacramento River Delta watersheds.	Unlikely. Suitable habitat is not present onsite; no large river systems or suitable spawning streams.
Chinook Salmon Central Valley spring-run (*Oncorhynchus tshawytscha*).	FT[7]/CT	Chinook salmon choose to spawn in streams that are shallow, clear, and cold with a strong upwelling of water through the gravel. The ESU encompasses the Sacramento River and its tributaries.	Unlikely. Suitable habitat is not present onsite; no large river systems or suitable spawning streams.
Chinook Salmon Winter-Run Sacramento River (*Oncorhynchus tshawytscha)*	FE/CE	Chinook Salmon spawn in streams that are shallow, clear, and cold with a strong upwelling of water through the gravel. The ESU includes populations of winter-run Chinook Salmon in the Sacramento River and its tributaries.	Unlikely. Suitable habitat is not present onsite; no large river systems or suitable spawning streams.
Amphibians			
California Tiger Salamander (*Ambystoma californiense*)	FT/CSC	Found in annual grasslands and grassy understory of valley-foothill hardwood habitats in central and northern California. Needs underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water source for breeding. No records within 10 miles of the site.	Unlikely. A Phase 1 Habitat Assessment concluded that the site is outside the normal range of the species. Also would not be present in local farm ponds due to the presence of bullfrogs and predatory fish. The species is not present in the project area.

SPECIES	STATUS FED/STATE/CNPS [2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
California Red-legged Frog (*Rana aurora draytonii)*	FT/CSC	Mostly found in lowlands and foothills in/near permanent sources of deep water but will disperse far during and after rain. Prefers shorelines with extensive vegetation. Requires 11-20 weeks of permanent water for larval development and requires access to estivation habitat. Nearest location is approximately 8 miles to the south-southeast of the site in the hills in the vicinity of Napa Junction.	Unlikely. A Phase 1 Habitat Assessment concluded that the species is not present in the project area due to climatic conditions that have resulted in extirpation of the species from the Napa vicinity and the presence of bullfrogs and predatory fish in local farm ponds.
Foothill Yellow-legged Frog *(Rana boylii)*	--/CSC	Partly shaded shallow streams with riffles, with a rocky substrate in a variety of habitats; needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Frogs are usually found on stream banks, especially near riffles. They do not leave the immediate vicinity of their stream or pool. The nearest known sighting of this species is along Redwood Creek about 5 miles northwest of the site.	Unlikely. No suitable habitat on site. Wetlands at the site are not considered suitable habitat for Foothill Yellow-legged Frog.
Reptiles			
Western Pond Turtle (*Actinemys marmorata*)	FSC/CSC	Aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs basking sites and suitable upland habitat for egg-laying (sandy banks or grassy open fields). The nearest location noted in the CNDDB is at a duck pond at the south end of Napa about 2 miles southeast of the site.	Possible. Suitable breeding habitat is not present on site due to the absence of wetlands with sufficient inundation, but individuals were observed within irrigation ponds on adjacent properties. Setbacks and use of silt fencing would prevent movement of individuals onto the site during construction of the project.

SPECIES	STATUS FED/STATE/CNPS [2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Giant Garter Snake *(Thamnophis gigas)*	FT/CT	Utilizes marshes, sloughs, small lakes, low gradient streams, ponds, agricultural wetlands (irrigation and drainage canals) and adjacent uplands. Not known to occur within 10 miles of the site.	Unlikely. Suitable habitat not present at the site. Not known to occur in project area.
Birds			
California Brown Pelican *(Pelecanus occidentalis californieus)* (nesting colony and communal roosts)	FE/CE (CFP)	Found in estuarine, marine, subtidal, and marine pelagic waters along California coast. Nest is a small mound of sticks or debris on rocky or low brushy slopes of undisturbed islands, usually on ground, less often bushes.	Unlikely. Suitable habitat for a nesting colony or communal roost is not present on site.
California Black Rail *(Laterallus jamaicensis coturninculus)*	--/CT (CFP)	Inhabits tidal salt and brackish marsh bordering sloughs and large bays. Nearest known location is about 5 miles from the site west of the Napa County Airport at Bull Island.	Unlikely. Suitable habitat not present at the site.
California Clapper Rail *(Rallus longirostris obsoletus)*	FE/CE (CFP)	Inhabits tidal salt marsh along larger sloughs and bays in the SF Bay and lower Delta. Nearest known location is about 5 miles from the site west of the Napa County Airport at Bull Island	Unlikely. Suitable habitat is not present at the site.
Western Snowy Plover *(Charadrius alexandrinus nivosus)* (nesting) (coastal population)	FT/CSC	In the San Francisco Estuary, salt pond levees and exposed salt pond beds (playa-like habitat), San Francisco Bay; rare in San Pablo Bay. Typical coastal habitat is on wide, sandy beaches with scattered debris. Nearest know sighting between Huichica Creek and Coon Island about 6 miles south of the site.	Unlikely. Appropriate nesting habitat is not present on the study site.
California Least Tern *(Sterna antillarum browni)* (nesting colony)	FE/CE (CFP)	Nests on coastal, sandy, open areas usually around bays, estuaries, and creek and river mouths. Forages in shallow estuaries and lagoons, diving head first into the water after a wide variety of small fish.	Unlikely. Suitable habitat for a nesting colony is not present on site.

SPECIES	STATUS FED/STATE/CNPS 2	HABITAT	OCCURRENCE ON THE PROJECT SITE
Northern Harrier (*Circus cyaneus)* [Nesting]	--/CSC	Coastal salt marsh and freshwater marsh; nests and forages in grasslands; nests on ground in shrubby vegetation, usually at marsh edge.	Nesting unlikely. Appropriate nesting habitat is present in the project area and the species would be expected to forage on or near the site.
White-tailed Kite (*Elanus caeruleus*) [Nesting]	--/CFP	Open grassland and agricultural areas throughout Central California.	Nesting unlikely. Appropriate nesting habitat is present in the project area and the species would be expected to forage on or near the site, at any time of year.
Sharp-shinned Hawk (*Accipiter striatus)* [Nesting]	--/CSC	Breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers, but not restricted to, riparian habitats. Northfacing slopes, with plucking perches are critical requirements. All habitats except alpine, open prairie, and bare desert used in winter.	Nesting unlikely. Appropriate nesting habitat not present on site. Species likely forages on or near the site, especially in winter. One observed by Rana Resources in February 2011.
Cooper's Hawk (*Accipiter cooperii*) [Nesting]	--/CSC	Nests primarily in deciduous riparian forests; forages in open woodlands.	Nesting unlikely. Appropriate nesting habitat not present on site. Species likely forages on or near the site, especially in winter. Observed by HBG in January 2011.
Ferruginous Hawk (*Bueto regalis*) [Wintering[	FSC/CSC	Inhabits open country. Winters in small number along California coast and inland valleys. Has been recorded as a wintering species in south Napa in the area south of Soscol Creek.	Wintering possible. The species may utilize the site as a winter foraging habitat.

SPECIES	STATUS FED/STATE/CNPS 2	HABITAT	OCCURRENCE ON THE PROJECT SITE
Swainson's Hawk (nesting) *(Buteo swainsoni)*	--/CT	Nests in trees and riparian stands; summer migrant to Central Valley. Suitable foraging areas include grasslands, pastures, alfalfa and other hay crops, and certain grain and row croplands. Nested in 2005 along Suscol Creek in south Napa just over 4 miles from the site.	Nesting unlikely. Nests unlikely on the property due to a lack of suitable trees. The site provides suitable foraging habitat for this species.
Golden Eagle (*Aquila chrysaetos*) [Nesting and wintering]	--/CSC	Typically frequents rolling foothills, mountain areas, sage-juniper flats and desert.	Wintering possible. The species likely utilizes the site as a winter foraging habitat.
Merlin (*Falco columbarius*) [Wintering]	--/CSC	Breeds in Canada, winters in a variety of California habitats, including grasslands, savannahs, wetlands, etc.	Wintering possible. The species may utilize the site as a winter foraging habitat.
Burrowing Owl (*Athene cunicularia*)	FSC/CSC	Found in open dry annual or perennial grasslands, deserts and scrublands characterized by low growing vegetation. This species is a subterranean nester, dependent upon the burrows of burrowing mammals, most notably the California ground squirrel. Nearest occurrence documented in the CNDDB is at Skaggs Island over 8 miles from the site.	Possible. No burrowing owls were observed during site surveys. Pre-construction surveys in areas of existing ground squirrel burrows should be conducted.
Northern spotted owl (*Strix occidentalis caurina*)	FT/--	Northern spotted owls are typically found in mature coniferous forests. This owl species does not construct a nest so existing nest structures or cavities must be available.	Unlikely. Suitable habitat not present on the site.
California Horned Lark (*Eremophila alpestris actia*)	--/CSC	Resident in a variety of open habitats, including grasslands, less common in mountain regions.	Possible. Suitable nesting habitat occurs, though not observed during nesting season surveys. Preconstruction surveys are warranted.

SPECIES	STATUS FED/STATE/CNPS [2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Loggerhead Shrike (*Lanius ludovicianus*)	FSC/CSC	Habitat includes open areas such as desert, grasslands and savannah. Nests in thickly foliaged trees or tall shrubs. Forages in open habitats, which contain trees, fence posts, utility poles, and other perches.	Possible. Suitable nesting habitat occurs, though not observed during nesting season surveys. Preconstruction surveys are warranted.
Yellow Warbler *(Dendroica petechia)* [Nesting]	--/CSC	Breeds in deciduous riparian woodlands, widespread during fall mitigation.	Nesting unlikely. No breeding habitat on site, migrants expected on site, especially in fall.
Saltmarsh Common Yellowthroat *(Geothylpis trichas sinuosa)*	FSC/CSC	Forages and nests in dense fresh and saltwater marsh habitat in the San Francisco Bay and lower Delta. Requires thick continuous cover down to the water surface for foraging; tall grasses, tule patches or willows for nesting. Has nested along the Napa River north of Imola Avenue just over about a mile from the site.	Unlikely. Suitable habitat is not present at the site.
San Pablo Song Sparrow *(Melospiza melodia samuelis)*	--/CSC	Tidal, brackish or salt marshes, San Pablo Bay. Has occurred near Hudeman Slough about 6 miles south of the site.	Unlikely. Site is outside the limited range of this species.
Tri-colored Blackbird (*Agelaius tricolor*) [Nesting colony]	FSC/CSC	Breeds near freshwater, usually in tall emergent vegetation. Requires open water with protected nesting substrate. Colonies prefer heavy growth of cattails and tules. Uses grasslands and agricultural lands for foraging. Approximately 100 individuals nested in 1993 in a freshwater marsh just north of the Highway 29 bridge on the south end of Napa about 3 miles southeast of the site.	Nesting unlikely. Appropriate nesting habitat not present on site.
Mammals			
Salt Marsh Harvest Mouse *(Reithrodontomys raviventris)*	FE/CE (CFP)	Inhabits pickleweed salt marsh flats in the SF Bay and lower Delta. Surveys for construction of the Highway 12 bridge over the Napa River found to individuals.	Unlikely. Suitable habitat is not present at the site.

SPECIES	STATUS FED/STATE/CNPS [2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
American badger (*Taxidea taxus*)	--/CSC	Drier open stages of most shrub, forest, and herbaceous habitats; needs sufficient food, friable soils and open, uncultivated ground. Publications from 1937 indicate the presence of the species in Napa.	Unlikely. Suitable habitat is not present at the site.
Pallid bat *Antrozous pallidus*	--/CSC	Found in deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in rocky areas primarily in oak woodland and ponderosa pine habitats; forages in open areas. Present at a former roost site in a rural residential area on Sheveland Lane just over a mile from the site.	Possible. Relocated bats from an extirpated roost site in the vicinity could be present in the unoccupied house and ranch buildings present at the site. Bat surveys are necessary prior to construction and mitigation may be warranted.

Source: California Natural Diversity Data Base, Natural Heritage Division, California Department of Fish and Game for the Napa 7.5 Minute Quadrangle Map and surrounding areas, information dated January 2011.

2. Status Codes:

FE	Federally Endangered
FT	Federally Threatened
FPE	Federally Proposed Endangered
FPT	Federally Proposed Threatened
FSC	Federal Species of Concern (most are former C2 Candidates and some former C1)
CE	California Endangered
CT	California Threatened
CR	California Rare
CFP	California Fully Protected
CSC	California Species of Special Concern
CNPS 1A	Plants Presumed Extinct in California
CNPS 1B	Plants Rare, Threatened or Endangered in California or elsewhere
CNPS LIST 2	Plants Rare, Threatened or Endangered in California, but more common elsewhere

[2] Status Codes:

FE Federally Endangered
FT Federally Threatened
FPE Federally Proposed Endangered
FPT Federally Proposed Threatened
FSC Federal Species of Concern (most are former C2 Candidates and some former C1)
CE California Endangered

CT California Threatened
CR California Rare
CFP California Fully Protected
CSC California Species of Special Concern
SLC Species of Local Concern – other species of concern to the Sacramento Fish and Wildlife office

[3] The state listing is limited to Coho south of San Francisco Bay.

[4] The Federal listing is limited to naturally spawning populations in streams between Punta Gorda, Humboldt County and the San Lorenzo River, Santa Cruz County.

[5] Federal listing includes all runs in coastal basins from the Russian River in Sonoma County, south to Soquel Creek in Santa Cruz County, inclusive. Includes the San Francisco and San Pablo Bay basins, but excludes Sacramento-San Joaquin River basins.

[6] Federal listing includes all runs in the Sacramento and San Joaquin Rivers and their tributaries.

[7] Federal listing refers to Central Valley Spring-run ESU. It includes population spawning in the Sacramento River and its tributaries.

ATTACHMENT 3

ATTACHMENT 3

2011 Botanical Survey, Napa Oaks Project, Napa, California. Prepared by Virginia Dains. July 2011.

2011 Botanical Survey

NAPA OAKS PROJECT

NAPA, CALIFORNIA

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July 2011

INTRODUCTION

At the request of Huffman-Broadway Group, Inc. (HBA) of San Rafael, Ca., I have conducted a floristic survey of the 80 acre Napa Oaks property on the west side of Napa, California (Assessor's parcels #043-040-008, 043-040-010, 043-040-13 and 043-040-025). A development project is planned for the property that includes the construction of 54 single family residential units. This report describes botanical survey methods, findings, and recommendations pertaining to special status plant species for the Napa Oaks project site. A statement of my qualifications to perform this work is attached.

Special-status plant species addressed in this survey and report include:

- Species listed as Threatened or Endangered under provisions of the federal Endangered Species Act (ESA) of 1973 (16 USC 1531 et. seq., as amended) (U.S. Fish and Wildlife Service [USFWS] 2007a)
- Species listed as Rare, Threatened, or Endangered by the state of California under provisions of the 1984 California Endangered Species Act (CESA) and the 1977 Native Plant Protection Act (NPPA) (California Department of Fish and Game [CDFG] 2007).
- Plant species formally proposed for federal listing by the U.S. Fish and Wildlife Service (taxa for which a proposed rule has been published in the Federal Register; USFWS 2007b) are afforded limited legal protection under ESA, and federal Candidate species (USFWS 2007c)
- Plants found on List 1A (Plants Presumed Extinct in California), List 1B (Plants Rare, Threatened, or Endangered in California and Elsewhere), or List 2 (Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere) of the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (Tibor 2001; CNPS 2007).
- Plants included on List 3 (Plants About Which We Need More Information—A Review List) and List 4 (Plants of Limited Distribution—A Watch List) of the CNPS *Inventory*.

METHODS

Prior to field surveys, I consulted background material from the California Natural Diversity Data Base (CNDDB) and the California Native Plant Society (CNPS) to determine what rare, threatened or endangered plant species are known currently or historically from the project vicinity. I reviewed the results of a prior floristic study conducted by Zander Associates between January and April, 1998. A true color aerial photograph (approximately 1"=250') showing the project boundary was provided by HBA to use during field surveys.

Special status plants found historically or currently in the vicinity of the Napa Oaks property are listed on table 1. Species known from plant communities that are present on the property have some potential to occur at Napa Oaks. Plant communities found on the Napa Oaks property as described by HBA include annual grassland (49.73 acres), valley foothill hardwood (Coast live oak woodland, 26.97 acres), fresh emergent marsh (1.21 acres) and Urban (2.73 acres).

Annual grassland and oak woodland communities in the Napa area are known to support nine special status plants including:

- Early spring flowering species:
  - Franciscan onion (*Allium peninsulare* var. *franciscanum*)—March -June
  - Big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*) – March-June
- Spring flowering species:
  - Cobb mountain lupine (*Lupinus sericatus*) -- April-May
  - Clara Hunt's milk-vetch (*Astragalus clarianus*) – April-May
  - showy Indian clover (*Trifolium amoenum*) – April -June
- Summer flowering species:
  - Napa blue curls (*Trichostemma ruygtii*) –June-October
  - seaside tarplant (*Hemizonia congesta* ssp. *congesta*) – May-October
  - Napa false indigo (*Amorpha californica* var. *napensis*) – May-July
  - oval-leaved viburnum (*Viburnum ellipticum*) – May-June

The field surveys were timed in order to observe these plants during their flowering periods. Surveys were conducted on the Napa Oaks property on March 29, April 28, and June 15, 2011. The entire site was observed during field surveys by walking meandering transects through individual patches of habitat. Plant species encountered were identified and included on a general list of plants observed over the course of the spring. This list is attached at the end of this report. No herbarium collections were made.

FINDINGS

No special status plant species were observed on the Napa Oaks property during floristic surveys conducted from March to June, 2011. No known or historic collections or observations of special status plants have been described from the site. Several factors can help explain the lack of special status plants in what might appear to be appropriate habitat.

The plant communities present on the Napa Oaks property are unprotected from grazing animals. Annual grasslands cover most of the site, but it is comprised mostly of introduced forage species. Much of the open rolling hills are dominated by sub-clover, rose clover, and soft chess. Sub-clover is a low dense crop that persists in heavily grazed areas. Later in the spring, the annual grassland supports thick patches of unpalatable exotics notably yellow bartsia (*Parentucellia viscosa*) and purple star thistle (*Centaurea calcytrapa*). Neither of these invasive species were observed in the 1998 plant survey suggesting that the habitat value of the annual grasslands on the site have degraded over the past 10 years.

The annual grassland does support some native plant spring wildflowers such as sun-cups (*Camissonia ovata*) and purple owl's clover (*Castilleja exserta* ssp. *exserta*) as well as patches of native perennial needlegrass (*Nasella pulchra*). These species are either unpalatable to cattle or flourish later in the year when grazing animals have been removed.

The impact of grazing and shading of cattle under the oak canopy has left an understory largely dominated by the noxious and invasive Italian thistle (*Carduus pychnocephalus*) or milk thistle (*Silybum marianum*). Wooded areas with dense canopy cover on shaded north slopes are largely un-vegetated but with soil churned by cattle. Open dry areas in the oak woodlands are covered with dogtail (*Cynosurus echinatus*). The vegetation of wetland seeps has also been impacted by cattle. Pennyroyal (*Mentha pulegium*), a strong scented perennial herb, is a dominant plant in hillside seeps and drainages.

Earthwork and loss of natural soils have also affected the habitat suitability for special status plants. Portions of the property have been altered in the past by earth moving that has left broken rocky substrates that now support sapling live oaks. These young trees are pruned by grazing animals and form "clumps". The dense canopy of some young oak trees provide protected sites for locally occurring and common chaparral shrubs such as toyon (*Heteromeles arbutifolia*), and some horticultural escapes including plum (*Prunus cerasifera*) and viburnum (*Viburnum tinus*) . These areas also support some common native plants such as purple needle grass (*Nasella pulchra*) and California poppy (*Eschscholzia californica*).

Because the surveys were floristic in nature, special status plants were sought in all habitats (plant communities) but special attention was given to those few areas such as protected rocky outcrops, thin soils or steeper slopes, or areas supporting groups of native plants where grazing pressure was reduced or special habitats existed. In some cases common relatives of special status plants were present on the property such as members of the genera *Castilleja*, *Lupinus*, *Trifolium* and, *Viburnum*. The list of all species observed over the survey is attached.

RECOMMENDATIONS

No avoidance or mitigation for special status plants is required for the Napa Oaks development project. No further botanical surveys are recommended.

Table 1 Special Status Plant Known To Occur In The Vicinity Of The Napa Oaks Project Site

SCIENTIFIC NAME	STATUS[2]	HABITAT/RANGE	OCCURRENCE ON THE NAPA OAKS PROPERTY
Franciscan onion *(Allium peninsulare* var. *franciscanum)*	--/--/1B	On clay soils on dry hillsides, often on serpentine, in cismontane woodland and valley and foothill grassland. 100-300m. Nearest location is a half mile north of Sonoma, over 8 miles from the site.	Not Present. Potential habitat was surveyed in spring and summer 2011.
Napa false indigo (*Amorpha californica* var. *napensis*)	--/--/1B	Broad-leafed upland forest, chaparral, cismontane woodland; openings in forest or woodland or in chaparral (150-2000m). Nearest location is at Patrick Road about 5 miles northwest of the site.	Not Present. Potential habitat was surveyed in spring and summer 2011.
Clara Hunt's milk-vetch (*Astragalus clarianus*)	FE/CT/1B	Inhabits open grassy hillsides in thin, volcanic clay soils in cismontane woodland, valley and foothill grassland and chaparral. Not known to occur within 10 miles of the site.	Not Present. Potential habitat was surveyed in spring and summer 2011.
San Joaquin spearscale (*Atriplex joaquiniana*)	--/--/1B	Chenopod scrub, alkali meadow in valley and foothill grassland. Alkali scrub and mesic grasslands in the Delta and Central Valley basin. 1-250m. Known from within Napa about a mile from the site.	Not present. Potential habitat is absent.
Big-scale (California) balsamroot (*Balsamorhiza macrolepis var. macrolepis*)	SLC/--/1B	Chaparral, cismontane woodland, valley and foothill grassland/sometimes serpentinite; 90-1400m. Nearest location is over 8 miles east of the site.	Not Present. Potential habitat was surveyed in spring and summer 2011.
Sonoma sunshine *(Blennosperma bakeri)*	FE/CE/1B	Vernal pools and swales in valley and foothill grassland. 10-100m. Nearest location is north of Sonoma over 8 miles from the site.	Not present. Potential habitat is absent.
Narrow-anthered California brodiaea (*Brodiaea californica var. leptandra*)	--/--/1B	Broadleafed upland forest, chaparral, lower montane coniferous forest. 110-915m. Nearest location is at Arrowhead Mountain about 5 miles west of the site.	Not present. Potential habitat is absent.

SCIENTIFIC NAME	STATUS[2]	HABITAT/RANGE	OCCURRENCE ON THE NAPA OAKS PROPERTY
Tiburon Indian paintbrush (*Castilleja affinis ssp. neglecta*)	FE/CT/1B	Rocky serpentine sites in valley and foothill grasslands. 75-400 m. Nearest location is in American Canyon nearly 10 miles from the site.	Not present. Potential habitat is absent.
Holly-leaved ceanothus (*Ceanothus purpureus*)	SLC/--/--	Rocky volcanic slopes in chaparral. 120-640m. Nearest location is near Sugarloaf Summit about 4 miles east of the site.	Not present. Potential habitat is absent.
Sonoma Ceanothus (*Ceanothus sonomensis*)	--/--/1B	On sandy, serpentine or volcanic soils in chaparral. 210-800m. Nearest location is along the Sonoma/Napa County line about 6 miles west of the site.	Not present. Potential habitat is absent.
Pappose tarplant (*Centromadia parryi ssp. parryi*)	SLC/--/1B	Vernally mesic, often alkaline sites in coastal prairie, meadows and seeps, coastal salt marsh and valley and foothill grassland. Nearest location is near Highway 121 about 8.5 miles from the site.	Not present. Potential habitat is absent.
Soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*)	FE/CR/1B	Inhabits brackish tidal marsh and seasonal alkali marsh. 0-3m. Known from fewer than 20 populations in Contra Costa, Napa, and Solano Counties. Nearest location is southwest of Cuttings Wharf over 5 miles from the site.	Not present. Potential habitat is absent.
Dwarf downingia (*Downingia pusilla*)	--/--/2	Margins of vernal pools; mesic sites in valley and foothill grassland. 1-485m. Nearest location is near Highway 12/121 about 5 miles south of the site.	Not present. Potential habitat is absent.
Greene's narrow-leaved daisy (*Erigeron greenei*)	--/--/1B	Serpentine and volcanic substrates in chaparral. 75-1060m. Nearest location is at Soda Creek Canyon between Napa and Yountville about 7 miles north of the site.	Not present. Potential habitat is absent.
Seaside tarplant (*Hemizonia congesta* ssp. *congesta*)	--/--/1B	Grassy valleys and hills, often in fallow fields, in coastal scrub and valley and foothill grassland. Nearest location is south of Sonoma, over 8 miles from the site.	Not Present. Potential habitat was surveyed in spring and summer 2011.
Northern California black walnut (*Juglans hindsii*)	--/--/1B	In deep alluvial soils associated with a stream or creek; in riparian forest and riparian wooldland. 0-395m. Known from a Napa City Park just over a mile from the site.	Not present. Potential habitat is absent.

SCIENTIFIC NAME	STATUS[2]	HABITAT/RANGE	OCCURRENCE ON THE NAPA OAKS PROPERTY
Contra Costa Goldfields (*Lasthenia conjugens*)	FE/--/1B	Vernal pools, swales, low depressions, in open grassy areas. 1-445m. Extirpated from most of its range. Most remaining occurrences restricted to the Fairfield region. Occurs near Highway 121 near the Napa River.	Not present. Potential habitat is absent.
Delta Tule Pea (*Lathyrus jepsonii* var. *jepsonii*)	--/--/1B	Inhabits the banks of sloughs and bays in the Suisun Bay and Delta. Found in freshwater and brackish marshes. Nearest location is along the Napa River near the Maxwell Bridge.	Not present. Potential habitat is absent.
Legenere (*Legenere limosa*)	--/--/1B	Inhabits vernal pools, 1-880m. Known from scattered occurrences in the Delta, north Central Valley, and north SF Bay. Many occurrences are extirpated. Nearest location is about 4 miles south of the site.	Not present. Potential habitat is absent.
Mason's lilaeopsis (*Lilaeopsis masonii*)	--/CR/1B	Inhabits the edges of mudflats in brackish marsh and riparian scrub in the Delta. 0-10m. Known along the Napa River just over a mile from the site.	Not present. Potential habitat is absent.
Sebastopol meadowfoam (*Limnanthes vinculans*)	FE/CE/1B	Grows in poorly drained clay and sandy loam soils in swales, wet meadows, and marshy areas. Occurs in mesic meadows and vernal pools in valley and foothill grasslands. 15-115m. Nearest known location is about 10 miles from the site at the Laguna Vista Project.	Not present. Potential habitat is absent.
Cobb mountain lupine (*Lupinus sericatus*)	--/--/1B	Chaparral, cismontane woodland, lower montane coniferous forest; in stands of knob cone pine-oak woodland; on open woodland slopes in gravelly soils; sometimes on serpentine (180-1500m). Nearest location is north of the summit of Hogback Mountain, about 7 miles northwest ofthe site.	Not Present. Potential habitat was surveyed in spring and summer 2011.
Few-flowered Navarretia (*Navarretia leucocephala ssp. pauciflora*)	FE/CT/1B	Inhabits volcanic ash flows and volcanic substrates in vernal pools. 400-855m. Not known to occur within 10 miles of the site.	Not present. Potential habitat is absent.
Marin knotweed (*Polygonum marinense*)	SLC/--/3	Coastal salt marshes and brackish marshes. 0-10m. Nearest location is at Cuttings Wharf over 4 miles south of the site.	Not present. Potential habitat is absent.

SCIENTIFIC NAME	STATUS[2]	HABITAT/RANGE	OCCURRENCE ON THE NAPA OAKS PROPERTY
Marin checkerbloom (*Sidalcea hickmanii ssp. viridis*)	--/--/1B	Chaparral. Serpentine or volcanic soils; sometimes appears after burns. 0-430m. Nearest location is at the base of Mt. George about 6 miles northeast of the site.	Not present. Potential habitat is absent.
Suisun Marsh aster (*Symphyotrichum lentum*)	--/--/1B	Both brackish and freshwater marshes and swamps. 0-3m. Occurs near the Napa Municipal Golf Course a couple miles from the site.	Not present. Potential habitat is absent.
Napa bluecurls (*Trichostema ruygtii*)	--/--/1B	Open sunny areas in cismontane woodland, chaparral, valley and foothill grassland, vernal pools and lower montane coniferous forest. 30-590m. Nearest location is northeast of Napa about 6 miles from the site.	Not Present. Potential habitat was surveyed in spring and summer 2011.
Showy Indian clover (*Trifolium amoenum*)	FE/--/1B	Inhabits moist clay grassland soils; known from one extant occurrence in Marin County. 5-560m. Known from a 1951 sighting near Napa.	Not Present. Potential habitat was surveyed in spring and summer 2011.
Saline clover (*Trifolium. hydrophilum*)	--/--/1B	Marshes and swamps, valley and foothill grassland, vernal pools. Found in mesic, alkaline sites. 0-300m. Nearest location is south of Napa about 3 miles from the site.	Not Present. Potential habitat was surveyed in spring and summer 2011.
Oval-leaved viburnum (*Viburnum ellipticum*)	--/--/1B	Chaparral, cismontane woodland, lower montane coniferous forest. 215-1400m. Nearest location is at Skyline Park over 5 miles from the site.	Not Present. Potential habitat was surveyed in spring and summer 2011.

1. Source: California Natural Diversity Data Base, Natural Heritage Division, California Department of Fish and Game for the Napa 7.5 Minute Quadrangle Map and surrounding areas, information dated January 2011

2. Status Codes:

FE	Federally Endangered
FT	Federally Threatened
FPE	Federally Proposed Endangered
FPT	Federally Proposed Threatened
FSC	Federal Species of Concern (most are former C2 Candidates and some former C1)
CE	California Endangered
CT	California Threatened
CR	California Rare

CFP	California Fully Protected
CSC	California Species of Special Concern
CNPS 1A	Plants Presumed Extinct in California
CNPS 1B	Plants Rare, Threatened or Endangered in California or elsewhere
CNPS LIST 2	Plants Rare, Threatened or Endangered in California, but more common elsewhere

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Plant species observed at the Napa Oaks project site March-June 2011

Family	Scientific Name	Common Name
Anacardiaceae		
	Toxicodendron diversilobum	poison oak
Apiaceae		
	Conium maculatum	poison hemlock
	Foeniculum vulgare	fennel
	Sanicula bipinnatifida	purple sanicle
	Sanicula crassicaulis	Pacific sanicle
	Torilis arvensis	field hedge-parsley
Asteraceae		
	Achyrachaena mollis	blow-wives
	Baccharis pilularis	coyote brush
	Carduus pycnocephalus	Italian thistle
	Centaurea calcitrapa	red star-thistle
	Centaurea solstitialis	yellow star-thistle
	Filago californica	California herba impia
	Hedypnois cretica	Cretan hedypnois
	Hypochaeris glabra	smooth cat's ear
	Hypochaeris radicata	rough cat's ear
	Lactuca serriola	prickly lettuce
	Leontodon taraxacoides	hawkbit
	Micropus californicus	slender cottonweed
	Picris echioides	bristly ox-tongue
	Psilocarphus oregonus	Oregon woolly marbles
	Senecio vulgaris	common groundsel
	Silybum marianum	milk thistle
	Soliva sessilis	common soliva
	Sonchus arvensis	perennial sow thistle
	Sonchus asper ssp. asper	prickly sow thistle
	Taraxacum officinale	common dandelion
Boraginaceae		
	Amsinckia menziesii var. intermedia	orange-flowered Menzies' fiddleneck
	Plagiobothrys nothofulvus	rusty-haired popcorn flower
Brassicaceae		
	Brassica nigra	black mustard
	Brassica rapa	field mustard
	Cardamine oligosperma	Idaho bittercress
	Lepidium nitidum	shining pepper-grass
	Raphanus sativus	wild radish

Family	Scientific Name	Common Name
Caprifoliaceae		
	Symphoricarpos mollis	creeping snowberry
	Viburnum tinus	spring bouquet viburnum
Caryophyllaceae		
	Cerastium glomeratum	mouse-ear chickweed
	Stellaria media	common chickweed
Crassulaceae		
	Crassula tillaea	Mediterranean pygmy-weed
Cyperaceae		
	Eleocharis macrostachya	common spikerush
Ericaceae		
	Arbutus menziesii	madrone
Fabaceae		
	Lotus humistratus	short-podded lotus
	Lotus wrangelianus	Chilean lotus
	Lupinus bicolor	miniature lupine
	Lupinus nanus	sky lupine
	Medicago polymorpha	California burclover
	Trifolium campestre	hop clover
	Trifolium dubium	shamrock
	Trifolium glomeratum	clustered clover
	Trifolium hirtum	rose clover
	Trifolium subterraneum	subterranean clover
	Trifolium willdenovii	tomcat clover
Fagaceae		
	Quercus agrifolia	coast live oak
	Quercus lobata	Valley oak
Gentianaceae		
	Centaurium muehlenbergii	Muhlenberg's centaury
	Cicendia quadrangularis	common microcalis
Geraniaceae		
	Erodium botrys	long-beaked filaree
	Erodium cicutarium	red-stemmed filaree
	Geranium dissectum	cut-leaved geranium
	Geranium robertianum	Robert's geranium
Hippocastanaceae		
	Aesculus californica	California buckeye
Iridaceae		
	Sisyrinchium bellum	blue-eyed grass
Juglandaceae		
	Juglans regia	English walnut

Family	Scientific Name	Common Name
Juncaceae		
	Juncus bufonius	toad rush
	Juncus tenuis	poverty rush
	Juncus xiphioides	iris-leaved rush
Juncaginaceae		
	Lilaea scilloides	flowering quillwort
Lamiaceae		
	Marrubium vulgare	horehound
	Mentha pulegium	pennyroyal
	Stachys bullata	southern hedge-nettle
Liliaceae		
	Calochortus luteus	yellow mariposa
	Chlorogalum pomeridianum	soaproot
Lythraceae		
	Lythrum hyssopifolium	hyssop loosestrife
Malvaceae		
	Malva parviflora	cheeseweed
Moraceae		
	Ficus carica	common fig
Oleaceae		
	Olea europaea	olive
Onagraceae		
	Camissonia ovata	sun-cup
	Clarkia unguiculata	woodland clarkia
	Epilobium brachycarpum	autumn willowweed
Oxalidaceae		
	Oxalis pes-caprae	Bermuda buttercup
Papaveraceae		
	Eschscholzia californica	California poppy
Pinaceae		
	Pinus radiata	Monterey pine
Plantaginaceae		
	Plantago erecta	California plantain
	Plantago lanceolata	English plantain
Poaceae		
	Aira caryophyllea	silver hairgrass
	Avena barbata	slender wild oats
	Brachypodium distachyon	purple false-brome
	Briza maxima	big quaking grass
	Briza minor	little quaking grass
	Bromus diandrus	ripgut brome

Family	Scientific Name	Common Name
	Bromus hordeaceus	soft chess
	Cynosurus echinatus	hedgehog dogtail-grass
	Dactylis glomerata	orchard-grass
	Elymus elymoides	squirreltail
	Gastridium ventricosum	nit grass
	Hordeum brachyantherum	meadow barley
	Hordeum murinum ssp. leporinum	foxtail barley
	Lolium multiflorum	Italian rye-grass
	Melica californica	California melic
	Nassella pulchra	purple needlegrass
	Pleuropogon californicus	semaphore grass
	Poa annua	annual blue grass
	Vulpia bromoides	brome fescue
	Vulpia myuros	rattail fescue
Polygonaceae		
	Rumex acetosella	common sheep sorrel
	Rumex crispus	curly dock
	Rumex occidentalis	western dock
	Rumex pulcher	fiddle dock
Portulacaceae		
	Claytonia perfoliata	miner's lettuce
Primulaceae		
	Anagallis arvensis	scarlet pimpernel
Ranunculaceae		
	Ranunculus californicus	California buttercup
	Ranunculus muricatus	spiny buttercup
Rhamnaceae		
	Rhamnus californica	California coffeeberry
Rosaceae		
	Heteromeles arbutifolia	toyon
	Malus sylvestris	domestic apple
	Prunus cerasifera	cherry plum
	Prunus dulcis	almond
	Pyracantha angustifolia	firethorn
	Rubus discolor	Himalaya-berry
Rubiaceae		
	Galium aparine	common bedstraw
	Galium parisiense	wall bedstraw
	Sherardia arvensis	field madder
Saxifragaceae		
	Lithophragma affine	common woodland star

Family	Scientific Name	Common Name
Scrophulariaceae		
	Castilleja exserta ssp. exserta	purple owl's clover
	Parentucellia viscosa	yellow parentucellia
	Triphysaria pusilla	little owl's clover
	Verbascum blattaria	moth mullein
Solanaceae		
	Solanum sisymbriifolium	sticky nightshade
Urticaceae		
	Urtica urens	dwarf nettle

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EDUCATION

M.S. Biology (Plant Ecology), 1992, California State University, Sacramento, Thesis Topic: "The Water Relations of *Alnus rhombifolia*"
B.S. Biology (Field Biology), 1978, California Polytechnic State University, San Luis Obispo

EXPERIENCE Biological Consulting contracts since 1979 include:

Special-status plant surveys in California and western Nevada. Projects were conducted for state, federal, or private concerns and include field survey, GPS field mapping, mitigation measures, and conservation guidelines.
Vegetation mapping, quantitative sampling, and interpretation, Mt. St. Helens vegetation recovery researcher **Wetlands** delineation, mitigation design, construction and monitoring **Forage Inventory, Plant Identification Instructor, Vegetation Workshop Leader**, **Backcountry Naturalist**

ATTACHMENT 4

ATTACHMENT 4

Revised Tree Report, Napa Oaks, Napa, California. Prepared by HortScience, Inc. July 2011

Revised Tree Report

Napa Oaks
Napa, CA

Prepared for:
Davidon Homes
1600 S. Main St., Suite 150
Walnut Creek, CA 94596-5394

Prepared by:
HortScience, Inc.
325 Ray Street
Pleasanton, CA 94566

July 2011

HORT SCIENCE

REVISED TREE REPORT
Napa Oaks
Napa, CA

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Introduction and Overview

Davidon Homes is planning to develop the Napa Oaks site in Napa, California. Currently, the site is open grazing land, with tight groups of trees spread across the site. The proposed development would construct 54 residential lots, with two access points onto Old Sonoma Road. A considerable amount of the site would remain as open space. HortScience, Inc. was asked to prepare a **Tree Report** for the site for review by the City of Napa.

This report provides the following information:

1. A survey of all trees with a trunk diameter of 6" or greater (measured 54" above grade) within the proposed project area.
2. An evaluation of the health of the tree on a 0-5 scale, where 0=dead, 1= poor, and 5 = excellent condition.
3. An assessment of the impacts of constructing the proposed project on the trees.
4. Guidelines for tree preservation during the design and construction phases of development.

Background

Hortscience, Inc. prepared a ***Tree Survey Report*** for the Napa Oaks site in 1997. A total of 591 trees were surveyed at that time. This number reflects the City's requirement that only trees with diameters of 8" or greater, and within 30' of the proposed development, be included. Currently, we assessed all trees at the site with diameters of 6" or greater (per Chapter 12.45, Ordinance #02003-4).

In 1997, over a third of the trees were young, with diameters in the 8" to 11" range, and almost 90% were in moderate to excellent condition (rated 3, 4, or 5). Currently, over half of the trees (native and exotics) were young (diameters between 6" and 11"), and just over 90% were in moderate to excellent condition. The increase in the number of young trees reflects both the change in the requirements for the size and location of trees included in the survey, as well as the growth of trees to the minimum diameter threshold for inclusion in the survey.

Survey Methods

Trees were surveyed in October and November, 2010. The survey included trees 6" and greater in diameter. The survey procedure consisted of the following steps:

1. Identifying the tree as to species;
2. Tagging each tree with an identifying number and recording its location on a map;
3. Measuring the trunk diameter at a point 54" above grade;
4. Evaluating the health and structural condition using a scale of 0 – 5:
   - ***5*** - A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.
   - ***4*** - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
   - ***3*** - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
   - ***2*** - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
   - ***1*** - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.
   - ***0*** – Dead.

5. Rating the suitability for preservation as "good", "moderate" or "poor". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.

   Good: Trees with good health and structural stability that have the potential for longevity at the site.

   Moderate: Trees with somewhat declining health and/or structural defects than can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in 'good' category.

   Poor: Trees in poor health or with significant structural defects that cannot be mitigated. Tree is expected to continue to decline, regardless of treatment. The species or individual may have characteristics that are undesirable for landscapes, and generally are unsuited for use areas.

Description of Trees

One thousand three hundred and seventy five (1,375) trees, represented by 33 species, were evaluated. Descriptions of each tree are found in the ***Tree Survey Forms***, and locations are plotted on the ***Tree Survey Map*** (see attachments). Included in the survey were seven (7) off-site trees (#291 and 1187-1192), with portions of their crowns extending onto the project site and one (1) standing dead tree (#722).

The site was a native oak woodland with groupings of trees separated by open grasslands, where cattle grazed (photo 1). Cattle grazing can have a direct impact on vegetation, through feeding (especially on young plants), rubbing on tree trunks and compacting soil beneath trees, where they gather for shade. Evidence of these impacts was present at the Napa Oaks site.

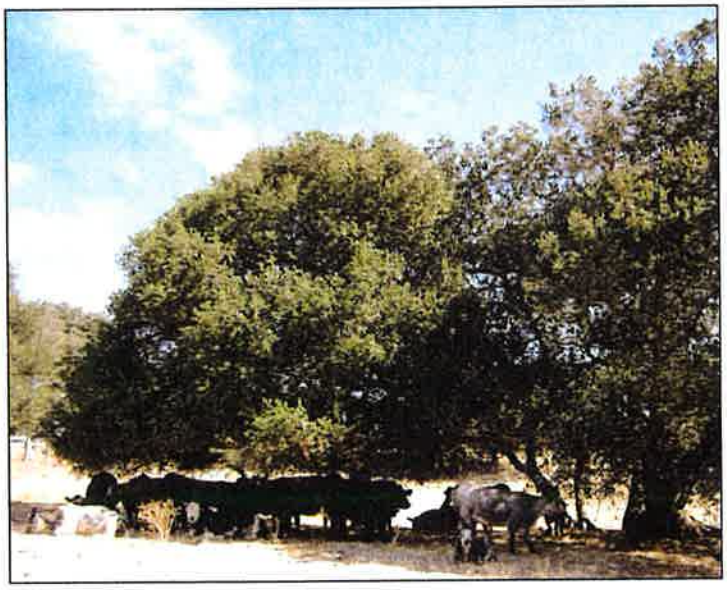


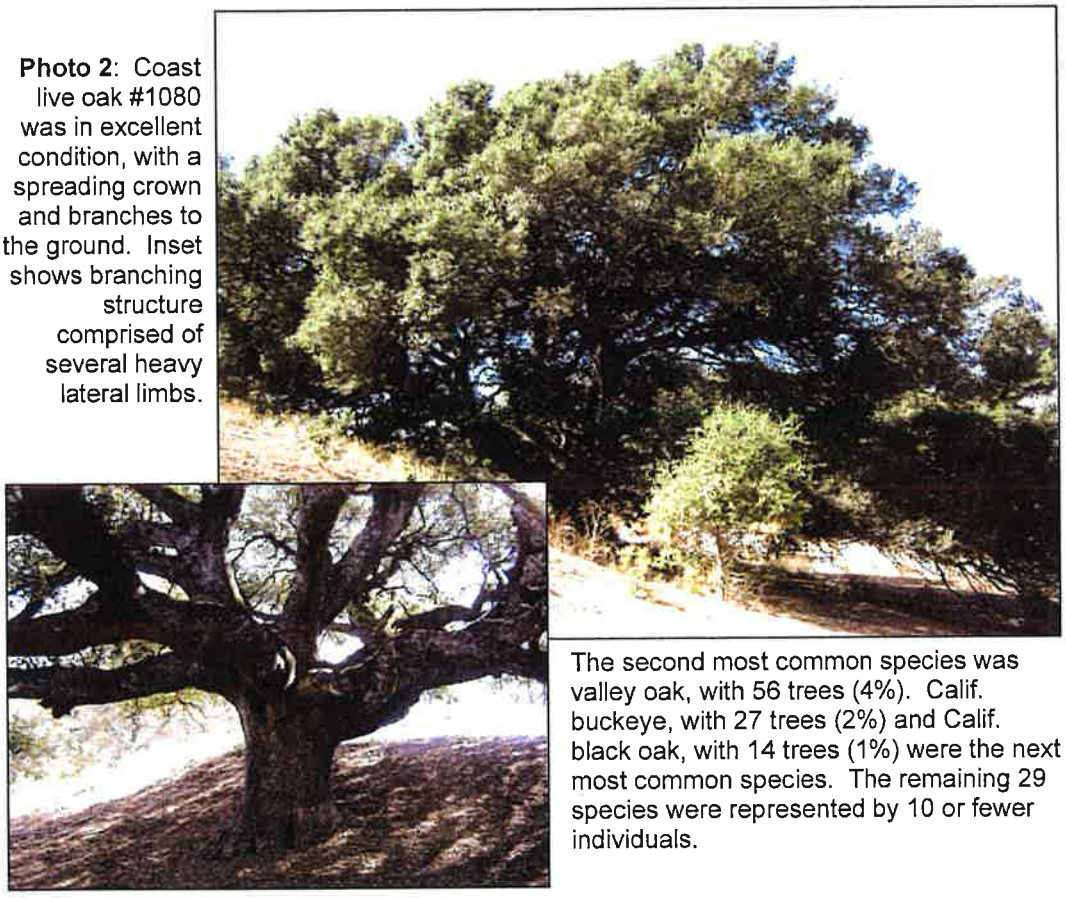
Photo 1: Cattle grazing beneath the shade of a group of coast live oaks (#909-914). Grazing, soil compaction and direct injury can lead to a variety of tree impacts. Typically, grazing leads to a lack of young trees, as they are browsed on. However, this was not the case at the Napa Oaks site, where there were many young coast live oaks.

Many of the tree groupings were dominated by young trees, with diameters below 12". This is unusual for areas where grazing is common, as they are often browsed before they get large enough to tolerate the damage. The close spacing of trees in groupings also affected tree structure. Typically, there were one or more dominant trees, characterized by upright, spreading crowns, surrounded by intermediate and suppressed trees with leaning, asymmetric, or one-sided crowns.

Eight (8) of the 33 species surveyed were native to the site and the balance were planted exotics. The native species constituted 1,298 of the trees, or 94% of the population. Of these, 654, or 50% were young, with diameters less than 12".

There were 33 species represented at the site (Table 1, page 4). The most frequently occurring species was coast live oak, with 1,186 trees, or 86% of the population. The species was adapted to the site and had performed well, with 641 (54%) in good or excellent condition, 469 in fair (40%), and 75 in poor (6%). In addition to the groupings of young trees, there were several large diameter coast live oaks, including 92 trees with diameters of 30" or larger. For the most part, these had large, spreading crowns with branches extending to the ground. Coast live oak #1080 was one of the largest diameter coast live oaks at 50" and was in excellent health, with heavy lateral limbs (Photo 2, following page).

Photo 2: Coast live oak #1080 was in excellent condition, with a spreading crown and branches to the ground. Inset shows branching structure comprised of several heavy lateral limbs.



The second most common species was valley oak, with 56 trees (4%). Calif. buckeye, with 27 trees (2%) and Calif. black oak, with 14 trees (1%) were the next most common species. The remaining 29 species were represented by 10 or fewer individuals.

Average tree condition was good (723 trees or 53% of the population). Five hundred thirty-four (534) were in fair condition (39%), and 117 trees were in poor (9%). The good condition of the trees is a reflection of the number of native trees and their adaptation to site conditions.

For young trees of all species, low condition ratings were due to poor structure, primarily where crowns leaned or were bowed to horizontal as a result of competition for light. Extensive decay in trunks and scaffold branches was the primary reason for low condition ratings in mature trees. Decay was manifested in many ways, including thin or sparse foliage, branch failures and cavities.

The city of Napa defines certain native species with at least one trunk 12" or greater in diameter, as "Protected Native" trees (Chapter 12.45, Ordinance #02003-4). By this definition, 622 trees qualified as "Protected Native" trees, including 102 with trunk diameters of 30" or greater and 222 multi-stemmed trees, with at least one stem measuring 12" or greater (see **Tree Survey Forms**, attachments).

Table 1: Condition ratings and frequency of occurrence of trees. Napa Oaks site, Napa

Common Name	Scientific Name	Condition Rating				No. of Trees
		Dead (0)	Poor (1-2)	Fair (3)	Good (4-5)	
*Calif. buckeye	*Aesculus californica*	-	1	17	9	27
Mimosa	*Albizia julibrissin*	-	3	2	-	5
*Madrone	*Arbutus menziesii*	-	5	2	3	10
Incense cedar	*Calocedrus decurrens*	-	-	-	1	1
Deodar cedar	*Cedrus deodara*	-	-	-	1	1
Arizona cypress	*Cupressus arizonica*	-	-	-	1	1
Evergreen ash	*Fraxinus uhdei*	-	1	2	-	3
Silk oak	*Grevillea robusta*	-	-	1	-	1
*Toyon	*Heteromeles arbutifolia*	-	1	1	-	2
*Calif. black walnut	*Juglans hindsii*	-	-	1	2	3
Paradox walnut	*Juglans 'Paradox'*	-	-	-	1	1
English walnut	*Juglans regia*	-	3	5	2	10
Privet	*Ligustrum japonicum*	-	-	2	-	2
Apple	*Malus domestica*	-	1	2	-	3
Myoporum	*Myoporum laetum*	-	-	-	1	1
Olive	*Olea europaea*	-	-	1	3	4
Blue spruce	*Picea pungens 'Glauca'*	-	-	-	1	1
Aleppo pine	*Pinus halepensis*	-	1	-	3	4
Pinyon pine	*Pinus monphylla*	-	-	-	1	1
Italian stone pine	*Pinus pinea*	-	-	1	-	1
Monterey pine	*Pinus radiata*	-	7	1	-	8
Scot's pine	*Pinus sylvestris*	-	1	-	-	1
Japanese black pine	*Pinus thunbergiana*	-	-	1	2	3
Chinese pistache	*Pistacia chinensis*	-	-	-	1	1
Purple leaf plum	*Prunus cerasifera 'Atropurpurea'*	-	3	1	-	4
Plum	*Prunus domestica*	-	2	4	3	9
Almond	*Prunus dulcis*	-	6	1	-	7
*Coast live oak	*Quercus agrifolia*	1	75	469	641	1186
*Valley oak	*Quercus lobata*	-	4	17	35	56
*Calif. black oak	*Qurcus douglasii*	-	3	1	10	14
Burr oak	*Qurercus macrocarpa*	-	-	-	1	1
*Coffeeberry	*Rhamnus californica*	-	-	1	-	1
*Coast redwood	*Sequoia sempervirens*	-	-	1	1	2
Total		1	117	534	723	1,375
		≤1%	9%	39%	53%	100%

*Indicates species native to the site

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to make sure that they may survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. For trees growing in creeks, away from areas where people and property are present, structural defects and/or poor health presents a low risk of damage or injury if they fail. However, we must be concerned about safety in use areas. Therefore, where development encroaches into existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment. Where development will not occur, the normal life cycles of decline, structural failure and death should be allowed to continue.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
  Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than are non-vigorous trees.

- **Structural integrity**
  Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely.

- **Species response**
  There is a wide variation in the response of individual species to construction impacts and changes in the environment. In our experience, for example, coast live oak and coast redwood are more adaptable and tolerate injury better than valley oak or madrone.

- **Tree age and longevity**
  Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.

- **Invasiveness**
  Trees with the potential to invade native habitats, reproduce rapidly, and grow in sub-optimal environments are considered invasive. Species with these qualities may alter the functional and aesthetic qualities of the habitats they invade. None of the species surveyed at the Napa Oaks site are considered invasive.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (Table 2, following page).

We consider trees with good suitability for preservation to be the best candidates for preservation. We do not recommend retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Table 2: Tree Suitability for preservation
Napa Oaks site, Napa

Good	These are trees with good health and structural stability that have the potential for longevity at the site. Four hundred forty-six (446) trees were rated as having good suitability for preservation. This group included 398 coast live oaks, 21 valley oaks, eight (8) Calif. black oaks, six (6) Calif. buckeyes, three (3) madrones, and one (1) each of Arizona cypress, blue spruce, burr oak, Chinese pistache, coast redwood, deodar cedar, incense cedar, olive, pinyon pine and plum.
Moderate	Trees in this category have fair health and/or structural defects that may be abated with treatment. Trees in this category require more intense management and monitoring, and may have shorter life-spans than those in the "good" category. Six hundred and fifty-five (655) trees were rated as having moderate suitability for preservation, including: 580 coast live oaks, 28 valley oaks, three (3) each of Aleppo pine, Calif. black walnut, Japanese black pine, olive and plum, two (2) each of apple, Calif. black oak, English walnut and madrone, and one (1) each of coast redwood, paradox walnut, privet, and toyon.
Poor	Trees in this category are in poor health or have significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. Two hundred and seventy-four (274) trees were rated as having poor suitability for preservation, including: 208 coast live oaks, eight (8) Monterey pines, eight (8) English walnuts, seven (7) valley oaks, seven (7) almonds, five (5) each of madrone, mimosa and plum, four (4) purple-leaf plums, four (4) Calif. black oak, three (3) evergreen ash, two (2) Calif. buckeyes, and one (1) each of apple, Aleppo pine, coffeeberry, Italian stone pine, privet, Scot's pine, silk oak, and toyon.

Evaluation of Impacts and Recommendations for Action

Appropriate tree retention develops a practical match between the location and intensity of construction activities and the quality and health of trees. The ***Tree Survey*** was the reference point for tree health and condition. Potential impacts from construction were evaluated using the Preliminary Grading and Drainage Plan, prepared by dK Consulting (received March 1, 2011).

The plan proposes to construct 54 custom residential homes on the site, leaving extensive areas undeveloped. The Preliminary Plan shows the grading for the roads, lots, building footprints, retaining wall locations, and detention ponds. Accurate trunk locations were shown for most trees but not for all the trees, as many will remain in undisturbed areas of Parcels A, B and C. Utilities and drainage were also shown on the plans.

Potential impacts from construction were estimated for each tree. Based on our evaluation of the plans, the proposed project would allow for the preservation of 765 trees, including 429 "Native Protected" trees. Five hundred and ninety-one (591) would be outside the development impacts and 174 would be within 45' of grading.

A total of 620 trees would require removal, including 200 "Native Protected" trees. A total of 392 trees would be impacted by lot grading, 158 impacted by road grading, 60 impacted by slope and swale grading, 26 impacted by the detention pond, eight (8) by the new entry onto Old Sonoma Rd. and four (4) by retaining walls. Of these, 112 were of poor suitability for preservation.

Pruning, cabling and monitoring is recommended for 158 trees. Pruning is recommended to provide clearance for construction activities (154 trees), to reduce end-weight (five trees), and to correct structural defects (three trees). Monitoring changes in lean, health and decay advancement is recommended for two (2) trees and cabling to reduce the likelihood of future stem or branch failure is recommended for four (4) trees. Tree #179 is recommended for an aerial inspection to identify any defects in structure not seen from the ground inspection and pruning, cabling and monitoring may be required for this tree based on the results of the aerial inspection. Any pruning of off-site trees must be done with the property owner's consent.

Davidon Homes has made a concerted effort at tree preservation. After several revisions to the site plan an additional 127 trees have been identified for preservation. Preservation of these trees is predicated on establishing a **Tree Protection Zone** and other measures recommended in the **Tree Preservation Guidelines** that follow (see page 19). Again, in the interest of space specific **Tree Protection Zones** have been reviewed with and provided to Davidon Homes, but are not included as part of this document.

In summary, implementation of the proposed plan would allow for preservation of 755 trees, including 422 "Native Protected" trees. Removal would be required for the remaining 620 trees, 200 of which are "Protected Native" trees. A description of trees recommended for removal, and the associated impacts, are listed in **Table 3**.

Table 3: Trees recommended for removal
Napa Oaks site, Napa

Tree #	Species	Trunk Diameter (in.)	Native Protected?	Impacts
101	Coast live oak	29	Yes	Within road grading
102	Privet	9,7,6,5,5	No	Within entry
103	Mimosa	11	No	Within entry
104	Italian stone pine	10	No	Within entry
105	Mimosa	15,12	No	Within entry
106	English walnut	13	No	Impacted by road grading
108	Mimosa	13	No	Within road grading
111	Privet	6,5,4,3	No	Within entry
112	Almond	8	No	Within entry
131	English walnut	11	No	Within road grading
132	English walnut	6,6	No	Within road grading
133	Coast live oak	15,15,8	Yes	Within road grading
134	Coast live oak	9,7,6,4,3	No	Within road grading
135	Valley oak	8	No	Within det. pond grading
137	Calif. black walnut	10,8,7	No	Within road grading
138	Calif. black walnut	9,8,8,8	No	Within entry
139	English walnut	13	No	Within entry
140	Coast live oak	10	No	Within road grading
141	Mimosa	14	No	Within road grading
142	Aleppo pine	17	No	Within road grading
143	Mimosa	10	No	Within road grading
144	Aleppo pine	22,15	No	Within road grading
145	Coast redwood	22	No	Within road grading

(continued, following page)

Table 3: Trees recommended for removal, continued
Napa Oaks site, Napa

Tree #	Species	Trunk Diameter (in.)	Native Protected?	Impacts
146	Apple	8,7,5	No	Within road grading
147	Valley oak	21	Yes	Within road grading
148	Pinyon pine	10	No	Within det. pond grading
149	Calif. black oak	7	No	Within det. pond grading
150	Calif. black oak	9	No	Within det. pond grading
151	Myoporum	8,7	No	Within det. pond grading
152	Japanese black pine	8	No	Within det. pond grading
153	Calif. black oak	8	No	Within det. pond grading
154	Chinese pistache	8	No	Within det. pond grading
155	Calif. black oak	6	No	Within det. pond grading
156	Incense cedar	36	No	Within det. pond grading
157	Japanese black pine	6,4	No	Within det. pond grading
158	Japanese black pine	7	No	Within det. pond grading
159	Calif. black oak	8	No	Within det. pond grading
160	Calif. black oak	11	No	Within det. pond grading
161	Valley oak	13	Yes	Impacted by det. pond grading
162	Evergreen ash	13	No	Within det. pond grading
163	Evergreen ash	17	No	Within det. pond grading
164	Aleppo pine	15	No	Within det. pond grading
166	Arizona cypress	16,9	No	Within road grading
167	Almond	9	No	Within road grading
169	Coast live oak	9	No	Within road grading
170	Coast live oak	12	Yes	Within road grading
171	Coast live oak	10	No	Within road grading
174	Coast live oak	6	No	Within road grading
175	English walnut	11	No	Within road grading
176	Coast live oak	11,8	No	Within road grading
177	Coast live oak	8	No	Within road grading
178	Coast live oak	7	No	Within road grading
181	Coast live oak	10,7	No	Impacted by road grading
182	Valley oak	8	No	Impacted by road grading
183	Valley oak	7	No	Within road grading
184	Coast live oak	12	Yes	Within road grading
185	Coast live oak	10,8	No	Within road grading
197	Coast live oak	7,7,6,5,4	No	Within lot grading
204	Coast live oak	12	Yes	Impacted by road grading
217	Coast live oak	10,6,6	No	Within road grading
219	Coast live oak	10,10,7	No	Impacted by road grading
230	Coast live oak	7	No	Impacted by road grading
231	Valley oak	8	No	Within road grading
232	Coast live oak	9,6	No	Within road grading
233	Coast live oak	7	No	Within road grading
234	Coast live oak	16,5	Yes	Within road grading
235	Coast live oak	12	Yes	Within road grading
236	Coast live oak	7	No	Within road grading
237	Coast live oak	15,8	Yes	Within lot grading
238	Coast live oak	15	Yes	Within road grading
239	Coast live oak	13,7	Yes	Within lot grading
240	Coast live oak	10,7	No	Within lot grading
241	Coast live oak	9,9,6	No	Within road grading
242	Coast live oak	10	No	Within road grading
243	Coast live oak	28	Yes	Impacted by road grading
249	Coast live oak	8	No	Within road grading
250	Madrone	14,9,6	No	Within lot grading
251	Coast live oak	8	No	Within lot grading
252	Coast live oak	9,8,7	No	Within lot grading

(continued, following page)

Table 3: Trees recommended for removal, continued
Napa Oaks site, Napa

Tree #	Species	Trunk Diameter (in.)	Native Protected?	Impacts
253	Coast live oak	9,7,6	No	Within lot grading
254	Coast live oak	8	No	Within lot grading
255	Coast live oak	9,5	No	Within lot grading
256	Coast live oak	10,9,8,5,5	No	Within lot grading
257	Coast live oak	9	No	Within lot grading
258	Coast live oak	6,4,4	No	Within lot grading
259	Coast live oak	9,8,7,6,6	No	Within road grading
260	Coast live oak	13	Yes	Within road grading
261	Coast live oak	7,7,6,5,5	No	Within road grading
262	Coast live oak	18,7,6	Yes	Within road grading
263	Coast live oak	6,6,5,5	No	Within road grading
264	Coast live oak	9	No	Within road grading
265	Coast live oak	8	No	Within lot grading
269	Coast live oak	18	Yes	Within lot grading
275	Coast live oak	10	No	Impacted by road grading
276	Coast live oak	8,5,3	No	Within road grading
277	Coast live oak	10,10	No	Within road grading
278	Coast live oak	10	No	Within road grading
279	Coast live oak	13	Yes	Within road grading
280	Coast live oak	14,11,11	Yes	Impacted by lot grading
284	Coast live oak	11,7,6,5,5	No	Within road grading
285	Coast live oak	14	Yes	Within road grading
286	Blue spruce	10	No	Within det. pond grading
287	Burr oak	7	No	Within det. pond grading
288	Calif. black oak	11	No	Within det. pond grading
289	Coast live oak	14	Yes	Within det. pond grading
290	Evergreen ash	20	No	Within det. pond grading
292	Scot's pine	6	No	Within det. pond grading
293	English walnut	17	No	Impacted by det. pond grading
294	Coast redwood	22,18	No	Within det. pond grading
295	Coast live oak	8	No	Within road grading
296	Coast live oak	10	No	Within road grading
297	Coast live oak	12,11	Yes	Within road grading
298	Coast live oak	9,4	No	Within road grading
299	Coast live oak	6	No	Within road grading
300	Coast live oak	13,6,6	Yes	Within road grading
301	Coast live oak	6	No	Within road grading
302	Coast live oak	14,7	Yes	Within lot grading
303	Coast live oak	6	No	Within lot grading
304	Coast live oak	10,7,7	No	Within lot grading
305	Coast live oak	11,6	No	Within lot grading
306	Coast live oak	10,6	No	Within lot grading
307	Coast live oak	9,8,6,6	No	Within lot grading
308	Coast live oak	7,6,5,5	No	Within lot grading
309	Coast live oak	7	No	Within lot grading
310	Coast live oak	9,7,6,5	No	Within lot grading
311	Coast live oak	7	No	Within lot grading
312	Coast live oak	12,10,8	Yes	Within lot grading
313	Coast live oak	11	No	Within lot grading
314	Coast live oak	10	No	Within lot grading
315	Coast live oak	6	No	Within lot grading
316	Coast live oak	7	No	Within lot grading
317	Coast live oak	11,8	No	Within lot grading
318	Coast live oak	14,9	Yes	Within road grading

(continued, following page)

Table 3: Trees recommended for removal, continued
Napa Oaks site, Napa

Tree #	Species	Trunk Diameter (in.)	Native Protected?	Impacts
319	Coast live oak	9,8	No	Within lot grading
320	Coast live oak	8,6	No	Within lot grading
321	Coast live oak	6	No	Within lot grading
322	Coast live oak	10,9,8	No	Within lot grading
323	Coast live oak	8,7	No	Within lot grading
324	Coast live oak	6	No	Within lot grading
325	Coast live oak	8,7	No	Within lot grading
326	Coast live oak	10,9,8,6	No	Within lot grading
327	Coast live oak	15,7,6	Yes	Within lot grading
328	Coast live oak	7	No	Within road grading
329	Coast live oak	11	No	Within road grading
330	Coast live oak	6	No	Within road grading
331	Coast live oak	8	No	Within road grading
332	Coast live oak	12	Yes	Within road grading
333	Coast live oak	6	No	Within road grading
334	Coast live oak	10	No	Within road grading
335	Coast live oak	7,6,5	No	Within road grading
336	Coast live oak	11	No	Within road grading
337	Coast live oak	6	No	Within road grading
338	Coast live oak	11	No	Within road grading
339	Coast live oak	12	Yes	Within road grading
340	Coast live oak	7,6,3	No	Within road grading
341	Coast live oak	6,6,6	No	Within road grading
342	Coast live oak	6	No	Within road grading
343	Coast live oak	7	No	Within road grading
344	Valley oak	6,4	No	Within road grading
345	Coast live oak	7,6,4	No	Within road grading
346	Coast live oak	11	No	Within road grading
347	Coast live oak	7	No	Within road grading
348	Coast live oak	8,6,5,4	No	Within road grading
349	Coast live oak	7	No	Within road grading
350	Coast live oak	9	No	Within road grading
351	Coast live oak	7,6,4	No	Within road grading
352	Coast live oak	8	No	Within road grading
353	Coast live oak	6,6	No	Within road grading
354	Coast live oak	9	No	Within road grading
355	Coast live oak	12	Yes	Within road grading
357	Coast live oak	61	Yes	Impacted by road grading
358	Coast live oak	20	Yes	Within road grading
359	Coast live oak	12,8	Yes	Impacted by grading
360	Coast live oak	7	No	Within road grading
361	Coast live oak	10	No	Within road grading
362	Coast live oak	13	Yes	Within road grading
363	Coast live oak	14,7	Yes	Within road grading
364	Coast live oak	11,6,5	No	Within road grading
365	Coast live oak	12,11	Yes	Within lot grading
366	Coast live oak	7,6	No	Within lot grading
367	Coast live oak	13	Yes	Within lot grading
368	Coast live oak	8	No	Within lot grading
369	Coast live oak	11	No	Within lot grading
370	Coast live oak	14,12,6	Yes	Within lot grading
376	Coast live oak	10,8,8,5	No	Within lot grading
377	Coast live oak	8,7,5	No	Within lot grading
378	Coast live oak	6	No	Within lot grading

(continued, following page)

Table 3: Trees recommended for removal, continued
Napa Oaks site, Napa

Tree #	Species	Trunk Diameter (in.)	Native Protected?	Impacts
379	Coast live oak	8,7,6	No	Within lot grading
380	Coast live oak	6,5,5,5	No	Within lot grading
397	Coast live oak	9,9,8	No	Within lot grading
398	Coast live oak	11,9,8	No	Impacted by lot grading
401	Coast live oak	6,4	No	Within lot grading
402	Coast live oak	8,6,6	No	Within lot grading
403	Madrone	27	No	Within lot grading
404	Coast live oak	9,7,6,4	No	Within lot grading
405	Coast live oak	7,5,5,4	No	Within lot grading
406	Coast live oak	8,7,5,5,4,4	No	Within lot grading
407	Coast live oak	8,5	No	Within lot grading
408	Coast live oak	9,8,7,6,6	No	Within lot grading
409	Coast live oak	7,6,3,3	No	Within lot grading
410	Coast live oak	8	No	Within lot grading
411	Coast live oak	12,11,10	Yes	Within road grading
412	Coast live oak	7,6,6,5,5,5	No	Within lot grading
413	Coast live oak	6,5,4,4	No	Within lot grading
414	Coast live oak	7,7,6	No	Within lot grading
415	Coast live oak	12,6	Yes	Within lot grading
416	Coast live oak	7,6	No	Within lot grading
417	Coast live oak	9,8,6	No	Within lot grading
418	Coast live oak	6,5	No	Within lot grading
419	Coast live oak	13	Yes	Within lot grading
420	Coast live oak	29,9	Yes	Within lot grading
423	Coast live oak	9,8	No	Within lot grading
424	Coast live oak	8	No	Within lot grading
425	Coast live oak	10	No	Within lot grading
426	Coast live oak	10	No	Within lot grading
427	Coast live oak	9,7	No	Within lot grading
428	Coast live oak	10	No	Within lot grading
429	Coast live oak	6,5,5	No	Within lot grading
430	Coast live oak	6,4,4	No	Within lot grading
431	Coast live oak	6	No	Within lot grading
432	Coast live oak	9,5	No	Within lot grading
434	Coast live oak	10,5,4	No	Within lot grading
435	Coast live oak	8	No	Within lot grading
440	Coast live oak	6,4,3	No	Within grading
441	Coast live oak	7,4,3,3	No	Within grading
442	Coast live oak	15,7	Yes	Within grading
443	Coast live oak	9,8,4	No	Within grading
444	Coast live oak	7,6,5,5	No	Within lot grading
445	Coast live oak	14,14,8,7	Yes	Within grading
446	Coast live oak	9,9,8	No	Within grading
447	Coast live oak	11,7,6	No	Within grading
449	Coast live oak	8	No	Within grading
450	Madrone	15,14	No	Within grading
451	Coast live oak	7,6	No	Within lot grading
452	Coast live oak	8,7,6,6,5	No	Within lot grading
453	Coast live oak	6,4	No	Within lot grading
454	Coast live oak	9	No	Within lot grading
455	Coast live oak	6,5,5,	No	Within lot grading
456	Coast live oak	7,6	No	Within lot grading
457	Coast live oak	9,7,6,6	No	Within lot grading
458	Coast live oak	9	No	Within lot grading

(continued, following page)

Table 3: Trees recommended for removal, continued
Napa Oaks site, Napa

Tree #	Species	Trunk Diameter (in.)	Native Protected?	Impacts
459	Coast live oak	10,9,5,5	No	Within lot grading
460	Coast live oak	11,6	No	Within lot grading
461	Coast live oak	12	Yes	Within lot grading
462	Coast live oak	6,5	No	Within lot grading
463	Coast live oak	12	Yes	Within lot grading
464	Coast live oak	15,8,8	Yes	Within lot grading
465	Coast live oak	8,3	No	Within lot grading
489	Coast live oak	11	No	Within lot grading
490	Coast live oak	9,9,9	No	Within lot grading
491	Coast live oak	15,13	Yes	Within lot grading
492	Coast live oak	8,4	No	Within lot grading
493	Coast live oak	11	No	Within lot grading
494	Coast live oak	16	Yes	Within lot grading
495	Coast live oak	13	Yes	Within lot grading
496	Coast live oak	9,9,7	No	Within road grading
497	Coast live oak	8,6	No	Within road grading
508	Coast live oak	9	No	Within lot grading
509	Coast live oak	17,16	Yes	Within lot grading
510	Coast live oak	12,10,5	Yes	Within lot grading
514	Coast live oak	14,8,5	Yes	Impacted by grading
515	Coast live oak	13,8,6	Yes	Within lot grading
516	Coast live oak	7	No	Within lot grading
517	Coast live oak	12	Yes	Within lot grading
518	Coast live oak	15	Yes	Within lot grading
519	Coast live oak	15,15	Yes	Within lot grading
520	Coast live oak	10	No	Within lot grading
521	Coast live oak	12,11,10	Yes	Within lot grading
522	Coast live oak	18	Yes	Within lot grading
523	Coast live oak	34,12,10	Yes	Within lot grading
524	Coast live oak	29	Yes	Within lot grading
525	Coast live oak	14	Yes	Within lot grading
526	Coast live oak	15,11	Yes	Within lot grading
527	Coast live oak	11,9,9,8	No	Within lot grading
528	Coast live oak	18	Yes	Within lot grading
529	Coast live oak	16,9	Yes	Within lot grading
530	Coast live oak	12	Yes	Within lot grading
531	Coast live oak	25,12	Yes	Within lot grading
537	Plum	10,7,6,4	No	Within lot grading
538	Coast live oak	12,11	Yes	Within lot grading
539	Coast live oak	12,11	Yes	Within lot grading
540	Coast live oak	13,11	Yes	Within lot grading
541	Coast live oak	12,12	Yes	Within lot grading
561	Coast live oak	8,8,7,7,4	No	Within lot grading
562	Coast live oak	16,10	Yes	Within lot grading
563	Coast live oak	9,9,7	No	Within road grading
564	Coast live oak	16,11,10	Yes	Within lot grading
565	Coast live oak	19,19,15	Yes	Within lot grading
566	Coast live oak	9	No	Within lot grading
567	Coast live oak	11,5	No	Within lot grading
568	Coast live oak	9,7,6	No	Within lot grading
569	Coast live oak	10	No	Within lot grading
570	Coast live oak	14,9,9	Yes	Within lot grading
571	Coast live oak	12,11,9	Yes	Within lot grading
572	Coast live oak	9,8,7,7	No	Within lot grading

(continued, following page)

Table 3: Trees recommended for removal, continued
Napa Oaks site, Napa

Tree #	Species	Trunk Diameter (in.)	Native Protected?	Impacts
573	Coast live oak	7	No	Within lot grading
574	Coast live oak	8,5	No	Within lot grading
575	Coast live oak	11	No	Within road grading
576	Coast live oak	6	No	Within road grading
577	Coast live oak	9	No	Within road grading
578	Madrone	14,12,12	No	Within road grading
579	Madrone	18,17,14,12,10	No	Within road grading
580	Coast live oak	8,7	No	Within lot grading
581	Coast live oak	6	No	Within lot grading
582	Coast live oak	8	No	Within road grading
583	Coast live oak	7	No	Within lot grading
584	Coast live oak	17	Yes	Within lot grading
585	Coast live oak	6,5,5	No	Within lot grading
586	Coast live oak	7,5,5	No	Within lot grading
587	Coast live oak	8	No	Within lot grading
588	Coast live oak	14	Yes	Within lot grading
589	Coast live oak	9,9	No	Within lot grading
590	Coast live oak	28	Yes	Within lot grading
591	Coast live oak	31	Yes	Within lot grading
592	Coast live oak	42	Yes	Within lot grading
593	Coast live oak	47	Yes	Within lot grading
594	Coast live oak	7	No	Within lot grading
595	Coast live oak	30	Yes	Within lot grading
596	Coast live oak	8,8	No	Within lot grading
597	Coast live oak	6	No	Within lot grading
598	Coast live oak	6,4	No	Within lot grading
599	Coast live oak	7,5	No	Within lot grading
600	Coast live oak	34	Yes	Within lot grading
604	Coast live oak	39	Yes	Impacted by lot grading
612	Coast live oak	10	No	Within lot grading
613	Coast live oak	11	No	Within lot grading
614	Coast live oak	9,6	No	Within lot grading
623	Coast live oak	31	Yes	Impacted by lot grading
643	Coast live oak	15	Yes	Impacted by lot grading
648	Coast live oak	9,6,4	No	Within grading
649	Coast live oak	13	Yes	Within lot grading
650	Coast live oak	6,4	No	Impacted by grading
651	Coast live oak	17	Yes	Impacted by grading
652	Coast live oak	13,9	Yes	Within grading
653	Coast live oak	7,6,4,3	No	Within grading
654	Coast live oak	8,7,5	No	Within grading
655	Coast live oak	7	No	Within grading
656	Coast live oak	8	No	Within grading
658	Coast live oak	12,11,10	Yes	Impacted by grading
665	Coast live oak	41	Yes	Impacted by grading
666	Coast live oak	27	Yes	Within grading
667	Coast live oak	18	Yes	Within road grading
668	Coast live oak	8,4	No	Within road grading
669	Coast live oak	11	No	Within road grading
670	Coast live oak	15	Yes	Within road grading
671	Coast live oak	12,12	Yes	Within grading
672	Coast live oak	16	Yes	Within grading
675	Coast live oak	11,6	No	Within road grading
676	Coast live oak	14	Yes	Within lot grading

(continued, following page)

Table 3: Trees recommended for removal, continued
Napa Oaks site, Napa

Tree #	Species	Trunk Diameter (in.)	Native Protected?	Impacts
677	Coast live oak	7	No	Within lot grading
678	Coast live oak	6,6,5,5	No	Impacted by grading
679	Coast live oak	6	No	Impacted by grading
680	Coast live oak	10,9,8,7,6	No	Within lot grading
681	Coast live oak	16	Yes	Within lot grading
682	Coast live oak	6	No	Within lot grading
683	Coast live oak	12	Yes	Within lot grading
684	Coast live oak	15,6	Yes	Within lot grading
685	Coast live oak	11	No	Within lot grading
686	Coast live oak	19,11	Yes	Within lot grading
687	Coast live oak	14	Yes	Within lot grading
688	Coast live oak	12,12,11,9,7	Yes	Within lot grading
689	Coast live oak	12,11,8,8	Yes	Within lot grading
690	Coast live oak	13,12,8	Yes	Within lot grading
691	Coast live oak	7,6,5	No	Within lot grading
692	Coast live oak	7,4	No	Within lot grading
701	Coast live oak	12,7,3,2	Yes	Impacted by lot grading
709	Coast live oak	21	Yes	Within lot grading
710	Coast live oak	23	Yes	Impacted by lot grading
711	Coast live oak	25,15	Yes	Impacted by lot grading
712	Coast live oak	21	Yes	Impacted by lot grading
713	Plum	7	No	Within lot grading
714	Coast live oak	11	No	Within lot grading
716	Coast live oak	53	Yes	Impacted by lot grading
718	Coast live oak	28	Yes	Within lot grading
719	Coast live oak	13,11,7	Yes	Within road grading
720	Coast live oak	10,7,7	No	Within road grading
721	Coast live oak	45,35	Yes	Within lot grading
722	Coast live oak	13	Yes	Within lot grading
724	Coast live oak	24	Yes	Within lot grading
725	Coast live oak	10,8,6,5	No	Within lot grading
726	Coast live oak	10,7	No	Within lot grading
727	Coast live oak	11	No	Within road grading
728	Coast live oak	11,10	No	Within lot grading
729	Coast live oak	9,9,6	No	Within lot grading
730	Plum	7,6,6,5.5	No	Within lot grading
731	Coast live oak	7,7,6	No	Within lot grading
732	Coast live oak	9,8	No	Within lot grading
733	Coast live oak	13,10,9	Yes	Within lot grading
734	Coast live oak	12,7	Yes	Within lot grading
735	Coast live oak	8	No	Within lot grading
736	Coast live oak	7	No	Within lot grading
737	Coast live oak	10,7	No	Within road grading
738	Coast live oak	11,7	No	Within road grading
739	Plum	6,4	No	Within road grading
740	Coast live oak	8,6	No	Within road grading
741	Coast live oak	13	Yes	Within road grading
742	Coast live oak	17	Yes	Within lot grading
743	Coast live oak	14,13,8	Yes	Within lot grading
744	Coast live oak	13	Yes	Within lot grading
745	Coast live oak	12,11,10	Yes	Within lot grading
746	Coast live oak	11,6,4	No	Within lot grading
747	Coast live oak	10	No	Within lot grading
748	Coast live oak	16,12	Yes	Within lot grading

(continued, following page)

Table 3: Trees recommended for removal, continued
Napa Oaks site, Napa

Tree #	Species	Trunk Diameter (in.)	Native Protected?	Impacts
749	Coast live oak	9	No	Within lot grading
750	Coast live oak	8	No	Within lot grading
751	Coast live oak	10	No	Within lot grading
752	Coast live oak	9	No	Within lot grading
753	Coast live oak	14,11	Yes	Within lot grading
754	Coast live oak	7,3	No	Within lot grading
755	Coast live oak	11,9,9,8	No	Within lot grading
756	Coast live oak	12,9	Yes	Within lot grading
757	Coast live oak	19	Yes	Within lot grading
758	Coast live oak	17	Yes	Within lot grading
759	Coast live oak	9	No	Within lot grading
760	Coast live oak	15	Yes	Within lot grading
761	Coast live oak	11,10,9,8,5	No	Within lot grading
762	Valley oak	6	No	Within lot grading
763	Coast live oak	18	Yes	Within lot grading
764	Coast live oak	12,12	Yes	Within lot grading
765	Coast live oak	8,8,7,4	No	Within lot grading
766	Coast live oak	9,9,7,4	No	Within lot grading
767	Coast live oak	10	No	Within lot grading
768	Coast live oak	15,13,6	Yes	Within lot grading
769	Coast live oak	8	No	Within lot grading
770	Coast live oak	9,8,7	No	Within lot grading
771	Coast live oak	8,6	No	Within lot grading
772	Coast live oak	10	No	Within lot grading
773	Coast live oak	11,7	No	Within lot grading
774	Coast live oak	13,8,7	Yes	Within lot grading
775	Coast live oak	13,12,12,12,10,10	Yes	Within lot grading
776	Coast live oak	7	No	Within lot grading
777	Coast live oak	9	No	Within lot grading
778	Coast live oak	12,11	Yes	Within lot grading
794	Coast live oak	23	Yes	Impacted by grading
795	Coast live oak	25	Yes	Impacted by grading
796	Coast live oak	15	Yes	Within lot grading
797	Coast live oak	29	Yes	Within lot grading
798	Coast live oak	29	Yes	Within lot grading
800	Coast live oak	23	Yes	Impacted by grading
801	Coast live oak	39	Yes	Within lot grading
810	Coast live oak	46	Yes	Impacted by lot grading
818	Coast live oak	15,14,13,12,9	Yes	Within road grading
819	Coast live oak	19,11	Yes	Within road grading
820	Coast live oak	14	Yes	Within lot grading
840	Coast live oak	8	No	Impacted by lot grading
841	Coast live oak	21	Yes	Within lot grading
842	Madrone	12,11	No	Within lot grading
843	Coast live oak	10,9,9,9.8,7	No	Within lot grading
844	Coast live oak	23	Yes	Within lot grading
845	Coast live oak	17	Yes	Within lot grading
846	Coast live oak	11	No	Within lot grading
847	Coast live oak	14	Yes	Within lot grading
848	Coast live oak	12,8	Yes	Within lot grading
849	Coast live oak	14,13	Yes	Within lot grading
867	Coast live oak	16	Yes	Impacted by lot grading
868	Coast live oak	6	No	Impacted by lot grading
869	Coast live oak	15,10	Yes	Within lot grading

(continued, following page)

Table 3: Trees recommended for removal, continued
Napa Oaks site, Napa

Tree #	Species	Trunk Diameter (in.)	Native Protected?	Impacts
870	Coast live oak	18,13	Yes	Within lot grading
871	Coast live oak	8,6	No	Within lot grading
877	Coast live oak	13,5,3	Yes	Within lot grading
878	Coast live oak	6,6	No	Within lot grading
879	Coast live oak	11,10,9	No	Within lot grading
880	Coast live oak	12,11,8,8,5	Yes	Within lot grading
881	Coast live oak	11,8	No	Within lot grading
882	Coast live oak	7,6,6	No	Within road grading
884	Coast live oak	45	Yes	Within lot grading
885	Coast live oak	26	Yes	Impacted by lot grading
886	Coast live oak	29,22	Yes	Within lot grading
887	Coast live oak	26	Yes	Within lot grading
888	Coast live oak	35	Yes	Within lot grading
891	Coast live oak	56,54	Yes	Impacted by road grading
892	Coast live oak	11,10,9	No	Within road grading
893	Coast live oak	22,14,12	Yes	Within road grading
894	Coast live oak	18,15,8	Yes	Within lot grading
895	Coast live oak	11	No	Within lot grading
896	Valley oak	28	Yes	Within lot grading
897	Coast live oak	36,18,11,11	Yes	Within lot grading
898	Coast live oak	25	Yes	Within lot grading
899	Coast live oak	7	No	Within lot grading
900	Coast live oak	27	Yes	Within lot grading
901	Coast live oak	7	No	Within lot grading
902	Coast live oak	14	Yes	Within lot grading
903	Coast live oak	9	No	Within lot grading
904	Coast live oak	15,11,7	Yes	Within lot grading
905	Coast live oak	7,6	No	Within lot grading
906	Coast live oak	10,9,9,5	No	Within lot grading
907	Coast live oak	6,5	No	Within lot grading
908	Coast live oak	13,12,11,10	Yes	Within lot grading
909	Coast live oak	12	Yes	Within lot grading
910	Coast live oak	13,12,12	Yes	Within lot grading
911	Coast live oak	6	No	Within lot grading
912	Coast live oak	7,4	No	Within lot grading
913	Coast live oak	12,10	Yes	Within lot grading
914	Coast live oak	8,6	No	Within lot grading
915	Coast live oak	7,7,6	No	Within lot grading
916	Coast live oak	10,9,8	No	Within lot grading
917	Coast live oak	11	No	Within road grading
918	Coast live oak	8,7	No	Within road grading
919	Coast live oak	6	No	Within road grading
920	Coast live oak	26,17	Yes	Within road grading
921	Coast live oak	16,12,6,5	Yes	Within lot grading
922	Coast live oak	7,6,4	No	Within lot grading
923	Coast live oak	9,8,8,5	No	Within lot grading
924	Coast live oak	7,5	No	Within lot grading
925	Coast live oak	11,5	No	Within lot grading
926	Coast live oak	7,6,5,4	No	Within lot grading
927	Coast live oak	8,8	No	Within lot grading
928	Madrone	21,12,12	No	Within lot grading
929	Coast live oak	10	No	Within lot grading
931	Coast live oak	8,6,5	No	Within lot grading
956	Coast live oak	10,9,5	No	Within lot grading

(continued, following page)

Table 3: Trees recommended for removal, continued
Napa Oaks site, Napa

Tree #	Species	Trunk Diameter (in.)	Native Protected?	Impacts
957	Coast live oak	10,9,4	No	Within lot grading
958	Coast live oak	15,13	Yes	Within lot grading
959	Coast live oak	17	Yes	Within lot grading
960	Coast live oak	13	Yes	Within lot grading
961	Coast live oak	39	Yes	Impacted by lot grading
962	Coast live oak	9,8,7	No	Within lot grading
963	Coast live oak	18	Yes	Within lot grading
964	Coast live oak	8,8,6	No	Within lot grading
965	Coast live oak	11	No	Within lot grading
966	Coast live oak	18,15,11	Yes	Within lot grading
972	Coast live oak	13	Yes	Within lot grading
976	Coast live oak	9,9,8	No	Within lot grading
977	Coast live oak	6	No	Within lot grading
978	Coast live oak	10,9	No	Within lot grading
979	Coast live oak	8,7,5	No	Within lot grading
980	Coast live oak	8,8	No	Within lot grading
981	Coast live oak	6,6,5,4	No	Within lot grading
982	Coast live oak	7	No	Within lot grading
983	Coast live oak	9,9,8,6	No	Within lot grading
984	Coast live oak	14	Yes	Within lot grading
985	Coast live oak	8	No	Within lot grading
986	Coast live oak	6	No	Within lot grading
987	Coast live oak	8,7,6	No	Within lot grading
988	Coast live oak	8,4	No	Within lot grading
989	Coast live oak	7,4	No	Within lot grading
990	Coast live oak	8	No	Within lot grading
992	Coast live oak	9,8	No	Within lot grading
993	Coast live oak	12,10,8,6	Yes	Within lot grading
994	Coast live oak	9,9,5	No	Within lot grading
995	Coast live oak	6,3	No	Within lot grading
996	Coast live oak	8,8	No	Within lot grading
997	Coast live oak	7	No	Within lot grading
1075	Monterey pine	31	No	Within lot grading
1076	Monterey pine	25	No	Within road grading
1077	Monterey pine	31	No	Within road grading
1078	Monterey pine	27	No	Within road grading
1079	Monterey pine	36	No	Within road grading
1081	Coast live oak	6,5	No	Within road grading
1084	Coast live oak	14,7	Yes	Within grading
1086	Coast live oak	32	Yes	Impacted by lot grading
1089	Coast live oak	7	No	Within lot grading
1108	Calif. black oak	36	Yes	Within lot grading
1109	Coast live oak	6	No	Within lot grading
1110	Coast live oak	49	Yes	Impacted by lot grading
1132	Coast live oak	6	No	Within swale grading
1142	Coast live oak	7,6	No	Within swale grading
1145	Coast live oak	6	No	Within swale grading
1146	Coast live oak	7	No	Within swale grading
1147	Coast live oak	8,5,3	No	Within road grading
1148	Coast live oak	6,5	No	Within road grading
1149	Coast live oak	6	No	Within road grading
1150	Coast live oak	9	No	Within grading
1151	Coast live oak	8,7,7,6	No	Within grading
1152	Coast live oak	7,5	No	Within grading

(continued, following page)

Table 3: Trees recommended for removal, continued
Napa Oaks site, Napa

Tree #	Species	Trunk Diameter (in.)	Native Protected?	Impacts
1153	Coast live oak	9,5,5	No	Within grading
1154	Coast live oak	8,7,7,6	No	Within grading
1155	Coast live oak	6	No	Within grading
1156	Coast live oak	6	No	Within grading
1157	Coast live oak	7	No	Within grading
1158	Coast live oak	11	No	Within grading
1159	Coast live oak	9	No	Within grading
1160	Mimosa	8,8,7	No	Within grading
1161	Coast live oak	8	No	Within grading
1162	Coast live oak	8,7,5	No	Within grading
1163	Coast live oak	10,8,8,7	No	Within grading
1164	Apple	7,6,6	No	Within lot grading
1165	Apple	13,6	No	Within lot grading
1166	Deodar cedar	25	No	Within lot grading
1167	Purple leaf plum	8,8	No	Within lot grading
1168	Purple leaf plum	9,6,6,4	No	Within road grading
1169	Purple leaf plum	8	No	Within road grading
1170	Monterey pine	28	No	Within road grading
1171	Monterey pine	38	No	Within road grading
1172	Coast live oak	31,20	Yes	9' from grading
1181	Coast live oak	28,12	Yes	2' from retaining wall
1183	Coast live oak	8,5	No	Within road grading
1184	Coast live oak	10	No	Within road grading
1185	Coast live oak	6,5,2	No	1' from road grading
1186	Coast live oak	7,6	No	Within road grading
1190	Coast live oak	13,9	Yes	3' from road grading
1193	Coast live oak	27	Yes	Within road grading
1194	Coast live oak	23	Yes	Within road grading
1195	Coast live oak	19	Yes	1' from retaining wall
1196	Coast live oak	46,22	Yes	4' from retaining wall
1270	Coast live oak	14,12	Yes	Within lot grading
1271	Coast live oak	11	No	Within grading
1272	Coast live oak	8	No	Within grading
1273	Coast live oak	9	No	Within grading
1274	Coast live oak	7	No	Within grading
1275	Coast live oak	7	No	Impacted by grading
1277	Coast live oak	9	No	Impacted by grading
1278	Coast live oak	7	No	Impacted by grading
1279	Coast live oak	10	No	Impacted by grading
1281	Coast live oak	6,4	No	Within swale grading
1282	Coast live oak	7,4	No	Within road grading
1283	Coast live oak	6	No	Within road grading
1284	Purple leaf plum	6,5	No	Within road grading
1310	Monterey pine	25	No	Within lot grading
1311	Coast live oak	23,22	Yes	6' from grading
1317	Coast live oak	10,8	No	Within lot grading
1318	Coast live oak	10	No	Within lot grading
1319	Coast live oak	7	No	Within lot grading
1320	Coast live oak	7,6	No	Within lot grading
1321	Coast live oak	10,8,7	No	Within lot grading
1441	Coast live oak	6	No	Within grading
1442	Coast live oak	6,5,5,4	No	Within lot grading
1473	Coast live oak	10,7	No	Within road grading
1474	Coast live oak	5,5,4,3	Yes	Within lot grading
1475	Coast live oak	8,8,7,6	No	Within lot grading

Tree Preservation Guidelines

The goal of tree preservation is not merely tree survival during development but maintenance of tree health and beauty for many years. Trees retained on sites that are either subject to extensive injury during construction or are inadequately maintained become a liability rather than an asset. The response of individual trees will depend on the amount of excavation and grading, the care with which demolition is undertaken, and the construction methods. Coordinating any construction activity inside the **Tree Protection Zone** can minimize these impacts.

Specific **TREE PROTECTION ZONES** have been reviewed with Davidon Homes for each tree and will be provided prior to construction. No grading, excavation, construction or storage of materials shall occur within the **TREE PROTECTION ZONES**.

The following recommendations will help reduce impacts to trees from development and maintain and improve their health and vitality through the clearing, grading and construction phases.

Design recommendations

1. Any plan affecting trees should be reviewed by the Consulting Arborist with regard to tree impacts. These include, but are not limited to, improvement plans, utility and drainage plans, grading plans, landscape and irrigation plans and demolition plans.

2. Evaluate the possibility of adjusting the locations of the V-ditch adjacent to trees #706, 707, and 790-793 to provide a minimum of 5' between the V-ditch and tree trunks.

3. A **TREE PROTECTION ZONE** shall be established around each tree per our recommendations. Trees shall be protected at the specific distance in the direction specified, and at the dripline in all other directions. No grading, excavation, construction or storage of materials shall occur within that zone. For trees where no **TREE PROTECTION ZONE** was specified, fencing and protection are not required, as they are away from the proposed improvements.

4. No underground services including utilities, sub-drains, water or sewer shall be placed in the **TREE PROTECTION ZONE**, without the review and written approval of the Consulting Arborist.

5. **Tree Preservation Notes**, prepared by the Consulting Arborist, should be included on all plans.

Pre-construction treatments and recommendations

1. The construction superintendent shall meet with the Consulting Arborist before beginning work to discuss work procedures and tree protection.

2. Fence all trees to be retained to completely enclose the **TREE PROTECTION ZONE** prior to demolition, grubbing or grading. Fences shall be 6 ft. chain link or equivalent as approved by consulting arborist. Fences are to remain until all grading and construction is completed.

3. Preliminary pruning recommendations for trees in proximity to the proposed development have been reviewed with Davidon Homes and will be provided prior to construction.

4. Prune trees to be preserved to clean the crown, correct for any defects in structure, and to provide clearance. Any pruning of off-site trees must be performed with the property owner's permission. All pruning shall be completed by a Certified Arborist or Tree Worker and adhere to the latest edition of the ANSI Z133 and A300 standards as well as the *Best Management Practices -- Tree Pruning* published by the International Society of Arboriculture. Brush shall be chipped and spread beneath the trees within the **TREE PROTECTION ZONE.**

Recommendations for tree protection during construction

1. No grading, construction, demolition or other work shall occur within the **TREE PROTECTION ZONE**. Any modifications must be approved and monitored by the Consulting Arborist.

2. Any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the Consulting Arborist.

3. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.

4. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the **TREE PROTECTION ZONE**.

5. Trees to be removed that have canopies touching trees to remain shall be removed by a Certified Arborist in a manner to avoid damage to remaining trees.

6. Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.

7. As trees withdraw water from the soil, expansive soils may shrink within the root area. Therefore, foundations, footings and pavements on expansive soils near trees should be designed to withstand differential displacement.

Maintenance of impacted trees

Trees preserved at the Napa Oaks site will experience physical environment different from that pre-development. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority. As trees age, the likelihood of failure of branches or entire trees increases. Therefore, annual inspection for hazard potential is recommended.

HortScience, Inc.

Sincerely,

John Leffingwell
Board Certified Master Arborist #WE-3966B
Registered Consulting Arborist #442

Tree Survey

Napa Oaks site
Napa, California
October & Novemeber 2010

HORT SCIENCE

TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
101	Coast live oak	29	Yes	4	Good	Codominant trunks at 6'; crossing branches; pruned on north for overhead utilities.
102	Privet	9,7,6,5,5	No	3	Moderate	Multiple attachments at base; growing around old curb.
103	Mimosa	11	No	3	Poor	Leans south; thin crown.
104	Italian stone pine	10	No	3	Poor	Crook in upper crown; fire damage.
105	Mimosa	15,12	No	1	Poor	Stems splitting at attachment; hazardous tree.
106	English walnut	13	No	2	Poor	Poor form and structure; topped at 15'.
107	Paradox walnut	15	No	4	Moderate	Codominant trunks at 5'; branch failure west; dieback in upper crown.
108	Mimosa	13	No	3	Poor	One-sided east; old topping points; basal wound.
109	Aleppo pine	22	No	4	Moderate	Codominant trunks at 10'; upright form.
110	English walnut	12,4	No	2	Poor	Topped for overhead utilities; dieback; black walnut sprouts from base.
111	Privet	6,5,4,3	No	3	Poor	Multiple attachments at base; topped for overhead utilities.
112	Almond	8	No	1	Poor	All but dead.
113	Almond	7,6,5,4,4	No	2	Poor	Thin crown; declining.
114	English walnut	7	No	3	Poor	Suppressed form; black walnut sprouts from base.
115	Calif. black oak	13	Yes	4	Moderate	Multiple attachment at 4'; privet stem embedded in trunk.
116	Valley oak	8	No	3	Moderate	Suppressed; one-sided north.
117	Coast live oak	12	Yes	4	Moderate	Crowded; asymmetric crown.
118	Coast live oak	6	No	2	Poor	Suppressed form; lost top; embedded barbed wire.
119	English walnut	10	No	3	Poor	Suppressed form; engulfed in ivy; black walnut sprouts from base.
120	Coast live oak	18	Yes	4	Moderate	Off-site; one-sided west; trunk wound east.

Tree Survey

Napa Oaks site
Napa, California
October & Novemeber 2010

HORT SCIENCE

TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
121	Valley oak	36	Yes	4	Moderate	Multiple attachments at 18'; heavy lateral limbs; history of branch failure; engulfed in poison oak.
122	Almond	12	No	2	Poor	Supressed; topped at 15'.
123	Olive	7,6	No	4	Good	Codominant trunks at base; suppressed.
124	Olive	7	No	3	Moderate	Off-site; leans west.
125	Coast live oak	30,26	Yes	5	Good	Codominant trunks at base; spreading form; good form and structure; rope girdling branch northeast.
126	Coast live oak	10	No	2	Poor	Suppressed form; topped at 8'.
127	Coast live oak	9	No	3	Moderate	Suppressed form; trunk wound in upper crown.
128	Coast live oak	7	No	2	Poor	Basal wounds; thin crown.
129	English walnut	8	No	3	Poor	Suppressed form; black walnut sprouts from base.
130	Coast live oak	15	Yes	5	Good	Good form and structure; western stem removed.
131	English walnut	11	No	3	Poor	Basal swelling; topped at 10'.
132	English walnut	6,6	No	4	Moderate	Codominant trunks at 2'; included bark.
133	Coast live oak	15,15,8	Yes	5	Good	Good form and structure; beneath overhead utilities.
134	Coast live oak	9,7,6,4,3	No	4	Moderate	One-sided east; seam in attachment; beneath overhead utilities.
135	Valley oak	8	No	5	Good	Good young tree.
136	Valley oak	13	Yes	4	Good	Multiple attachments at 10'; twig dieback; engulfed in vines.
137	Calif. black walnut	10,8,7	No	4	Moderate	Multiple attachments at base; minor dieback.
138	Calif. black walnut	9,8,8,8	No	4	Moderate	Stump sprout; multiple attachments at base.
139	English walnut	13	No	3	Poor	Basal cavity; topped.
140	Coast live oak	10	No	4	Moderate	Multiple attachments at 7'; good young tree; growth crack south.
141	Mimosa	14	No	2	Poor	Declining; thin crown.

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
142	Aleppo pine	17	No	4	Moderate	Codominant trunks at 10'; upright form; basal fire damage.
143	Mimosa	10	No	1	Poor	All but dead.
144	Aleppo pine	22,15	No	4	Moderate	Multiple attachments at 5'; upright form; basal fire damage.
145	Coast redwood	22	No	5	Good	Good form and structure; fire damage on lower trunk & branches.
146	Apple	8,7,5	No	2	Poor	Topped; cavities fille wth concrete.
147	Valley oak	21	Yes	4	Moderate	Fair structure; thinning crown.
148	Pinyon pine	10	No	5	Good	Good form and structure.
149	Calif. black oak	7	No	5	Good	Good young tree.
150	Calif. black oak	9	No	5	Good	Good young tree.
151	Myoporum	8,7	No	4	Moderate	Codominant trunks at base; low lateral west.
152	Japanese black pine	8	No	3	Moderate	Leans south.
153	Calif. black oak	8	No	5	Good	Good young tree.
154	Chinese pistache	8	No	5	Good	Good form and structure.
155	Calif. black oak	6	No	5	Good	Good young tree.
156	Incense cedar	36	No	4	Good	Upright form; heavy lateral limbs.
157	Japanese black pine	6,4	No	4	Moderate	Upright form; lower limbs pruned.
158	Japanese black pine	7	No	4	Moderate	Upright form; lower limbs pruned.
159	Calif. black oak	8	No	5	Good	Good young tree; small basal wound.
160	Calif. black oak	11	No	5	Good	Good form and structure; branch wounds.
161	Valley oak	13	Yes	4	Good	Multiple attachments at 6'; pruned east for overhead utilities.
162	Evergreen ash	13	No	2	Poor	Extensive mistletoe; trunk decay; little live material remains.
163	Evergreen ash	17	No	3	Poor	Extensive mistletoe; trunk decay; pruned east for overhead utilities.
164	Aleppo pine	15	No	2	Poor	Very thin crown; sequoia pitch moth.
165	Coast live oak	9	No	5	Good	Good form and structure; beneath overhead utilities.

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
166	Arizona cypress	16,9	No	4	Good	Open form; twig and branch dieback.
167	Almond	9	No	2	Poor	Very thin crown; sapsucker damage.
168	Valley oak	41	Yes	4	Moderate	Multiple attachments at 12'; dead wood; epicormic shoots.
169	Coast live oak	9	No	4	Moderate	Crowded; one-sided east.
170	Coast live oak	12	Yes	4	Moderate	Crowded; one-sided west.
171	Coast live oak	10	No	3	Moderate	Crowded; leans northwest.
172	Almond	10,9	No	2	Poor	One-sided east; extensive dieback west.
173	Coast live oak	18	Yes	4	Good	Leans west; low lateral south.
174	Coast live oak	6	No	4	Moderate	Heavy lean west.
175	English walnut	11	No	4	Moderate	One sided south; dieback.
176	Coast live oak	11,8	No	4	Moderate	Codominant trunks at 3'; seam in attachment; basal swelling.
177	Coast live oak	8	No	4	Good	Slight lean north.
178	Coast live oak	7	No	4	Good	Crowded; slight lean west.
179	Coast live oak	50	Yes	4	Moderate	Multiple attachments at 15'; heavy lateral limb/low branching east.
180	Valley oak	26	Yes	2	Poor	Very thin crown; eastern stem failed at 5'.
181	Coast live oak	10,7	No	5	Good	Codominant at base with #182; one-sided west.
182	Valley oak	8	No	5	Good	Codominant at base with #183; upright form.
183	Valley oak	7	No	3	Moderate	Thin crown; growing at top of channel.
184	Coast live oak	12	Yes	4	Good	Multiple attachments at 5'; slightly thin crown.
185	Coast live oak	10,8	No	4	Moderate	Growing at top of channel; roots exposed west.
186	Valley oak	28	Yes	4	Moderate	One-sided north; twig and branch dieback.
187	Calif. black oak	28,18	Yes	4	Moderate	Codominant trunks at 4'; one-sided south; history of branch failure; trunk wounds.
188	Valley oak	23	Yes	3	Moderate	Codominant trunks at 10'; very one-sided west.
189	Valley oak	21	Yes	4	Moderate	Multiple attachments at 8'; upright form; dead wood.
190	Coast live oak	27	Yes	4	Moderate	Multiple attachments at 8'; low laterals; trunk wounds/cavities.

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
191	Valley oak	16	Yes	4	Moderate	Upright form; slightly thin crown.
192	Valley oak	17	Yes	3	Moderate	Thin, high crown.
193	Valley oak	16	Yes	3	Poor	Thin, asymmetric crown; low lateral north.
194	Valley oak	18	Yes	3	Poor	Thin, asymmetric crown; basal swelling.
195	Valley oak	17	Yes	4	Moderate	Good form; fair structure.
196	Valley oak	22,15	Yes	4	Moderate	Codominant trunks at 3'; low branching south; dead wood.
197	Coast live oak	7,7,6,5,4	No	5	Good	Multiple attachments at base; good young tree.
198	Coast live oak	6	No	5	Good	Good young tree.
199	Valley oak	7	No	3	Moderate	Twig and branch dieback; epicormic shoots.
200	Coast live oak	6,5	No	5	Good	Good young tree.
201	Coast live oak	6	No	4	Good	One-sided west.
202	Coast live oak	7,6,5	No	5	Good	Multiple attachments at base; crowded by #188.
203	Coast live oak	10,8,8,7,6	No	5	Good	Multiple attachments at base; low branching.
204	Coast live oak	12	Yes	5	Good	Slight lean north; low branch south.
205	Calif. buckeye	9,6,5	No	4	Moderate	Multiple attachments at base; one-sided north.
206	Valley oak	33	Yes	4	Moderate	Sweeps from base; opening in crown.
207	Almond	15,9	No	3	Poor	Dieback of eastern branches.
208	Coast live oak	8,5,5	No	5	Good	Good young tree; low branching.
209	Valley oak	6	No	5	Good	Good young tree.
210	Calif. buckeye	16,15	No	4	Moderate	Codominant trunks at base; one-sided northeast.
211	Coast live oak	48	Yes	3	Moderate	Leans southeast; roots exposed and lifting on tension side.
212	Coast live oak	12	Yes	3	Moderate	Suppressed form; bowed east to horizontal.
213	Coast live oak	19	Yes	3	Moderate	Suppressed form; one-sided south; heavy lateral limbs.
214	Coast live oak	7,7	No	3	Moderate	Codominant trunks at 1'; narrow crown.
215	Coast live oak	6,5,5	No	3	Moderate	Crushed beneath old #110 that failed at base.
216	Coast live oak	8,7,6,5,5	No	5	Good	Multiple attachments at base; upright form.

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
217	Coast live oak	10,6,6	No	5	Good	Multiple attachments at base; upright form.
218	Coast live oak	12	Yes	4	Moderate	Part of grove; crowded; one-sided north.
219	Coast live oak	10,10,7	No	4	Moderate	Part of grove; crowded; upright form.
220	Coast live oak	8	No	2	Poor	Part of grove; extensive dieback.
221	Coast live oak	8,8,6	No	4	Moderate	Part of grove; crowded; upright form.
222	Coast live oak	10,7,5	No	3	Moderate	Part of grove; crowded; one-sided west.
223	Coast live oak	9	No	3	Poor	Part of grove; crowded; small crown.
224	Coast live oak	9,5	No	3	Moderate	Part of grove; crowded; narrow crown.
225	Coast live oak	10,7	No	3	Poor	Part of grove; crowded; small crown.
226	Coast live oak	9	No	3	Moderate	Part of grove; crowded; one-sided west.
227	Coast live oak	10	No	4	Moderate	Part of grove; crowded; upright form.
228	Coast live oak	6	No	3	Moderate	Part of grove; crowded; small crown.
229	Coast live oak	8	No	3	Moderate	Part of grove; crowded; small crown.
230	Coast live oak	7	No	3	Moderate	Part of grove; crowded; narrow crown.
231	Valley oak	8	No	3	Moderate	Part of grove; crowded; crown bowed east.
232	Coast live oak	9,6	No	3	Moderate	Part of grove; crowded; crown bowed east.
233	Coast live oak	7	No	3	Poor	Part of grove; crowded; small crown.
234	Coast live oak	16,5	Yes	4	Good	Part of grove; dominant tree.
235	Coast live oak	12	Yes	3	Moderate	Part of grove; crowded; narrow, asymmetric crown.
236	Coast live oak	7	No	3	Poor	Part of grove; crowded; small crown.
237	Coast live oak	15,8	Yes	5	Good	Codominant trunks at base; good form and structure.
238	Coast live oak	15	Yes	4	Good	Edge of grove; multiple attachments at 6'.
239	Coast live oak	13,7	Yes	5	Good	Codominant trunks at base; low branching south.
240	Coast live oak	10,7	No	5	Good	Codominant trunks at 2'; good form and structure.
241	Coast live oak	9,9,6	No	5	Good	Codominant trunks at base; good form and structure.
242	Coast live oak	10	No	4	Moderate	One-sided south; basal spruts.
243	Coast live oak	28	Yes	4	Good	Slight lean east; roots exposed; dead wood.

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
244	Coast live oak	9	No	3	Moderate	One-sided southwest.
245	Coast live oak	7	No	3	Poor	Supressed form.
246	Coast live oak	12	Yes	5	Good	No tag; good young tree; engulfed in blackberry.
247	Coast live oak	8	No	4	Good	Good young tree; one-sided west.
248	Coast live oak	9	No	4	Good	Good young tree; one-sided east.
249	Coast live oak	8	No	5	Good	Good young tree; crown lifted by cattle.
250	Madrone	14,9,6	No	2	Poor	Extensive trunk wounds/decay; thin crown.
251	Coast live oak	8	No	5	Good	Good young tree; branches to the ground.
252	Coast live oak	9,8,7	No	5	Good	Multiple attachments at base; good young tree.
253	Coast live oak	9,7,6	No	4	Moderate	Multiple attachments at base; thin crown.
254	Coast live oak	8	No	4	Moderate	Crook at 6'; crown bowed west.
255	Coast live oak	9,5	No	4	Moderate	Codominant trunks at base; thin crown.
256	Coast live oak	10,9,8,5,5	No	5	Good	Multiple attachments at 3';low branching.
257	Coast live oak	9	No	3	Moderate	Suppressed form; crown bowed northeast.
258	Coast live oak	6,4,4	No	3	Poor	Low branching; twig and branch dieback
259	Coast live oak	9,8,7,6,6	No	5	Good	Multiple attachments at base.
260	Coast live oak	13	Yes	4	Moderate	Crowded; asymmetric crown.
261	Coast live oak	7,7,6,5,5	No	4	Moderate	Multiple attachments at 1'; one-sided east.
262	Coast live oak	18,7,6	Yes	5	Good	Dominant tree; dead wood.
263	Coast live oak	6,6,5,5	No	4	Moderate	Multiple attachments at 1'; one-sided west.
264	Coast live oak	9	No	3	Moderate	One sided north; twig dieback.
265	Coast live oak	8	No	3	Moderate	Small crown; basal wounds.
266	Coast live oak	36	Yes	4	Good	Multiple attachments at 7'; good form and structure; low branching south.
267	Calif. buckeye	23,18,13	No	4	Moderate	Multiple attachments at 3'; slight lean east; cavities/decay.
268	Calif. buckeye	15	No	3	Poor	One-sided west; basal cavity; decayed roots.
269	Coast live oak	18	Yes	5	Good	Good form and structure.
270	Coast live oak	36	Yes	4	Good	Codominant trunks at 1'; cavity in attachment; low branching east.

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
271	Coast live oak	17,15,13,11	Yes	5	Good	Multiple attachments at base; good form and structure; low branching south.
272	Coast live oak	13,10	Yes	4	Good	Codominant trunks at base; narrow crown.
273	Coast live oak	16	Yes	4	Good	One-sided east.
274	Coast live oak	8,6	No	5	Good	Good young tree; branches to the ground.
275	Coast live oak	10	No	5	Good	Multiple attachments at 5'; good form and structure; pruned south.
276	Coast live oak	8,5,3	No	4	Good	Multiple attachments at 2'; seam in attachment.
277	Coast live oak	10,10	No	4	Good	Codominant trunks at 4'; twig dieback.
278	Coast live oak	10	No	4	Moderate	Crowded; one-sided west
279	Coast live oak	13	Yes	5	Good	Codominant trunks at 5'; seam in attachment.
280	Coast live oak	14,11,11	Yes	4	Good	Multiple attachments at 2'; good form and structure.
281	Valley oak	11	No	4	Good	Crowded; upright form.
282	Coast live oak	12,11,6	Yes	3	Good	Crowded; one-sided southwest.
283	Coast live oak	14	Yes	4	Moderate	Crowded; one-sided south.
284	Coast live oak	11,7,6,5,5	No	4	Good	Multiple attachments at 9'; pruned south.
285	Coast live oak	14	Yes	4	Moderate	Multiple attachments at 5'; basal swelling; crown lifted over road east.
286	Blue spruce	10	No	5	Good	Good form and structure.
287	Burr oak	7	No	4	Good	Good form and structure; chlorotic.
288	Calif. black oak	11	No	5	Good	Good form and structure; pruning wounds.
289	Coast live oak	14	Yes	3	Moderate	Trunk wounds; lateral north.
290	Evergreen ash	20	No	3	Poor	Topped for overhead utilities; extensive mistletoe.
291	Coast live oak	24	Yes	4	Moderate	Off-site, no tag; pruned south for overhead utilities.
292	Scot's pine	6	No	2	Poor	Suppressed form; leans south.
293	English walnut	17	No	2	Poor	Topped for overhead utilities; dieback in upper crown.
294	Coast redwood	22,18	No	3	Moderate	Codominant trunks at base; topped for overhead utilities.

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295	Coast live oak	8	No	3	Moderate	Edge of grove; suppressed form.
296	Coast live oak	10	No	3	Moderate	Edge of grove; one-sided northeast.
297	Coast live oak	12,11	Yes	4	Good	Part of grove; codominant trunks at 3'.
298	Coast live oak	9,4	No	4	Moderate	Edge of grove; one-sided east.
299	Coast live oak	6	No	3	Moderate	Edge of grove; fair structure.
300	Coast live oak	13,6,6	Yes	4	Good	Part of grove; multiple attachments at 3'; included bark.
301	Coast live oak	6	No	3	Moderate	Part of grove; crowded.
302	Coast live oak	14,7	Yes	3	Poor	Part of grove; trunk wounds.
303	Coast live oak	6	No	3	Poor	Part of grove; crowded; poor form and structure.
304	Coast live oak	10,7,7	No	3	Moderate	Part of grove; crowded; asymmetric crown.
305	Coast live oak	11,6	No	3	Moderate	Edge of grove; one-sided northwest.
306	Coast live oak	10,6	No	3	Moderate	Edge of grove; one-sided west.
307	Coast live oak	9,8,6,6	No	3	Moderate	Part of grove; multiple attachments at base; thin crown; engulfed in poison oak.
308	Coast live oak	7,6,5,5	No	3	Poor	Part of grove; multiple attachments at base; thin crown; engulfed in poison oak.
309	Coast live oak	7	No	4	Moderate	Part of grove; crowded; narrow crown.
310	Coast live oak	9,7,6,5	No	3	Moderate	Part of grove; multiple attachments at base; asymmetric crown.
311	Coast live oak	7	No	3	Moderate	Part of grove; crowded; small crown.
312	Coast live oak	12,10,8	Yes	4	Good	Edge of grove; multiple attachments at 4'; one-sided east.
313	Coast live oak	11	No	3	Moderate	Edge of grove; trunk wounds; one-sided east.
314	Coast live oak	10	No	3	Poor	Part of grove; crowded; dead top.
315	Coast live oak	6	No	3	Moderate	Part of grove; thin top.
316	Coast live oak	7	No	3	Moderate	Part of grove; crowded.
317	Coast live oak	11,8	No	4	Moderate	Part of grove; codominant trunks at 1'; narrow crown.
318	Coast live oak	14,9	Yes	4	Good	Edge of grove; one-sided east.

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
319	Coast live oak	9,8	No	3	Moderate	Part of grove; codominant trunks at 1'; asymmetric crown.
320	Coast live oak	8,6	No	3	Moderate	Part of grove; codominant trunks at 3'.
321	Coast live oak	6	No	3	Poor	Part of grove; crowded; very small crown.
322	Coast live oak	10,9,8	No	3	Moderate	Part of grove; codominant trunks at 4'; asymmetric crown.
323	Coast live oak	8,7	No	3	Moderate	Edge of grove; crowded; one-sided west.
324	Coast live oak	6	No	3	Poor	Part of grove; crowded; suppressed form.
325	Coast live oak	8,7	No	3	Moderate	Edge of grove; one-sided east.
326	Coast live oak	10,9,8,6	No	4	Good	Part of grove; multiple attachments at 4'; good form and structure.
327	Coast live oak	15,7,6	Yes	4	Good	Edge of grove; upright form.
328	Coast live oak	7	No	3	Poor	Part of grove; crowded; small crown.
329	Coast live oak	11	No	3	Moderate	Part of grove; crowded; asymmetric crown.
330	Coast live oak	6	No	3	Poor	Edge of grove; crowded; suppressed form.
331	Coast live oak	8	No	3	Poor	Edge of grove; crowded; one-sided southwest.
332	Coast live oak	12	Yes	3	Moderate	Part of grove; crowded; asymmetric crown.
333	Coast live oak	6	No	2	Poor	Edge of grove; crowded; small crown.
334	Coast live oak	10	No	3	Moderate	Part of grove; crowded; upright form.
335	Coast live oak	7,6,5	No	4	Moderate	Edge of grove; one-sided east.
336	Coast live oak	11	No	4	Moderate	Edge of grove; one-sided east.
337	Coast live oak	6	No	3	Poor	Part of grove; small crown.
338	Coast live oak	11	No	3	Poor	Part of grove; codominant trunks at 4'; narrow attachment; seam in attachment.
339	Coast live oak	12	Yes	4	Moderate	Edge of grove; one-sided west
340	Coast live oak	7,6,3	No	3	Moderate	Part of grove; narrow crown.
341	Coast live oak	6,6,6	No	3	Poor	Part of grove; poor form and structure.
342	Coast live oak	6	No	4	Moderate	Edge of grove; one-sided southeast.
343	Coast live oak	7	No	3	Moderate	Part of grove; high, small crown.
344	Valley oak	6,4	No	3	Moderate	Part of grove; codominant trunks at 3'; narrow crown.
345	Coast live oak	7,6,4	No	3	Moderate	Part of grove; narrow crown.

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346	Coast live oak	11	No	3	Moderate	Edge of grove; one-sided west.
347	Coast live oak	7	No	4	Moderate	Part of grove; upright form.
348	Coast live oak	8,6,5,4	No	4	Moderate	Edge of grove; multiple attachments at base; one-sided west.
349	Coast live oak	7	No	3	Moderate	Part of grove; small crown; upright form.
350	Coast live oak	9	No	3	Moderate	Part of grove; crown bowed west.
351	Coast live oak	7,6,4	No	4	Moderate	Edge of grove; one-sided west.
352	Coast live oak	8	No	3	Moderate	Part of grove; leans north; small crown.
353	Coast live oak	6,6	No	3	Moderate	Edge of grove; upright form.
354	Coast live oak	9	No	4	Moderate	Part of grove; upright form.
355	Coast live oak	12	Yes	3	Moderate	Edge of grove; one-sided south.
356	Calif. buckeye	20	No	3	Moderate	Suppressed form; crown broke a 8' dnd is now propping the tree.
357	Coast live oak	61	Yes	4	Moderate	Multipe attachments at 7'; 30" stem failed on north side.
358	Coast live oak	20	Yes	5	Good	Multiple attachments at 4'; seam in attachments.
359	Coast live oak	12,8	Yes	4	Moderate	Edge of grove; one-sided south.
360	Coast live oak	7	No	3	Moderate	Edge of grove; upright form.
361	Coast live oak	10	No	3	Poor	Part of grove; suppressed form.
362	Coast live oak	13	Yes	4	Moderate	Part of grove; upright form.
363	Coast live oak	14,7	Yes	3	Moderate	Edge of grove; leanig & one-sided west.
364	Coast live oak	11,6,5	No	4	Moderate	Part of grove; upright form.
365	Coast live oak	12,11	Yes	4	Moderate	Part of grove; multiple attachments at 3'.
366	Coast live oak	7,6	No	3	Poor	Edge of grove; one-sided east.
367	Coast live oak	13	Yes	3	Moderate	Part of grove; fair structure.
368	Coast live oak	8	No	3	Moderate	Edge of grove; upright form.
369	Coast live oak	11	No	3	Moderate	Edge of grove; one-sided east.
370	Coast live oak	14,12,6	Yes	4	Good	Edge of grove; multiple attachments at base; low lateral north.
371	Coast live oak	20	Yes	3	Poor	Lage trunk wound north; failed south and laying on ground.

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372	Coast live oak	20	Yes	3	Poor	Suppressed form; asymmetric crown.
373	Coast live oak	14	Yes	3	Poor	Leans south; basal wound.
374	Coast live oak	35	Yes	4	Moderate	Codominant trunks at 7'; one-sided south; branches to the ground south.
375	Coast live oak	22	Yes	3	Poor	Basal cavity east; asymmetric crown; dead wood.
376	Coast live oak	10,8,8,5	No	4	Good	Multiple attachments at base; one-sided southwest.
377	Coast live oak	8,7,5	No	4	Moderate	Multiple attachments at base; narrow crown.
378	Coast live oak	6	No	3	Poor	Suppressed form; leans east.
379	Coast live oak	8,7,6	No	4	Moderate	Multiple attachments at base; good form and structure.
380	Coast live oak	6,5,5,5	No	3	Moderate	Multiple attachments at 1'; leans east.
381	Coast live oak	31,16	Yes	3	Poor	Codominant trunks at 6'; dieback in upper crown; 16" stem laying on ground south.
382	Coast live oak	29	Yes	2	Poor	Multiple attachments at 10'; cavities; extensive dieback in upper crown.
383	Coast live oak	12,6,6	Yes	4	Good	Codominant trunks at 2'; squrrel damage/dieback.
384	Coast live oak	11,9	No	3	Moderate	Multiple attachments at 1'; one-sided east.
385	Coast live oak	7,3	No	3	Poor	Suppressed form; one-sided east.
386	Coast live oak	8,7,6	No	3	Moderate	Multiple attachments at base; upright form; twig dieback.
387	Coast live oak	6	No	3	Poor	Supressed; small crown.
388	Coast live oak	8,7,7,6,6,5	No	4	Moderate	Multiple attachments at base; one-sided west; low branching south.
389	Coast live oak	8,6	No	3	Moderate	Codominant trunks at 2'; asymmetric crown.
390	Coast live oak	12,5	Yes	5	Good	Good form and structure.
391	Coast live oak	8,5	No	3	Poor	Suppressed form; low growing south.
392	Coast live oak	8	No	4	Moderate	Upright form.
393	Coast live oak	6	No	3	Moderate	Good young tree; upright form
394	Coast live oak	8,6	No	3	Moderate	Codominant trunks at 1'; asymmetric crown.

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395	Coast live oak	6,6	No	3	Moderate	Codominant trunks at base; upright form.
396	Coast live oak	11,10,8,5,5	No	4	Moderate	Multiple attachments at base; asymmetric crown.
397	Coast live oak	9,9,8	No	4	Moderate	Multiple attachments at base; upright form.
398	Coast live oak	11,9,8	No	4	Moderate	Multiple attachments at base; crowded; asymmetric crown.
399	Coast live oak	12,11,9	Yes	4	Moderate	Multiple attachments at 1'; good form and structure.
400	Coast live oak	19,10,9	Yes	2	Poor	Multiple attachments at base; stems split apart at ground.
401	Coast live oak	6,4	No	3	Moderate	Codominant trunks at at base; crowded with asymmetric crown.
402	Coast live oak	8,6,6	No	4	Good	Multiple attachments at base; low branching.
403	Madrone	27	No	4	Good	Multiple attachments at 7'; good form and structure.
404	Coast live oak	9,7,6,4	No	5	Good	Multiple attachments at 2'; one-sided west.
405	Coast live oak	7,5,5,4	No	4	Moderate	Multiple attachments at base; small leaves; thin crown.
406	Coast live oak	8,7,5,5,4,4	No	4	Moderate	Multiple attachments at base; low branching south.
407	Coast live oak	8,5	No	4	Good	Codominant trunks at 3'; twisted at base.
408	Coast live oak	9,8,7,6,6	No	5	Good	Multiple attachments at 2'; good form and structure.
409	Coast live oak	7,6,3,3	No	5	Good	Multiple attachments at base; low canopy.
410	Coast live oak	8	No	3	Moderate	Poor color; thin crown.
411	Coast live oak	12,11,10	Yes	3	Moderate	Multiple attachments at 4'; seams in attachment; thin crown.
412	Coast live oak	7,6,6,5,5,5	No	4	Moderate	Multiple attachments at base; part of a dense grove.
413	Coast live oak	6,5,4,4	No	3	Moderate	Multiple attachments at base; part of a dense grove.

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414	Coast live oak	7,7,6	No	3	Moderate	Multiple attachments at base; one-sided west; part of a dense grove.
415	Coast live oak	12,6	Yes	4	Moderate	Codominant trunks at base; asymmetric crown; part of a dense grove.
416	Coast live oak	7,6	No	3	Moderate	Codominant trunks at base; part of a dense grove.
417	Coast live oak	9,8,6	No	3	Moderate	Multiple attachments at base; 6" stem laying on ground south; part of a dense grove.
418	Coast live oak	6,5	No	3	Poor	Small crown; part of a dense grove.
419	Coast live oak	13	Yes	4	Moderate	Asymmetric crown; part of a dense grove.
420	Coast live oak	29,9	Yes	2	Poor	Huge cavity extends to upper crown; one-sided southeast.
421	Coast live oak	28	Yes	4	Moderate	Multiple attachments at 8'; twig and branch dieback; low laterals north.
422	Coast live oak	34	Yes	3	Poor	Dieback to 6"; one-sided east.
423	Coast live oak	9,8	No	3	Moderate	Codominant trunks at 3'; part of a dense grove.
424	Coast live oak	8	No	3	Moderate	Small crown; part of a dense grove.
425	Coast live oak	10	No	3	Poor	Bleeding at base; dieback; part of a dense grove.
426	Coast live oak	10	No	3	Poor	Dieback; part of a dense grove.
427	Coast live oak	9,7	No	3	Moderate	Crown bowed west; part of a dense grove.
428	Coast live oak	10	No	3	Moderate	Crown bowed west; part of a dense grove.
429	Coast live oak	6,5,5	No	3	Poor	Small, asymmetric crown; part of a dense grove.
430	Coast live oak	6,4,4	No	3	Moderate	Part of a dense grove.
431	Coast live oak	6	No	3	Poor	Small crown; part of a dense grove.
432	Coast live oak	9,5	No	4	Moderate	Edge of a dense grove; one-sided north.
433	Coast live oak	22	Yes	2	Poor	Very thin crown; epicormic shoots; dieback.
434	Coast live oak	10,5,4	No	5	Good	Multiple attachments at base; low branching.
435	Coast live oak	8	No	4	Moderate	Crowded; asymmetric crown.
436	Coast live oak	23,13	Yes	1	Poor	Very thin crown; extensive dieback.

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437	Coast live oak	22	Yes	5	Good	Multiple attachments at 7'; good form and structure.
438	Coast live oak	32	Yes	4	Moderate	Spreading form; low laterals south; crown a little thin.
439	Coast live oak	8	No	3	Poor	Partial failure at base.
440	Coast live oak	6,4,3	No	3	Moderate	Multiple attachments at base; part of dense grove.
441	Coast live oak	7,4,3,3	No	3	Moderate	Multiple attachments at base; asymmetric crown; part of dense grove.
442	Coast live oak	15,7	Yes	4	Moderate	One-sided west; edge of dense grove.
443	Coast live oak	9,8,4	No	2	Poor	Multiple attachments at base; very thin crown.
444	Coast live oak	7,6,5,5	No	4	Good	Multiple attachments at 1'; good form and structure.
445	Coast live oak	14,14,8,7	Yes	4	Good	Codominant trunks at 2'; seam in attachment.
446	Coast live oak	9,9,8	No	3	Moderate	Multiple attachments at base; asymmetric crown; part of dense grove.
447	Coast live oak	11,7,6	No	3	Moderate	Multiple attachments at base; leans north; part of dense grove.
448	Coast live oak	9,8,7,6,4	No	4	Moderate	Multiple attachments at base; upright form; part of dense grove.
449	Coast live oak	8	No	2	Poor	Small,thin crown.
450	Madrone	15,14	No	2	Poor	Codominant trunks at 2'; extensive trunk wounds very thin crown.
451	Coast live oak	7,6	No	3	Moderate	Edge of dense grove.
452	Coast live oak	8,7,6,6,5	No	4	Good	Multiple attachments at base; low branching.
453	Coast live oak	6,4	No	3	Moderate	Codominant trunks atbase; shrubby.
454	Coast live oak	9	No	4	Good	Low branching; small leaves.
455	Coast live oak	6,5,5,	No	4	Good	Multiple attachments at base; good young tree.
456	Coast live oak	7,6	No	4	Good	Codominant trunks at base; pruned north.
457	Coast live oak	9,7,6,6	No	3	Moderate	Multiple attachments at base; thin crown; large leaves.

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458	Coast live oak	9	No	4	Moderate	Multiple attachments at base; part of dense grove.
459	Coast live oak	10,9,5,5	No	4	Moderate	Multiple attachments at base; good form and structure; part of dense grove.
460	Coast live oak	11,6	No	3	Moderate	Multiple attachments at base; asymmetric crown; edge of dense grove.
461	Coast live oak	12	Yes	3	Moderate	Trunk wounds/canker; part of dense grove.
462	Coast live oak	6,5	No	3	Moderate	One-sided south; thin crown; part of dense grove.
463	Coast live oak	12	Yes	4	Moderate	Part of dense grove.
464	Coast live oak	15,8,8	Yes	4	Moderate	Thin crown; twig and branch dieback.
465	Coast live oak	8,3	No	3	Moderate	One-sided west.
466	Coast live oak	15,13,9	Yes	4	Moderate	Multiple attachments at 2'; edg of dense grove.
467	Coast live oak	14,13,10,8,7	Yes	4	Good	Multiple attachments at 2'; one-sided west; edge of dense grove.
468	Coast live oak	12,6	Yes	3	Moderate	Asymmetric crown; part of dense grove.
469	Coast live oak	16	Yes	4	Good	One-sided west; edge of dense grove.
470	Coast live oak	14,13,8	Yes	4	Moderate	Multiple attachments at bae; narrow crown; edge of dense grove.
471	Coast live oak	15,12,4,4	Yes	4	Good	Multiple attachments at base; one-sided west; edge of dense grove.
472	Coast live oak	12	Yes	3	Moderate	Slight lean north; edge of dense grove.
473	Coast live oak	15	Yes	3	Moderate	Upright form; narrow crown; part of dense grove.
474	Coast live oak	10	No	3	Poor	Crown bowed west to horizontal; cracks forming in trunk.
475	Coast live oak	19	Yes	4	Good	Upright form; narrow crown; part of dense grove.
476	Coast live oak	14	Yes	3	Poor	Crown bowed east; edge of dense grove.
477	Coast live oak	20,9	Yes	4	Moderate	One-sided west; edge of dense grove.
478	Coast live oak	13	Yes	3	Moderate	Crown bowed west; edge of dense grove.

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479	Coast live oak	15,12,11	Yes	3	Moderate	Multiple attachments at 1'; asymmetric crownt; part of dense grove.
480	Coast live oak	20	Yes	4	Moderate	One-sided southwest; edge of dense grove.
481	Coast live oak	15	Yes	2	Poor	Was codominant; eastern stem failed.
482	Coast live oak	17,6	Yes	4	Good	Upright form; edge of dense grove.
483	Coast live oak	18	Yes	4	Good	One-sided west; edge of dense grove.
484	Coast live oak	9,8,8,7,6,6	No	4	Good	Multiple attachments at base; trunk wounds; part of dense grove.
485	Coast live oak	11,8,8	No	4	Good	Multiple attachments at 2'; one-sided north; edge of dense grove.
486	Coast live oak	8	No	5	Good	Good young tree; edge of dense grove.
487	Coast live oak	16	Yes	5	Good	Good young tree.
488	Coast live oak	10,8,6	No	3	Poor	Extensivetwig dieback.
489	Coast live oak	11	No	5	Good	Good young tree.
490	Coast live oak	9,9,9	No	4	Good	Multiple attachments at base; two stem upright; one stem bowed west.
491	Coast live oak	15,13	Yes	3	Poor	Codominant trunks at base; southen stem failed and laying on ground.
492	Coast live oak	8,4	No	4	Moderate	Codominant trunks at base; narrow crown.
493	Coast live oak	11	No	5	Good	Good young tree.
494	Coast live oak	16	Yes	4	Good	Crowded; asymmetric crown.
495	Coast live oak	13	Yes	3	Moderate	Crowded; very asymmetric crown.
496	Coast live oak	9,9,7	No	4	Good	Multiple attachments at base.
497	Coast live oak	8,6	No	3	Moderate	Crowded; one-sided east.
498	Coast live oak	12	Yes	3	Moderate	Crowded; one-sided southeast.
499	Coast live oak	17,17,15,12	Yes	5	Good	Multiple attachments at 1'; low branching; good form and structure.
500	Coast live oak	6	No	3	Moderate	Suppressed form.
501	Coast live oak	9,9	No	2	Poor	Very thin crown; one-sided west.
502	Coast live oak	11,7,6	No	3	Moderate	Multiple attachments at base; crowded.
503	Coast live oak	14,9,7	Yes	4	Moderate	Multiple attachments at base; one-sided north.
504	Coast live oak	13	Yes	3	Moderate	Crowded; crown bowed south.

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505	Coast live oak	17	Yes	4	Good	One-sided southwest.
506	Coast live oak	21,19,14,13	Yes	4	Good	Multiple attachments at 3'; spreading form; low crown east; bark checking at base.
507	Coast live oak	22,21,7	Yes	4	Good	Multiple attachments at base; bark checking at base.
508	Coast live oak	9	No	3	Moderate	Crowded; crown bowed north.
509	Coast live oak	17,16	Yes	4	Good	Codominant trunks at base; seam in attachment.
510	Coast live oak	12,10,5	Yes	4	Moderate	Multiple attachments at1'; one-sided west.
511	Coast live oak	22	Yes	3	Poor	Multiple attachments at 7'; borer holes alog trunk.
512	Coast live oak	15,15	Yes	4	Moderate	Growing down-slope; one-sided west
513	Coast live oak	16,15	Yes	4	Moderate	Growing down-slope; one-sided west
514	Coast live oak	14,8,5	Yes	4	Good	Growing down-slope; low branching west
515	Coast live oak	13,8,6	Yes	4	Good	Multiple attachments at base; low branching/northern stem n ground.
516	Coast live oak	7	No	5	Good	Good young tree; branches to the ground.
517	Coast live oak	12	Yes	4	Good	Multiple attachments at 6'; one-sided west.
518	Coast live oak	15	Yes	5	Good	Good form and structure.
519	Coast live oak	15,15	Yes	5	Good	Codominant trunks at base; good form and structure.
520	Coast live oak	10	No	5	Good	Good young tree.
521	Coast live oak	12,11,10	Yes	4	Moderate	Multiple attachments at base; one-sided east.
522	Coast live oak	18	Yes	4	Good	Multiple attachments at 6'; heavy lateral limb north; trunk wounds.
523	Coast live oak	34,12,10	Yes	5	Good	Multiple attachments at 6'; heavy lateral limbs; bleeding from trunk wounds.
524	Coast live oak	29	Yes	4	Good	Multiple attachments at 4'; one-sided north; trunk wounds.
525	Coast live oak	14	Yes	3	Moderate	Crowded; one-sided west.
526	Coast live oak	15,11	Yes	5	Good	Growing down-slope; low branching.
527	Coast live oak	11,9,9,8	No	5	Good	Multiple attachments at 3'; good young tree.

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528	Coast live oak	18	Yes	4	Moderate	Multiple attachments at 6'; bark checking at base/fill at base.
529	Coast live oak	16,9	Yes	5	Good	Low lateral west at 3'; good form and structure.
530	Coast live oak	12	Yes	3	Poor	Suppressed form; leans east.
531	Coast live oak	25,12	Yes	3	Moderate	Multiple attachments at 6'; thinning crown; low branching.
532	Coast live oak	26,10,8	Yes	4	Moderate	Multiple attachments at 6'; twig and branch dieback; low branching.
533	Coast live oak	16	Yes	4	Good	Codominant trunks at 6'; one-sided west.
534	Coast live oak	29,25,16,14,10	Yes	5	Good	Multiple attachments at base; spreading form; low branching north.
535	Coffeeberry	10	No	3	Poor	Suppressed form; bowed west; ganoderma conk at base.
536	Coast live oak	21,19,19,15,12,7	Yes	5	Good	Multiple attachments at base; spreading form; low branching.
537	Plum	10,7,6,4	No	4	Moderate	Multiple attachments at 2'; aphids/sooty mildew.
538	Coast live oak	12,11	Yes	4	Good	Codominant trunks at 4'; seam in attachment; bark checking.
539	Coast live oak	12,11	Yes	4	Moderate	Codominant trunks at 1'; seam/bleeding at attachment.
540	Coast live oak	13,11	Yes	4	Moderate	Codominant trunks at 3'; weak attachment.
541	Coast live oak	12,12	Yes	4	Moderate	Codominant trunks at base; asymmetric crown.
542	Coast live oak	9,8	No	3	Poor	Suppressed form; bowed north to horizontal.
543	Madrone	18	No	1	Poor	Extensive trunk decay; little live material remains.
544	Coast live oak	18,17,17	Yes	4	Good	Multiple attachments at 3'; one-sided west.
545	Coast live oak	10,5,5	No	3	Moderate	Crowded; asymmetric crown.
546	Coast live oak	12	Yes	4	Good	Codominant trunks at 7'; seam in attachment; upright form.
547	Coast live oak	14	Yes	4	Good	Multiple attachments at 5';crowded; upright form.

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548	Coast live oak	7	No	3	Poor	Suppressed form; crown bowed north to horizontal.
549	Coast live oak	19,17,17,17	Yes	3	Moderate	Multiple attachments at base; spreading form; thinning in upper crown.
550	Coast live oak	6	No	3	Poor	Suppressed form; crown bowed west.
551	Coast live oak	11	No	4	Moderate	Crowded; asymmetric crown.
552	Coast live oak	19	Yes	5	Good	Good form and structure; one-sided west.
553	Plum	8,6,5,4,4	No	3	Moderate	Multiple attachments at 2'; twig dieback; aphids/sooty mildew.
554	Coast live oak	8	No	3	Moderate	Crowded; narrow crown.
555	Coast live oak	6	No	3	Poor	Supressed form; one-sided east.
556	Coast live oak	15,8	Yes	4	Moderate	One-sided west; seam in attachment.
557	Coast live oak	52	Yes	4	Good	Very one-sided east; branches to the ground east are propping tree.
558	Coast live oak	31	Yes	2	Poor	Declining; dieback throughout.
559	Coast live oak	31	Yes	1	Poor	Extensive trunk decay; all but dead.
560	Coast live oak	36	Yes	1	Poor	All but dead.
561	Coast live oak	8,8,7,7,4	No	4	Good	Multiple attachments at 3'; seams in attachments.
562	Coast live oak	16,10	Yes	4	Good	Codominant trunks at 1'; seam in attachment.
563	Coast live oak	9,9,7	No	4	Moderate	Good young tree; twig dieback.
564	Coast live oak	16,11,10	Yes	4	Moderate	Good form and structure; twig dieback.
565	Coast live oak	19,19,15	Yes	5	Good	Codominant trunks at base; spreading form; twig dieback.
566	Coast live oak	9	No	3	Moderate	Suppressed form; one-sided south.
567	Coast live oak	11,5	No	4	Moderate	Crowded; one-sided west.
568	Coast live oak	9,7,6	No	3	Moderate	Thin in upper crown; bleeding along trunk.
569	Coast live oak	10	No	3	Moderate	Crowded; one-sided south.
570	Coast live oak	14,9,9	Yes	4	Good	Codominant trunks at base; engulfed in poison oak.
571	Coast live oak	12,11,9	Yes	4	Good	Multiple attachments at 2'; low lateral east; bleeding along trunk.

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572	Coast live oak	9,8,7,7	No	3	Moderate	Multiple attachments at 1'; asymmetric crown; twig dieback.
573	Coast live oak	7	No	3	Moderate	Twig and branch dieback.; edge of dense grove.
574	Coast live oak	8,5	No	3	Moderate	One-sided west; edge of dense grove.
575	Coast live oak	11	No	4	Moderate	Upright form; part of dense grove.
576	Coast live oak	6	No	4	Moderate	Upright form; part of dense grove.
577	Coast live oak	9	No	3	Moderate	Crowded; crook in upper crown; part of dense grove.
578	Madrone	14,12,12	No	2	Poor	Extensive dieback.
579	Madrone	18,17,14,12,10	No	3	Moderate	Multiple attachments at 3'; dieback in upper crown; heavy lateral limbs.
580	Coast live oak	8,7	No	3	Moderate	Crowded; twig dieback; part of dense grove.
581	Coast live oak	6	No	4	Good	Edge of dense grove; good young tree.
582	Coast live oak	8	No	4	Good	One-sided south; edge of dense grove.
583	Coast live oak	7	No	4	Good	One-sided south; edge of dense grove.
584	Coast live oak	17	Yes	5	Good	Upright form; part of dense grove.
585	Coast live oak	6,5,5	No	4	Good	One-sided north; edge of dense grove.
586	Coast live oak	7,5,5	No	3	Moderate	Narrow attachments; thin crown; edge of dense grove.
587	Coast live oak	8	No	3	Poor	Suppressed form ; part of dense grove.
588	Coast live oak	14	Yes	4	Good	Upright form; part of dense grove.
589	Coast live oak	9,9	No	5	Good	Codominant trunks at 1'; good young tree; edge of dense grove.
590	Coast live oak	28	Yes	2	Poor	Extensive trunk decay; leans north.
591	Coast live oak	31	Yes	4	Good	Multiple attachments at 10'; good form and structure.
592	Coast live oak	42	Yes	4	Good	Codominant trunks at 6'; western stem failed; one-sided east.
593	Coast live oak	47	Yes	4	Moderate	Multiple attachments at 10'; adding wood on northern stem; twig dieback.
594	Coast live oak	7	No	4	Good	Leans east; good young tree.

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595	Coast live oak	30	Yes	2	Poor	Extensive trunk decay; epicormic shoots.
596	Coast live oak	8,8	No	4	Good	Codominant trunks at 2'; seam in attachment.
597	Coast live oak	6	No	3	Moderate	Crowded; suppressed form.
598	Coast live oak	6,4	No	3	Moderate	Crowded; suppressed form.
599	Coast live oak	7,5	No	5	Good	Good young tree.
600	Coast live oak	34	Yes	3	Poor	Trunk decay/active bee hive; dieback throughout crown.
601	Coast live oak	29	Yes	3	Moderate	Multiple attachments at 8'; heavy lateral limbs; history of branch failure.
602	Coast live oak	7,7,6,4,4	No	4	Moderate	Growing against slope; leaf scorch.
603	Coast live oak	40	Yes	3	Poor	History of branch failure; ganoderma conk on western branch; trunk decay.
604	Coast live oak	39	Yes	4	Moderate	Multiple attachments at 7'; one-sided southwest.
605	Coast live oak	36	Yes	4	Moderate	Multiple attachments at 5'; damaged by adjacent failure.
606	Coast live oak	32	Yes	4	Moderate	Multiple attachments at 7'; epicormic shoots; dead wood.
607	Coast live oak	40	Yes	4	Good	Multiple attachments at 7'; one-sided and low branching north.
608	Coast live oak	26,24	Yes	4	Moderate	Codominant trunks at 3'; epicormic shoots; asymmetric crown.
609	Coast live oak	22,19	Yes	3	Moderate	Codominant trunks at 4'; cavity on upper side of northern stem; crown bowed west to horizontal.
610	Coast live oak	10	No	5	Good	Good young tree; sl west.
611	Coast live oak	9,7	No	5	Good	Good young tree; one-sided south.
612	Coast live oak	10	No	5	Good	Good young tree.
613	Coast live oak	11	No	4	Good	Slight lean north; twig dieback in lower canopy.
614	Coast live oak	9,6	No	4	Moderate	Crowded; one-sided west; included bark.
615	Coast live oak	12,5	Yes	3	Poor	Small, asymmetric crown; dieback.
616	Coast live oak	15	Yes	4	Moderate	Good form and structure.

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617	Coast live oak	16	Yes	5	Good	Slight lean south; minor twig dieback.
618	Coast live oak	7,4	No	3	Poor	Suppressed; crown bowed west.
619	Coast live oak	15	Yes	4	Moderate	Crowded; asymmetric crown.
620	Coast live oak	11,10,9,9,6	No	4	Moderate	Crowded; one-sided north.
621	Coast live oak	22	Yes	3	Moderate	Crowded; leans south; trunk wounds.
622	Coast live oak	16,15	Yes	3	Poor	Codominant trunks at 2'; thin crown.
623	Coast live oak	31	Yes	4	Good	Heavy lateral limb west at 5'; one-sided west.
624	Coast live oak	18	Yes	3	Poor	Suppressed form; crown bowed south to horizontal.
625	Coast live oak	21	Yes	3	Moderate	Crowded; asymmetric crown; trunk wound.
626	Coast live oak	28	Yes	4	Moderate	Good form and structure; epicormic shoots.
627	Coast live oak	34	Yes	4	Moderate	Upright form; trunk wounds north; laterals west.
628	Coast live oak	14	Yes	2	Poor	Failed at base and turned up.
629	Coast live oak	15	Yes	3	Poor	Suppressed form; small crown.
630	Coast live oak	10	No	3	Moderate	Crowded; one-sided east.
631	Coast live oak	10,7	No	4	Good	Codominant trunks at 1'; upright form.
632	Coast live oak	12	Yes	3	Moderate	Crowded; asymmetric crown.
633	Coast live oak	33	Yes	2	Poor	Basal wounds; heavy lateral limb west; adding wood all over.
634	Coast live oak	24,19	Yes	4	Moderate	Codominant trunks at 4'; one-sided north; branches to the ground.
635	Coast live oak	15	Yes	5	Moderate	One-sided north; heavy lateral limb.
636	Coast live oak	12,3	Yes	2	Poor	Failed at base and turned up.
637	Coast live oak	38	Yes	4	Good	One sided west; heavy lateral limbs.
638	Coast live oak	10	No	3	Moderate	Crowded; narrow crown.
639	Coast live oak	8,7,4	No	3	Moderate	Codominant trunks at base; narrow crown.
640	Coast live oak	15	Yes	3	Moderate	Crowded; twig dieback.
641	Coast live oak	19	Yes	4	Moderate	One-sided southwest; heavy lateral limbs.
642	Coast live oak	33	Yes	3	Moderate	Multiple attachments at 7'; thin in upper crown.
643	Coast live oak	15	Yes	5	Good	One-sided west; good young tree.

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644	Coast live oak	7,5	No	4	Moderate	One-sided west; suppressed..
645	Coast live oak	14	Yes	4	Moderate	One-sided west; suppressed.
646	Coast live oak	9	No	3	Moderate	Crowded; small crown.
647	Coast live oak	32	Yes	4	Moderate	Muptiple attachments at 7'; wide, spreading form.
648	Coast live oak	9,6,4	No	4	Moderate	Crowded; part of dense grove.
649	Coast live oak	13	Yes	4	Good	Upright form; part of dense grove.
650	Coast live oak	6,4	No	3	Moderate	Crowded; asymmetric crown; part of dense grove.
651	Coast live oak	17	Yes	4	Good	Good form and structure; part of dense grove.
652	Coast live oak	13,9	Yes	4	Good	Good form and structure; part of dense grove.
653	Coast live oak	7,6,4,3	No	3	Moderate	Crowded; one-sided west; edge of dense grove.
654	Coast live oak	8,7,5	No	3	Moderate	Crowded; one-sided west; edge of dense grove.
655	Coast live oak	7	No	4	Moderate	Crowded; part of dense grove.
656	Coast live oak	8	No	5	Good	Upright form; edge of dense grove.
657	Coast live oak	13	Yes	5	Good	Good young tree.
658	Coast live oak	12,11,10	Yes	4	Good	Codominant trunks at 2'; one-sided west.
659	Coast live oak	7	No	3	Moderate	Crowded; one-sided south; part of dense grove.
660	Coast live oak	8,8,5,4	No	4	Moderate	Multiple attachments at base; upright form; part of dense grove.
661	Coast live oak	7,5,4,4	No	3	Moderate	One-sided south; part of dense grove.
662	Coast live oak	8,7	No	3	Moderate	Asymmetric crown; part of dense grove.
663	Coast live oak	8	No	3	Moderate	Small crown; part of dense grove.
664	Coast live oak	18,17	Yes	4	Moderate	Multiple attachments at 3'; leans east uphill; edge of dense grove.
665	Coast live oak	41	Yes	4	Moderate	Multiple attachments at 7'; spreading form; 18" heavy lateral limb east.
666	Coast live oak	27	Yes	4	Moderate	Multiple attachments at 7'; one-sided and leaning west.

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
667	Coast live oak	18	Yes	5	Good	Codominant trunks at 6'; good form and structure.
668	Coast live oak	8,4	No	4	Moderate	Good form, fair branch structure.
669	Coast live oak	11	No	5	Good	Slight lean south; good tree.
670	Coast live oak	15	Yes	4	Good	Codominant trunks at 5'; seam in attachment.
671	Coast live oak	12,12	Yes	5	Good	Codominant trunks at 3'; good form and structure.
672	Coast live oak	16	Yes	4	Good	Codominant trunks at 5'; one-sided west.
673	Coast live oak	17,11,7	Yes	4	Good	Multiple attachments at base; seam in attachment.
674	Coast live oak	11	No	4	Good	Codominant trunks at 5'; one-sided east.
675	Coast live oak	11,6	No	4	Good	Codominant trunks at 3'; one-sided south.
676	Coast live oak	14	Yes	4	Good	Codominant trunks at 5'; upright form; seam in attachment.
677	Coast live oak	7	No	3	Moderate	Suppressed form.
678	Coast live oak	6,6,5,5	No	4	Moderate	Multiple attachments at base; shrub form.
679	Coast live oak	6	No	3	Poor	Supressed form; thin crown.
680	Coast live oak	10,9,8,7,6	No	3	Moderate	Multiple attachments at 3'; seams in attachments; thin crown.
681	Coast live oak	16	Yes	5	Good	Good young tree.
682	Coast live oak	6	No	3	Poor	Suppressed form.
683	Coast live oak	12	Yes	3	Moderate	Codominant trunks at 5'; thin crown.
684	Coast live oak	15,6	Yes	5	Good	Codominant trunks at base; good form and structure.
685	Coast live oak	11	No	5	Good	Codominant trunks at 5'; seam in attachment.
686	Coast live oak	19,11	Yes	4	Good	Multiple attachments at 3'; one-sided north.
687	Coast live oak	14	Yes	4	Moderate	Crowded; one-sided south.
688	Coast live oak	12,12,11,9,7	Yes	4	Moderate	Multiple attachments at 2'; crowded and one-sided northeast.
689	Coast live oak	12,11,8,8	Yes	3	Moderate	Multiple attachments at 2'; crowded and one-sided southwest.

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
690	Coast live oak	13,12,8	Yes	5	Good	Multiple attachments at 2'; seams in attachments; good tree.
691	Coast live oak	7,6,5	No	4	Good	Multiple attachments at 3'; good young tree.
692	Coast live oak	7,4	No	3	Moderate	Crowded; one-sided north.
693	Coast live oak	8,5,5	No	5	Good	Good young tree.
694	Coast live oak	6,6,5,54	No	5	Good	Multiple attachments at 1'; good young tree.
695	Coast live oak	14	Yes	5	Good	Multiple attachments at 5'; good young tree.
696	Coast live oak	13,7	Yes	3	Moderate	Codominant trunks at 3'; leans north; part of dense grove.
697	Coast live oak	7	No	3	Poor	Suppressed form; part of dense grove.
698	Coast live oak	9,8,6,5	No	3	Moderate	Codominant trunks at 1'; narrow attachment; one-sided southeast.
699	Coast live oak	11,9	No	3	Moderate	Codominant trunks at 1'; one-sided south.
700	Coast live oak	11,11,4,4	No	3	Moderate	Codominant trunks at 1'; asymmetric crown.
701	Coast live oak	12,7,3,2	Yes	3	Moderate	Multiple attachments at 1'; one-sided north.
702	Coast live oak	11	No	3	Moderate	Crowded; one-sided north; part of dense grove.
703	Coast live oak	22	Yes	4	Good	Codominant trunks at 6'; seam in attachment; part of dense grove.
704	Coast live oak	15	Yes	3	Moderate	Crowded; asymmetric crown; part of dense grove.
705	Coast live oak	12,11,8	Yes	4	Moderate	Multiple attachments at 1'; one-sided south; part of dense grove.
706	Coast live oak	9	No	3	Poor	Crowded; leans east; part of dense grove.
707	Coast live oak	24,11	Yes	4	Moderate	Multiple attachments at 5'; narrow attachment; 14" stem bowed south to horizontal.
708	Coast live oak	18,6,5	Yes	3	Poor	Thin crown; lateral south.
709	Coast live oak	21	Yes	3	Poor	Basal cavity north; thin crown.
710	Coast live oak	23	Yes	3	Moderate	Multiple attachments at 6'; crowded and one-sided southwest.
711	Coast live oak	25,15	Yes	4	Good	22" stem upright; 15" stem lateral southwest.
712	Coast live oak	21	Yes	3	Moderate	Bowed east to horizontal.
713	Plum	7	No	3	Poor	Suppressed form.

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
714	Coast live oak	11	No	3	Poor	Leans east; large stem failure east; roots exposed west; owl nest in cavity
715	Valley oak	23	Yes	3	Poor	Leans east with heavy lateral limbs; epicormic shoots.
716	Coast live oak	53	Yes	3	Poor	Basal cavities; upright form; dead wood to 15"; ganoderma conks on lower trunk north.
717	Valley oak	31	Yes	3	Moderate	One-sided west.
718	Coast live oak	28	Yes	1	Poor	All but dead.
719	Coast live oak	13,11,7	Yes	4	Moderate	Multiple attachments at 3'; slightly thin crown.
720	Coast live oak	10,7,7	No	3	Moderate	Supresed; one-sided west.
721	Coast live oak	45,35	Yes	3	Poor	Extensive trunk decay; stems splitting at attachment.
722	Coast live oak	13	Yes	0	Poor	Dead.
723	Coast live oak	17	Yes	4	Good	Codominant trunks at 5'; wide attachment; trunk wound.
724	Coast live oak	24	Yes	3	Moderate	Multiple attachments at 5'; several heavy lateral limbs; stem failure east.
725	Coast live oak	10,8,6,5	No	4	Moderate	Multiple attachments at base; dieback north.
726	Coast live oak	10,7	No	4	Good	Good form and structure; slightly thin crown.
727	Coast live oak	11	No	5	Good	Good form and structure.
728	Coast live oak	11,10	No	4	Good	Codominant trunks at 4'; one-sided east.
729	Coast live oak	9,9,6	No	4	Good	Mutiple attachments at 3'; one-sided west.
730	Plum	7,6,6,5.5	No	3	Poor	Dieback in lower crown.
731	Coast live oak	7,7,6	No	4	Moderate	Multiple attachments at 3'; slight lean east.
732	Coast live oak	9,8	No	3	Moderate	Codominant trunks at 2'; suppressed form.
733	Coast live oak	13,10,9	Yes	4	Moderate	Multiple attachments at base; one-sided east.
734	Coast live oak	12,7	Yes	4	Moderate	Crowded; asymmetric crown.
735	Coast live oak	8	No	3	Moderate	Suppressed form.
736	Coast live oak	7	No	3	Poor	Suppressed form; crown bowed west.
737	Coast live oak	10,7	No	4	Moderate	Crowded; one-sided west.
738	Coast live oak	11,7	No	4	Moderate	Crowded; asymmetric crown.
739	Plum	6,4	No	2	Poor	Extensive dieback.

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
740	Coast live oak	8,6	No	3	Poor	Crowded; suppressed form.
741	Coast live oak	13	Yes	4	Good	Upright form.
742	Coast live oak	17	Yes	5	Good	Multiple attachments at 8'; twig dieback.
743	Coast live oak	14,13,8	Yes	4	Good	Multiple attachments at 4'; seams in attachments; one-sided west.
744	Coast live oak	13	Yes	4	Good	Upright form.
745	Coast live oak	12,11,10	Yes	4	Good	Multiple attachments at 2'; dieback in lower crown.
746	Coast live oak	11,6,4	No	4	Moderate	Crowded; narrow crown.
747	Coast live oak	10	No	3	Poor	Crowded; narrow crown.
748	Coast live oak	16,12	Yes	3	Moderate	Codominant trunks at base; dieback in upper crown.
749	Coast live oak	9	No	3	Poor	Crowded; suppressed form.
750	Coast live oak	8	No	2	Poor	Suppressed form; bowed north to horizontal.
751	Coast live oak	10	No	3	Moderate	Crowded; upright form.
752	Coast live oak	9	No	3	Poor	Crowded; leans north.
753	Coast live oak	14,11	Yes	4	Moderate	Multiple attachments at 5'; asymmetric crown.
754	Coast live oak	7,3	No	3	Moderate	Crowded; narrow crown.
755	Coast live oak	11,9,9,8	No	4	Good	Multiple attachments at 3'; fair branch structure.
756	Coast live oak	12,9	Yes	4	Good	Crowded; upright form.
757	Coast live oak	19	Yes	5	Good	Multiple attachments at 6'; good structure.
758	Coast live oak	17	Yes	4	Moderate	Crowded; asymmetric crown.
759	Coast live oak	9	No	3	Moderate	Crowded; high crown.
760	Coast live oak	15	Yes	4	Moderate	Crowded; one-sided west.
761	Coast live oak	11,10,9,8,5	No	4	Moderate	Crowded; one-sided east.
762	Valley oak	6	No	3	Moderate	Suppressed form; crown bowed southwest to horizontal.
763	Coast live oak	18	Yes	4	Good	Multiple attachments at 5'; dieback north.
764	Coast live oak	12,12	Yes	4	Moderate	Upright form; one-sided north.
765	Coast live oak	8,8,7,4	No	4	Moderate	Crowded; narrow crown.

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766	Coast live oak	9,9,7,4	No	3	Moderate	Crowded; asymmetric crown; dieback of lower branches.
767	Coast live oak	10	No	4	Good	Crowded; upright form.
768	Coast live oak	15,13,6	Yes	4	Moderate	Multiple attachments at 2'; one-sided east.
769	Coast live oak	8	No	3	Moderate	Crowded; one-sided west.
770	Coast live oak	9,8,7	No	5	Good	Multiple attachments at 3'; good young tree.
771	Coast live oak	8,6	No	5	Good	Good young tree.
772	Coast live oak	10	No	3	Moderate	Crowded; one-sided southwest.
773	Coast live oak	11,7	No	4	Good	Good young tree; low branching.
774	Coast live oak	13,8,7	Yes	3	Moderate	Codominant trunks at base; growing in rock; seam in attachment; thin crown.
775	Coast live oak	13,12,12,12,10,10	Yes	4	Moderate	Multiple attachments at 2'; growing in rock; narrow attachments.
776	Coast live oak	7	No	1	Poor	Extensive dieback.
777	Coast live oak	9	No	5	Good	Good young tree; minor bleeding from trunk.
778	Coast live oak	12,11	Yes	4	Good	Codominant trunks at 2'; dieback of lower branches north.
779	Coast live oak	29,22	Yes	5	Good	Multiple attachments at 4'; small crack in attachment of northern stem; good form and structure
780	Coast live oak	42	Yes	4	Moderate	Multiple attachments at 7'; spreading form; heavy lateral limbs to ground south; thinning crown.
781	Coast live oak	15	Yes	3	Moderate	Crowded; one-sided north; trunk wounds.
782	Coast live oak	7	No	3	Moderate	Crowded; small crown.
783	Coast live oak	15	Yes	5	Good	Codominant trunks at 4'; seam in attachment; good young tree.
784	Coast live oak	8,5	No	3	Poor	Suppressed form; crown bowed southwest.
785	Coast live oak	7	No	4	Moderate	Crowded; slight lean north.
786	Coast live oak	12,10	Yes	4	Moderate	Crowded; slight lean north.
787	Coast live oak	17,10	Yes	5	Good	Multiple attachments at 4'; good form and structure.

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788	Coast live oak	13,12	Yes	3	Moderate	Crowded; asymmetric crown.
789	Coast live oak	15,10	Yes	4	Moderate	Crowded; one-sided south.
790	Coast live oak	50	Yes	3	Moderate	Multiple attachments at 7'; cavity at attachment south; dieback throughout crown.
791	Coast live oak	42	Yes	4	Good	Codominant trunks at 7'; good form and structure.
792	Coast live oak	6	No	4	Good	One-sided south.
793	Coast live oak	11	No	4	Good	One-sided south.
794	Coast live oak	23	Yes	2	Poor	Extensive dieback.
795	Coast live oak	25	Yes	3	Moderate	Multiple attachments at 10'; poor branch structure; thinning crown.
796	Coast live oak	15	Yes	3	Poor	Suppressed form; dieback in upper crown.
797	Coast live oak	29	Yes	4	Moderate	Multiple attachments at 8'; trunk wounds; dead wood.
798	Coast live oak	29	Yes	1	Poor	All but dead; engulfed in lichens.
799	Coast live oak	14	Yes	4	Good	Slight lean east; good form and structure.
800	Coast live oak	23	Yes	2	Poor	Very thin crown.
801	Coast live oak	39	Yes	3	Poor	Small crown; cavity west.
802	Coast live oak	42	Yes	3	Poor	Multiple attachments at 8'; dieback; epicormic shoots; heavy lateral stems south.
803	Coast live oak	35	Yes	4	Moderate	Codominant trunks at 5'; spreading form; branches to the ground.
804	Coast live oak	31	Yes	3	Moderate	Multiple attachments at 6'; dieback; trunk wound from stem failure.
805	Coast live oak	47	Yes	4	Good	Multiple attachments at 6'; narrow attachment north; branches to the ground.
806	Coast live oak	28,22	Yes	3	Moderate	Codominant trunks at 3'; suppressed form; all weight south.
807	Coast live oak	58	Yes	1	Poor	Failed at 8'; crown formed by 4" regrowth; extensive trunk decay.
808	Coast live oak	13	Yes	5	Good	Multiple attachments at 3'; narrow attachments; nice form.

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809	Coast live oak	17	Yes	5	Good	Multiple attachments at 5'; one-sided southeast.
810	Coast live oak	46	Yes	3	Poor	Multiple attachments at 5'; cavities with trunk decay; heavy lateral stem east.
811	Coast live oak	16	Yes	5	Good	Multiple attachments at 5'; narrow attachments; one-sided west.
812	Coast live oak	9,8,7,7	No	5	Good	Multiple attachments at 2'; good form and structure.
813	Coast live oak	6	No	3	Moderate	Suppressed form; one-sided east.
814	Coast live oak	14,10,8,6	Yes	5	Good	Multiple attachments at 2'; pruned north over road.
815	Coast live oak	9,8	No	4	Moderate	Codominant trunks at 1'; seam in attachment; one-sided south.
816	Coast live oak	7	No	3	Moderate	Suppressed form; crown bowed south.
817	Coast live oak	11	No	4	Good	Part of dense grove; one-sided southeast.
818	Coast live oak	15,14,13,12,9	Yes	5	Good	Multiple attachments at 1'; good form and structure.
819	Coast live oak	19,11	Yes	5	Good	Codominant trunks at 3'; good form and structure.
820	Coast live oak	14	Yes	5	Good	Multiple attachments at 6'; narrow attachments; nice form.
821	Coast live oak	25,20	Yes	4	Good	Codominant trunks at 3'; included bark and old canker attachment; spreading form.
822	Coast live oak	7,6,6,5,5	No	3	Moderate	Multiple attachments at 2'; one-sided south.
823	Coast live oak	7	No	3	Moderate	Edge of dense grove; one-sided south.
824	Coast live oak	6,4	No	3	Poor	Suppressed form.
825	Coast live oak	7,6,5	No	3	Moderate	Edge of dense grove; one-sided south.
826	Coast live oak	6	No	3	Moderate	Part of dense grove; upright form.
827	Coast live oak	11	No	4	Moderate	Part of dense grove; asymmetric crown.
828	Coast live oak	14	Yes	3	Moderate	Part of dense grove; slight lean south.
829	Coast live oak	13	Yes	3	Poor	Part of dense grove; poor form and structure.

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830	Coast live oak	18	Yes	4	Moderate	Part of dense grove; multiple attachments at 8'; asymmetric crown.
831	Coast live oak	10,10	No	3	Moderate	Edge of dense grove; leans northwest.
832	Coast live oak	17	Yes	4	Moderate	Part of dense grove; one-sided west.
833	Coast live oak	20	Yes	4	Good	Edge of dense grove; multiple attachments at 8'; one-sided south.
834	Coast live oak	14,10	Yes	4	Good	Edge of dense grove; slight lean south.
835	Coast live oak	11,8	No	3	Poor	Suppressed form.
836	Coast live oak	14	Yes	4	Moderate	Good form and structure; thin crown.
837	Coast live oak	8	No	5	Good	Good young tree; engulfed in berries.
838	Coast live oak	8,4	No	5	Good	No tag; good young tree; engulfed in berries.
839	Coast live oak	32	Yes	5	Good	Multiple attachments at 6'; nice, upright form.
840	Coast live oak	8	No	3	Moderate	Suppressed form; thin in upper crown.
841	Coast live oak	21	Yes	5	Good	Multiple attachments at 5'; good form and structure; basal swelling.
842	Madrone	12,11	No	4	Good	Codominant trunks at 2'; trunk wound with decay on southern stem; nice form.
843	Coast live oak	10,9,9,9.8,7	No	4	Good	Multiple attachments at 3'; one-sided east.
844	Coast live oak	23	Yes	5	Good	Codominant trunks at 6'; wide attachment.
845	Coast live oak	17	Yes	5	Good	Good form and structure; one-sided north.
846	Coast live oak	11	No	4	Moderate	Part of dense grove; upright form.
847	Coast live oak	14	Yes	3	Moderate	Crowded; asymmetric crown.
848	Coast live oak	12,8	Yes	3	Moderate	Crowded; one-sided west.
849	Coast live oak	14,13	Yes	4	Good	Part of dense grove; upright form.
850	Coast live oak	13,10	Yes	3	Moderate	Part of dense grove; narrow crown.
851	Coast live oak	8	No	2	Poor	Part of dense grove; suppressed form.
852	Coast live oak	18	Yes	4	Moderate	Part of dense grove; one-sided southeast.
853	Coast live oak	11,10	No	3	Moderate	Part of dense grove; bleeding along trunk; asymmetric crown.
854	Coast live oak	11,10,9	No	3	Moderate	Part of dense grove; stems twisted around one another; one-sided south.
855	Coast live oak	10,5	No	3	Poor	Part of dense grove; suppressed form.

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856	Valley oak	9	No	3	Moderate	Part of dense grove; narrow crown.
857	Coast live oak	11	No	3	Poor	Part of dense grove; narrow crown; bark checking.
858	Coast live oak	10,5,4	No	3	Poor	Part of dense grove; asymmetric crown; dead wood..
859	Coast live oak	8	No	2	Poor	Part of dense grove; small crown.
860	Coast live oak	8	No	3	Moderate	Part of dense grove; upright form.
861	Coast live oak	12,10,10,8	Yes	3	Moderate	Edge of dense grove; multiple attachments at 1'; one-sided west.
862	Coast live oak	6,5,4,4	No	3	Moderate	Multiple attachments at base; stem failures north.
863	Coast live oak	13,12,11	Yes	4	Moderate	Edge of dense grove; multiple attachments at 2'.
864	Coast live oak	13,11	Yes	3	Moderate	Part of dense grove; asymmetric; thin crown.
865	Coast live oak	7	No	2	Poor	Part of dense grove; suppressed form.
866	Coast live oak	15,9	Yes	4	Good	Part of dense grove; asymmetric crown.
867	Coast live oak	16	Yes	4	Good	Part of dense grove; upright form.
868	Coast live oak	6	No	3	Poor	Part of dense grove; suppressed form.
869	Coast live oak	15,10	Yes	3	Moderate	Edge of dense grove; multiple attachments at 4'; one-sided west.
870	Coast live oak	18,13	Yes	4	Moderate	Edge of dense grove; slightly leaning and one-sided north.
871	Coast live oak	8,6	No	3	Moderate	Part of dense grove; poor form and structure; engulfed in poison oak.
872	Coast live oak	10,9,7,5,5	No	5	Good	Multiple attachments at base; good young tree.
873	Coast live oak	7,5	No	3	Poor	Crowded; one-sided south; thin crown.
874	Coast live oak	9,9,6,4	No	5	Good	Multiple attachments at 1'; good young tree.
875	Coast live oak	6,3	No	5	Good	No tag; good young tree; engulfed in berries.
876	Coast live oak	11	No	4	Moderate	Good young tree; erosion south expsed roots.
877	Coast live oak	13,5,3	Yes	5	Good	Multiple attachments at 1'; good young tree.

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878	Coast live oak	6,6	No	4	Moderate	Codominant trunks at 3'; crowded and one-sided east.
879	Coast live oak	11,10,9	No	4	Moderate	Multiple attachments at 2'; crowded and one-sided south.
880	Coast live oak	12,11,8,8,5	Yes	4	Good	Multiple attachments at 2'; low growing; bleedin along trunk...
881	Coast live oak	11,8	No	4	Moderate	Codominant trunks at 2'; dieback east.
882	Coast live oak	7,6,6	No	3	Moderate	Multiple attachments at 1'; thin crown.
883	Coast live oak	48	Yes	3	Poor	Multiple attachments at 8'; very thin crown; branches to the ground.
884	Coast live oak	45	Yes	2	Poor	Extensive trunk decay; cavities throughout; small crown.
885	Coast live oak	26	Yes	2	Poor	Extensive trunk decay; cavities throughout; small crown.
886	Coast live oak	29,22	Yes	3	Moderate	Codominant trunks at base; good structure; thin crown.
887	Coast live oak	26	Yes	3	Moderate	Multiple attachments at 8'; one-sided east.
888	Coast live oak	35	Yes	1	Poor	Very thin crown; all but dead.
889	Coast live oak	21	Yes	5	Good	On fence line; multiple attachments at 5'; fair branch structure; extends 20' east over fence.
890	Valley oak	40	Yes	5	Good	Multiple attachments at 10'; heavy lateral limbs south; branches to the ground.
891	Coast live oak	56,54	Yes	3	Poor	Codominant trunks at 3'; multiple large stem failures; northern stem thinning in upper crown.
892	Coast live oak	11,10,9	No	5	Good	Multiple attachments at 4'; good young tree.
893	Coast live oak	22,14,12	Yes	5	Good	Multiple attachments at 3'; one-sided south.
894	Coast live oak	18,15,8	Yes	5	Good	Multiple attachments at 3'; one-sided north.
895	Coast live oak	11	No	5	Good	Multiple attachments at 5'; one-sided south.
896	Valley oak	28	Yes	5	Good	Slight lean and one-sided east; cankers along branches.
897	Coast live oak	36,18,11,11	Yes	3	Moderate	Failed at base and turned up; dieback in upper crown.

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898	Coast live oak	25	Yes	4	Good	Multiple attachments at 8'; one-sided northwest.
899	Coast live oak	7	No	3	Moderate	Suppressed form; bowed west to horizontal.
900	Coast live oak	27	Yes	5	Good	Multiple attachments at 6'; good form and structure.
901	Coast live oak	7	No	3	Moderate	Part of dense grove; leans northwest.
902	Coast live oak	14	Yes	4	Moderate	Part of dense grove; one-sided south.
903	Coast live oak	9	No	3	Moderate	Part of dense grove; leans northwest.
904	Coast live oak	15,11,7	Yes	4	Moderate	Part of dense grove; multiple attachments at base; asymmetric crown.
905	Coast live oak	7,6	No	3	Poor	Part of dense grove; crown bowed northwest to horizontal.
906	Coast live oak	10,9,9,5	No	3	Moderate	Multiple attachments at 3'; thin crown.
907	Coast live oak	6,5	No	4	Good	Codominant trunks at base; good young tree.
908	Coast live oak	13,12,11,10	Yes	5	Good	Multiple attachments at 3'; growing up-slope; good form and structure.
909	Coast live oak	12	Yes	3	Moderate	Dieback throughout crown.
910	Coast live oak	13,12,12	Yes	5	Good	Multiple attachments at 2'; good form and structure.
911	Coast live oak	6	No	3	Moderate	Suppressed form; leans north.
912	Coast live oak	7,4	No	4	Moderate	Codominant trunks at 1'; good young tree.
913	Coast live oak	12,10	Yes	4	Good	Codominant trunks at 3'; one-sided east.
914	Coast live oak	8,6	No	3	Moderate	.Multiple attachments at 1'; dieback of lower branches.
915	Coast live oak	7,7,6	No	5	Good	.Multiple attachments at 1'; seam in attachment.
916	Coast live oak	10,9,8	No	5	Good	Multiple attachments at 2'; good form and structure.
917	Coast live oak	11	No	5	Good	Slight lean north; good form and structure.
918	Coast live oak	8,7	No	2	Poor	Codominant trunks at 1'; very thin crown.
919	Coast live oak	6	No	5	Good	Good young tree; browse damage of low branches.

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920	Coast live oak	26,17	Yes	5	Good	Codominant trunks at 4'; good form and structure.
921	Coast live oak	16,12,6,5	Yes	4	Good	Multiple attachments at base'; one-sided south.
922	Coast live oak	7,6,4	No	5	Good	Multiple attachments at 2'; good young tree; branches to the ground.
923	Coast live oak	9,8,8,5	No	3	Moderate	Multiple attachments at base; twig dieback.
924	Coast live oak	7,5	No	5	Good	Good young tree; light colored leaves.
925	Coast live oak	11,5	No	4	Moderate	Codominant trunks at base; twig dieback.
926	Coast live oak	7,6,5,4	No	4	Moderate	Multiple attachments at base; fair structure.
927	Coast live oak	8,8	No	5	Good	Codominant trunks at 1'; good young tree.
928	Madrone	21,12,12	No	2	Poor	Extensive trunk wounds; decay; dieback.
929	Coast live oak	10	No	5	Good	Edge of dense grove; good form and structure.
930	Coast live oak	15	Yes	5	Good	Part of dense grove; one-sided south.
931	Coast live oak	8,6,5	No	4	Moderate	Edge of dense grove; dieback.
932	Coast live oak	9	No	3	Poor	Part of dense grove; suppressed form.
933	Coast live oak	9,7	No	3	Poor	Part of dense grove; suppressed form.
934	Coast live oak	10	No	3	Moderate	Part of dense grove; asymmetric crown.
935	Coast live oak	12,5	Yes	3	Moderate	Part of dense grove; crown bowed south.
936	Coast live oak	11,10	No	4	Moderate	Part of dense grove; asymmetric crown.
937	Coast live oak	10,9,9,7,6	No	4	Good	Edge of dense grove; one-sided south.
938	Coast live oak	14	Yes	4	Good	Part of dense grove; slightly one-sided south.
939	Coast live oak	7	No	3	Moderate	Part of dense grove; one-sided west.
940	Coast live oak	11,7,4	No	4	Moderate	Part of dense grove; upright form.
941	Coast live oak	8	No	2	Poor	Part of dense grove; leans west; thin crown.
942	Coast live oak	6,5	No	3	Poor	Part of dense grove; leans west.
943	Coast live oak	8	No	2	Poor	Part of dense grove; suppressed form.
944	Coast live oak	7	No	3	Moderate	Part of dense grove; leans north.
945	Coast live oak	6,4	No	2	Poor	Part of dense grove; suppressed form.
946	Coast live oak	10	No	4	Moderate	Part of dense grove; wide attachment; upright form.
947	Coast live oak	8	No	3	Poor	Part of dense grove; suppressed form.
948	Coast live oak	8,7	No	3	Moderate	Part of dense grove; leans north.

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949	Coast live oak	7	No	2	Poor	Part of dense grove; small crown.
950	Coast live oak	12	Yes	4	Moderate	Part of dense grove; upright form.
951	Coast live oak	44	Yes	3	Moderate	Multiple attachments at 10'; heavy lateral limbs northeast; epicormic shoots/dieback.
952	Coast live oak	20	Yes	4	Moderate	Part of dense grove; upright form; twig dieback.
953	Coast live oak	13	Yes	4	Moderate	Part of dense grove; one-sided east.
954	Coast live oak	10,3	No	3	Moderate	Part of dense grove; suppressed form .
955	Coast live oak	10,10,8,7	No	4	Moderate	Part of dense grove; seam in attachment; one-sided east.
956	Coast live oak	10,9,5	No	3	Moderate	Part of dense grove; asymmetric crown.
957	Coast live oak	10,9,4	No	3	Moderate	Part of dense grove; asymmetric crown; dieback.
958	Coast live oak	15,13	Yes	5	Good	Codominant trunks at 3'; seam in attachment.
959	Coast live oak	17	Yes	4	Moderate	Part of dense grove; multiple attachments at 5'.
960	Coast live oak	13	Yes	4	Moderate	Edge of dense grove; wide attachment.
961	Coast live oak	39	Yes	3	Poor	Codominant trunks at 6'; dieback throughout crown.
962	Coast live oak	9,8,7	No	3	Moderate	Edge of dense grove; multiple attachments at 3'; seam in attachment.
963	Coast live oak	18	Yes	4	Moderate	Multiple attachments at 5'; twig and branch dieback.
964	Coast live oak	8,8,6	No	3	Moderate	Edge of dense grove; one-sided west.
965	Coast live oak	11	No	4	Moderate	Part of dense grove; upright form.
966	Coast live oak	18,15,11	Yes	4	Good	Part of dense grove; multiple attachments at 2'.
967	Coast live oak	25,12	Yes	3	Moderate	Growing down-slope; heavy lateral limb south; engulfed in poison oak.
968	Coast live oak	18	Yes	3	Moderate	Growing down-slope; one-sided east; engulfed in poison oak.
969	Coast live oak	15	Yes	4	Moderate	Growing down-slope; one-sided west; engulfed in poison oak.
970	Coast live oak	20	Yes	2	Poor	Growing down-slope; dieback in upper crown.

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971	Coast live oak	13	Yes	4	Good	Part of dense grove; low lateral south.
972	Coast live oak	13	Yes	4	Moderate	Edge of dense grove; slightly thin crown.
973	Coast live oak	12,11,10	Yes	3	Moderate	Multiple attachments at 2'; narrow attachments; thin crown.
974	Coast live oak	39	Yes	4	Good	Slight lean east; trunk wounds; branches to the ground east.
975	Coast live oak	25	Yes	4	Moderate	Leans east; dieback; very narrow attachment.
976	Coast live oak	9,9,8	No	5	Good	Multiple attachments at base; good young tree.
977	Coast live oak	6	No	3	Poor	Part of dense grove; asymmetric crown.
978	Coast live oak	10,9	No	3	Poor	Edge of dense grove; thin crown.
979	Coast live oak	8,7,5	No	4	Moderate	Part of dense grove; one-sided south.
980	Coast live oak	8,8	No	4	Moderate	Part of dense grove; asymmetric crown.
981	Coast live oak	6,6,5,4	No	3	Poor	Part of dense grove; suppressed form.
982	Coast live oak	7	No	4	Moderate	Part of dense grove; upright form.
983	Coast live oak	9,9,8,6	No	5	Good	Multiple attachments at 2'; good form and structure.
984	Coast live oak	14	Yes	5	Good	Good young tree.
985	Coast live oak	8	No	3	Moderate	Part of dense grove; leans east.
986	Coast live oak	6	No	3	Moderate	Part of dense grove; leans south; small crown.
987	Coast live oak	8,7,6	No	4	Moderate	Part of dense grove; multiple attachments at 4'; upright form.
988	Coast live oak	8,4	No	3	Moderate	Part of dense grove; narrow crown.
989	Coast live oak	7,4	No	3	Moderate	Part of dense grove; asymmetric crown.
990	Coast live oak	8	No	3	Poor	Part of dense grove; thin crown.
991	Coast live oak	30,16	Yes	2	Poor	Extensive dieback; trunk wounds/decay.
992	Coast live oak	9,8	No	4	Moderate	Codominant trunks at 2'; good young tree.
993	Coast live oak	12,10,8,6	Yes	3	Moderate	Multiple attachments at 2'; twig dieback.
994	Coast live oak	9,9,5	No	3	Moderate	Multiple attachments at base;asymmetric crown.
995	Coast live oak	6,3	No	3	Moderate	Small crown; leaf scorch.
996	Coast live oak	8,8	No	3	Moderate	Codominant trunks at base; thin crown.
997	Coast live oak	7	No	2	Poor	Windswept; thin crown.

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998	Coast live oak	8	No	2	Poor	Dieback; minor trunk wound.
999	Coast live oak	9	No	3	Moderate	Crowded; asymmetric crown.
1000	Coast live oak	14	Yes	4	Good	Multiple attachments at 4'; good young tree.
1001	Coast live oak	6,5,5	No	4	Good	Multiple attachments at 1'; shrubby at base.
1002	Coast live oak	7,6	No	4	Moderate	Codominant trunks at base; one-sided east.
1003	Coast live oak	10,7	No	4	Good	Codominant trunks at base; minor twig dieback.
1004	Coast live oak	15	Yes	3	Moderate	Multiple attachments at 6'; one-sided north.
1005	Coast live oak	13,10,8	Yes	4	Moderate	Multiple attachments at base;one-sided south.
1006	Coast live oak	25	Yes	1	Poor	Extensive dieback.
1007	Coast live oak	31	Yes	4	Moderate	Multiple attachments at 4'; good young tree.
1008	Coast live oak	28,25	Yes	4	Good	Codominant trunks at 3'; wide attachment; low laterals east.
1009	Coast live oak	7,6	No	5	Good	Good young tree.
1010	Coast live oak	15	Yes	5	Good	Multiple attachments at 6'; good young tree.
1011	Coast live oak	6,6,6,4	No	4	Moderate	Multiple attachments at 2'; large leaves; light color.
1012	Coast live oak	36	Yes	4	Good	Large laterals southwest to ground; forms closed canopy with neighbors.
1013	Coast live oak	28,26,20	Yes	4	Moderate	Multiple attachments at 3'; spreading form with branches to the ground; adding wood.
1014	Valley oak	27	Yes	4	Moderate	Codominant trunks at 6'; one-sided east.
1015	Coast live oak	16	Yes	2	Poor	Crown bowed south to horizontal; very thin crown.
1016	Calif. buckeye	17,16,11	No	2	Poor	Basal decay; multiple branch failures.
1017	Coast live oak	27	Yes	3	Poor	Codominant trunks at 7'; dieback and epicormic shoots throughout canopy.
1018	Coast live oak	46	Yes	4	Good	Codominant trunks at 5'; cavity at attachment; very nice form.
1019	Coast live oak	36	Yes	4	Good	Multiple attachments at 6'; one-sided south; good form.
1020	Coast live oak	7	No	4	Moderate	Good young tree; basal wound.

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
1021	Valley oak	11	No	4	Good	Slight lean southwest; minor dieback.
1022	Coast live oak	18	Yes	5	Good	Good young tree.
1023	Coast live oak	22	Yes	3	Poor	Suppressed form; mostly epicormic shoots.
1024	Coast live oak	23	Yes	4	Moderate	One-sided north; small leaves.
1025	Coast live oak	10	No	2	Poor	Suppressed form; bowed north to horizontal.
1026	Coast live oak	41	Yes	4	Good	Multiple attachments at 7'; adding wood at attachment.
1027	Coast live oak	16	Yes	3	Moderate	Suppressed an leaning south; small crown.
1028	Coast live oak	16	Yes	2	Poor	Extensive trunk decay; top failed and resprouted.
1029	Toyon	6	No	3	Moderate	Suppressed form.
1030	Coast live oak	28	Yes	4	Moderate	Multiple attachments at 10'; thinning crown; epicormic shoots.
1031	Coast live oak	12	Yes	3	Moderate	Suppressed form; high crown.
1032	Coast live oak	27,17	Yes	3	Moderate	Multiple attachments at 6'; one-sided south.
1033	Coast live oak	13	Yes	3	Moderate	Suppressed form; one-sided southeast.
1034	Olive	10,3	No	4	Moderate	Suppressed form; good young tree.
1035	Valley oak	21	Yes	4	Moderate	Codominant trunks at 6'; engulfed in poison oak.
1036	Coast live oak	22	Yes	5	Good	Multiple attachments at 4'; low lateral east; good form and structure.
1037	Valley oak	25	Yes	4	Good	Good form and structure; canker on branch north; engulfed in poison oak.
1038	Coast live oak	30	Yes	5	Good	Multiple attachments at 10'; one-sided east.
1039	Coast live oak	17	Yes	3	Moderate	Crowded; high, asymmetric crown.
1040	Coast live oak	19	Yes	3	Moderate	Leans and one-sided east.
1041	Coast live oak	24	Yes	4	Moderate	Multiple attachments at 10'; narrow attachment; upright form.
1042	Coast live oak	19	Yes	5	Good	Good young tree.
1043	Coast live oak	9,9,9	No	3	Moderate	Crowded with asymmetric crown.
1044	Valley oak	10	No	5	Good	Good young tree.
1045	Valley oak	7	No	4	Good	Crowded; asymmetric crown.

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1046	Valley oak	14	Yes	5	Good	Good young tree.
1047	Coast live oak	6,4	No	5	Good	Codominant trunks at 2'; good young tree.
1048	Valley oak	7	No	5	Good	Good young tree.
1049	Valley oak	16	Yes	5	Good	Multiple attachment at 25'; upright form.
1050	Coast live oak	19	Yes	4	Moderate	Codominant trunks at 5'; one-sided north.
1051	Coast live oak	8	No	5	Good	Good young tree.
1052	Coast live oak	6,6,4	No	5	Good	Good young tree; branches to the ground.
1053	Coast live oak	6	No	5	Good	Good young tree; crowded.
1054	Coast live oak	19	Yes	4	Moderate	Good form and structure; pruned heavy at fence line north.
1055	Coast live oak	14,13,12	Yes	4	Moderate	Multiple attachments at base; pruned heavy at fence line north.
1056	Coast live oak	6,4	No	5	Good	Codominant trunks at 4'; crowded.
1057	Coast live oak	8	No	5	Good	Good young tree; one-sided south.
1058	Coast live oak	6	No	5	Good	Good young tree; one-sided south.
1059	Coast live oak	47	Yes	4	Moderate	Multiple attachments at 5'; history of branch failure.
1060	Coast live oak	28	Yes	4	Moderate	Multiple attachments at 12'; dieback and history of branch failure.
1061	Coast live oak	39,28	Yes	4	Moderate	Crowded; asymmetric crown; heavy lateral limb east.
1062	Coast live oak	11,8,7	No	3	Moderate	Crown bowed northeast; trunk & branch wounds.
1063	Coast live oak	38	Yes	5	Good	Multippe attachments at 8'; heavy lateral limb west.
1064	Olive	6	No	4	Moderate	Crowded; crown bowed east.
1065	Coast live oak	37	Yes	4	Moderate	Multippe attachments at 8'; twig dieback; heavy lateral limbs east.
1066	Coast live oak	14	Yes	5	Good	Codominant trunks at 10'; good young tree.
1067	Coast live oak	17	Yes	4	Good	Good form and structure; thin crown.
1068	Valley oak	24	Yes	4	Moderate	Tag on fence; multiple attachments at 20'; high crown.

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1069	Coast live oak	30,19	Yes	4	Good	Codominant trunks at base; 19" stem bowed west.
1070	Coast live oak	14	Yes	3	Moderate	Suppressed form; leans east.
1071	Coast live oak	8	No	3	Poor	Suppressed form; bowed south to horizontal.
1072	Coast live oak	28	Yes	5	Good	Upight form.
1073	Coast live oak	14	Yes	3	Moderate	Suppressed form; leans south.
1074	Toyon	8	No	2	Poor	Western half dead.
1075	Monterey pine	31	No	1	Poor	Extensive pine pitch canker; dead top.
1076	Monterey pine	25	No	2	Poor	Pine pitch canker; poor form and structure.
1077	Monterey pine	31	No	2	Poor	Codominant trunks at 7; pine pitch canker.
1078	Monterey pine	27	No	2	Poor	Laterals south; pine pitch canker.
1079	Monterey pine	36	No	3	Poor	Multiple attachments at 10'; pine pitch canker.
1080	Coast live oak	50	Yes	5	Good	Big tree; multiple attachments at 10'; several heavy lateral limbs to 36".
1081	Coast live oak	6,5	No	4	Good	Codominant trunks at 2'; seam in attachment.
1082	Coast live oak	11,9,8	No	3	Moderate	Multiple attachments at 2'; one-sided south.
1083	Coast live oak	10	No	3	Moderate	Suppressed form; leans south.
1084	Coast live oak	14,7	Yes	4	Good	One sided south; low lateral.
1085	Coast live oak	39	Yes	2	Poor	Extensive dieback; history of branch failure; declining.
1086	Coast live oak	32	Yes	2	Poor	Multiple stem failures; large ganoderma conk south; declining.
1087	Coast live oak	27	Yes	3	Poor	Codominant trunks at 6'; trunk wound; decay.
1088	Calif. black oak	32	Yes	3	Poor	Basal cavity south; dieback throughot crown; trunk wound.
1089	Coast live oak	7	No	3	Poor	Windswept north; twig and branch dieback.
1090	Coast live oak	8,7	No	3	Moderate	Codominant trunks at 3'; thin crown.
1091	Coast live oak	28	Yes	4	Moderate	Multiple attachments at 8'; spreading form; branch wound.
1092	Valley oak	17	Yes	4	Moderate	Upright form; high crown.
1093	Coast live oak	16	Yes	3	Moderate	Codominant trunks at 7'; lateral west.

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1094	Coast live oak	32	Yes	3	Moderate	Codominant trunks at 8'; cavity in attachment; thinning crown.
1095	Coast live oak	17	Yes	2	Poor	Large trunk wound with decay; crown bowed south.
1096	Coast live oak	16	Yes	3	Moderate	Suppressed form; leans south; trunk wound.
1097	Coast live oak	8,7	No	3	Moderate	Multiple attachments at 10'; heavy lateral limb northeast; cavity west.
1098	Coast live oak	6	No	5	Good	Good young tree.
1099	Coast live oak	9	No	5	Good	Perched on cliff; good young tree.
1100	Coast live oak	7	No	5	Good	Good young tree.
1101	Coast live oak	28	Yes	2	Poor	Extensive trunk decay; declining.
1102	Coast live oak	14	Yes	3	Poor	Crown bowed east; basal cavity.
1103	Coast live oak	23	Yes	3	Moderate	Basal wound; decay; nice form.
1104	Coast live oak	23	Yes	3	Moderate	Perched on clif; twig and branch dieback.
1105	Coast live oak	24	Yes	3	Poor	Basal cavity north; trunk wound; twig dieback.
1106	Coast live oak	12	Yes	5	Good	Upright form; good young tree.
1107	Coast live oak	12	Yes	5	Good	Upright form; good young tree.
1108	Calif. black oak	36	Yes	2	Poor	No tag; extensive trunk decay; small crown.
1109	Coast live oak	6	No	5	Good	No tag; good young tree.
1110	Coast live oak	49	Yes	3	Poor	Multiple attachments at 10'; adding wood; cavities with trunk decay east.
1111	Coast live oak	11	No	5	Good	Upright form; good young tree.
1112	Coast live oak	12	Yes	3	Moderate	Suppressed form; leans east.
1113	Coast live oak	13,11,6	Yes	3	Moderate	Crowded; asymmetric crown.
1114	Coast live oak	14,14,10,9,9.7	Yes	5	Good	Multiple attachments at base; part of dense grove.
1115	Coast live oak	9,9	No	4	Moderate	Codominant trunks at base; part of dense grove.
1116	Coast live oak	11,8,6	No	3	Moderate	Multiple attachments at base; dead branches from rodent damage; part of dense grove.
1117	Coast live oak	6,3	No	3	Moderate	Suppressed form; part of dense grove.

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1118	Coast live oak	9,8,7,7,6,6,6	No	4	Good	Multiple attachments at base; narrow form; part of dense grove.
1119	Coast live oak	8	No	3	Moderate	Suppressed form; leans west; part of dense grove.
1120	Coast live oak	10,7	No	4	Good	Codominant trunks at base; asymmetric crown; part of dense grove.
1121	Coast live oak	10,7	No	5	Good	Upright form; part of dense grove.
1122	Coast live oak	10,7,6	No	5	Good	Seam in attachment; part of dense grove.
1123	Coast live oak	6	No	3	Poor	Small crown; part of dense grove.
1124	Coast live oak	6,6	No	4	Good	Asymmetric crown; part of dense grove.
1125	Coast live oak	10,8	No	5	Good	Upright form; part of dense grove.
1126	Coast live oak	8	No	4	Moderate	One-sided south; twig dieback; part of dense grove.
1127	Coast live oak	11,10,7,7,7	No	5	Good	Multiple attachments at base; upright form; part of dense grove.
1128	Coast live oak	9	No	5	Good	Upright form; part of dense grove.
1129	Coast live oak	20	Yes	3	Moderate	Codominant trunks at 5'; seam in attachment; twig and branch dieback.
1130	Coast live oak	7	No	3	Moderate	Suppressed form; one-sided northwest.
1131	Coast live oak	6	No	4	Moderate	Upright form; part of dense grove.
1132	Coast live oak	6	No	5	Good	Good young tree; growing against fence.
1133	Coast live oak	7	No	4	Good	Codominant trunks at base; included bark.
1134	Coast live oak	6	No	3	Moderate	Suppressed form; leans north.
1135	Coast live oak	12,12,9	Yes	4	Good	Multiple attachments at base; one-sided south; edge of dense grove.
1136	Coast live oak	13,8	Yes	3	Moderate	Codominant trunks at 1'; asymmetric crown.
1137	Coast live oak	8,7,5,5,5,5	No	4	Good	Multiple attachments at base; part of dense grove.
1138	Coast live oak	8	No	5	Good	Good young tree; edge of dense grove.
1139	Coast live oak	8	No	5	Good	Upright form; part of dense grove.
1140	Coast live oak	12,9	Yes	4	Moderate	Asymmetric crown; part of dense grove.
1141	Coast live oak	6	No	3	Poor	Suppressed form; part of dense grove.

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1142	Coast live oak	7,6	No	4	Good	One-sided north; part of dense grove.
1143	Coast live oak	12,12,7,5,5,5	Yes	5	Good	Multiple attachments at base; upright form; part of dense grove.
1144	Coast live oak	13,13,12,9,8,5	Yes	4	Good	Multiple attachments at 1'; edge of dense grove.
1145	Coast live oak	6	No	5	Good	Good young tree; fence nailed to trunk.
1146	Coast live oak	7	No	5	Good	Good young tree.
1147	Coast live oak	8,5,3	No	4	Good	Pruned north; good young tree.
1148	Coast live oak	6,5	No	4	Moderate	Trunk wounds; branch wound from horse.
1149	Coast live oak	6	No	5	Good	Good young tree.
1150	Coast live oak	9	No	3	Moderate	Inside cattle coral; leans east; trunk rubbed smooth.
1151	Coast live oak	8,7,7,6	No	4	Moderate	Multiple attachments at base; bark checking.
1152	Coast live oak	7,5	No	5	Good	Good young tree.
1153	Coast live oak	9,5,5	No	5	Good	Multiple attachments at base; good young tree.
1154	Coast live oak	8,7,7,6	No	3	Moderate	Crowded; one-sided east.
1155	Coast live oak	6	No	4	Good	Crowded; upright form.
1156	Coast live oak	6	No	4	Good	Crowded; upright form.
1157	Coast live oak	7	No	4	Moderate	Crowded; crown bowed west.
1158	Coast live oak	11	No	5	Good	Crowded; good form and structure.
1159	Coast live oak	9	No	4	Good	Crowded; upright form.
1160	Mimosa	8,8,7	No	3	Poor	Multiple attachments at 3'; poor form and structure.
1161	Coast live oak	8	No	3	Moderate	Crowded; leans north.
1162	Coast live oak	8,7,5	No	4	Good	Multiple attachments at 2'; rodent damage dieback.
1163	Coast live oak	10,8,8,7	No	4	Moderate	Multiple attachments at 1'; half of canopy within coral.
1164	Apple	7,6,6	No	3	Moderate	Inside cattle coral; leans north; trunk rubbed smooth.
1165	Apple	13,6	No	3	Moderate	Inside cattle coral; leans north; trunk rubbed smooth.

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1166	Deodar cedar	25	No	5	Good	Good form; lateral south.
1167	Purple leaf plum	8,8	No	2	Poor	Inside coral; extensive dieback; trunk rubbed smooth.
1168	Purple leaf plum	9,6,6,4	No	2	Poor	Inside coral; extensive dieback; trunk rubbed smooth.
1169	Purple leaf plum	8	No	1	Poor	Inside coral; extensive diebac and trunk decay.
1170	Monterey pine	28	No	2	Poor	Extensive pine pitch canker; poor form and structure.
1171	Monterey pine	38	No	2	Poor	Pine pitch canker; poor form and structure.
1172	Coast live oak	31,20	Yes	3	Moderate	Inside coral; roots exposed west; trunk wounds.
1173	Coast live oak	26	Yes	3	Poor	Inside coral; multiple branch failures; trunk decay.
1174	Coast live oak	32	Yes	4	Moderate	Inside coral; multiple attachments at 6'; laterals east.
1175	Coast live oak	23	Yes	3	Moderate	Inside coral; leans northwest.
1176	Coast live oak	14,12	Yes	3	Poor	Inside coral; one-sided north; cavity.
1177	Coast live oak	25,24,23	Yes	4	Moderate	Inside coral; multiple attachments at 2'; cavity in attachment; one-sided west.
1178	Coast live oak	18	Yes	3	Moderate	Inside coral; leaning and one-sided northwest.
1179	Plum	6	No	4	Good	Inside coral; upright form.
1180	Coast live oak	10	No	3	Moderate	Inside coral; upright form; thin crown.
1181	Coast live oak	28,12	Yes	3	Moderate	Inside coral; asymmetric crown; epicormic shoots; dieback.
1182	Coast live oak	29	Yes	4	Good	Inside coral; multiple attachments at 6'; good form and structure.
1183	Coast live oak	8,5	No	5	Good	Inside coral; good young tree.
1184	Coast live oak	10	No	5	Good	Inside coral; good young tree.
1185	Coast live oak	6,5,2	No	4	Good	Inside coral; basal wounds.
1186	Coast live oak	7,6	No	4	Good	Inside coral; codominant trunks at 3'; wide attachment.
1187	Coast live oak	6,4	No	3	Moderate	Off-site; suppressed; leans south.

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1188	Coast live oak	19	Yes	3	Moderate	Off-site; slight lean east; cavity west.
1189	Coast live oak	19,18,10	Yes	5	Good	Off-site; multiple attachments at 3'; good form and structure.
1190	Coast live oak	13,9	Yes	4	Good	One stem off-site; codominant trunks at base.
1191	Coast live oak	23	Yes	3	Poor	Off-site; pruned for overhead utilities.
1192	Coast live oak	9	No	4	Good	Off-site; one-sided west.
1193	Coast live oak	27	Yes	4	Moderate	Codominant trunks at 8'; one-sided northwest over road; embedded barbed wire.
1194	Coast live oak	23	Yes	3	Moderate	Heavy lean north.
1195	Coast live oak	19	Yes	1	Poor	Suppressed form; little live material remains.
1196	Coast live oak	46,22	Yes	4	Good	Multiple attachments at 4'; upright form; pruned north for overhead utilities.
1197	Coast live oak	14	Yes	3	Moderate	Suppressed form; leans west.
1198	Valley oak	25	Yes	4	Good	Multiple attachments at 6'; upright form; twig dieback.
1199	Coast live oak	18	Yes	3	Moderate	Heavy lean west.
1200	Coast live oak	13	Yes	3	Poor	Small, high crown.
1201	Coast live oak	22	Yes	2	Poor	Large trunk wound; active bee hive; leans west.
1202	Coast live oak	11,10	No	3	Poor	Suppressed form.
1203	Coast live oak	24	Yes	3	Moderate	Multiple attachments at 6'; topped for overhead utilities.
1204	Coast live oak	11	No	1	Poor	Lost top.
1205	Coast live oak	25	Yes	4	Moderate	Codominant trunks at 12'; upright form; pruned for overhead utilities.
1206	Coast live oak	16	Yes	3	Moderate	Suppressed form; crown bowed east.
1207	Coast live oak	16,7	Yes	3	Poor	Leans west; pruned for overhead utilities.
1208	Coast live oak	17,16,12	Yes	3	Moderate	Multiple attachments at 2'; crown bowed north; pruned for overhead utilities.
1209	Calif. black walnut	6	No	3	Moderate	Suppressed form.
1210	Coast live oak	12	Yes	3	Poor	Bowed west to horizontal.
1211	Coast live oak	16	Yes	3	Poor	Bowed west to horizontal.

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1212	Coast live oak	24,12	Yes	4	Moderate	Multiple attachments at 4'; pruned west for overhead utilities.
1213	Calif. buckeye	9,7,6,5	No	3	Moderate	Part of dense grove; trunk wounds.
1214	Calif. buckeye	7	No	3	Moderate	Part of dense grove; leans west.
1215	Calif. buckeye	7,7,6,5	No	4	Good	Part of dense grove; upright form.
1216	Calif. buckeye	9,8,5	No	3	Moderate	Part of dense grove; leaning across creek.
1217	Calif. buckeye	10,9,9,7,4	No	3	Moderate	Part of dense grove; topped for overhead utilities; trunk wounds/rodent damage.
1218	Coast live oak	7	No	3	Poor	Suppressed form.
1219	Calif. buckeye	16,9,8	No	3	Moderate	Part of dense grove; topped for overhead utilities; trunk wounds.
1220	Calif. buckeye	7,6,5,4	No	3	Moderate	Part of dense grove; topped for overhead utilities.
1221	Coast live oak	8	No	3	Moderate	Beneath overhead utilities.
1222	Coast live oak	13	Yes	3	Moderate	Topped for overhead utilities; leans west.
1223	Coast live oak	20	Yes	3	Moderate	Beneath overhead utilities.
1224	Calif. buckeye	9,6,6,4	No	3	Moderate	Topped for overhead utilities.
1225	Calif. buckeye	9,6	No	3	Moderate	Suppressed form; bowed west.
1226	Coast live oak	20	Yes	3	Moderate	Leans west; topped for overhead utilities.
1227	Calif. buckeye	7,7,6,6,5	No	3	Moderate	Multiple attachments at base; beneath overhead utilities.
1228	Calif. buckeye	10	No	3	Moderate	Suppressed form; leans north.
1229	Calif. buckeye	9,8	No	3	Moderate	Growing in creek; roots exposed.
1230	Coast live oak	14,13	Yes	3	Poor	Codominant trunks at 2'; topped for overhead utilities.
1231	Coast live oak	18	Yes	3	Moderate	Leans east.
1232	Coast live oak	8	No	1	Poor	Crushed by failed neighbor.
1233	Coast live oak	9	No	3	Moderate	No tag; growing on steep slope; engulfed in poison oak.
1234	Coast live oak	12	Yes	3	Moderate	No tag; growing on steep slope; engulfed in poison oak.

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1235	Coast live oak	16	Yes	3	Moderate	No tag; growing on steep slope; topped for overhead utilities.
1236	Calif. buckeye	9,8,7,5	No	3	Moderate	Growing on steep slope; dead stem; rodent damage.
1237	Coast live oak	15	Yes	3	Poor	Upright form; topped for overhead utilities.
1238	Coast live oak	15,7,5	Yes	3	Poor	Topped for overhead utilities.
1239	Coast live oak	20	Yes	3	Poor	Cavities; topped for overhead utilities.
1240	Coast live oak	17	Yes	3	Poor	Bowed west to horizontal.
1241	Coast live oak	20	Yes	4	Moderate	Codominant trunks at 6'; pruned for overhead utilities.
1242	Coast live oak	14	Yes	3	Poor	Cavities; pruned for overhead utilities.
1243	Valley oak	11	No	2	Poor	Little live material remains.
1244	Calif. buckeye	9,6	No	3	Moderate	Trunk wounds from rodent damage.
1245	Coast live oak	12	Yes	3	Poor	Topped for overhead utilities.
1246	Coast live oak	9	No	3	Poor	Topped for overhead utilities.
1247	Coast live oak	18	Yes	3	Moderate	Multiple attachments at 8'; leans north.
1248	Coast live oak	6	No	3	Moderate	Crowded; small crown.
1249	Coast live oak	8	No	4	Moderate	Good young tree; engulfed in berries.
1250	Coast live oak	9	No	3	Poor	No tag; topped for overhead utilities; engulfed in berries.
1251	Coast live oak	10,6	No	3	Poor	Upright form; pruned for overhead utilities.
1252	Coast live oak	10,6	No	3	Poor	Topped for overhead utilities.
1253	Coast live oak	6	No	3	Poor	Topped for overhead utilities.
1254	Coast live oak	6	No	3	Poor	Suppressed form; beneath overhead utilities.
1255	Coast live oak	6	No	5	Moderate	Good young tree; next to overhead utilities.
1256	Coast live oak	8,5,4	No	4	Good	Crowded; good young tree.
1257	Coast live oak	26	Yes	3	Poor	Thin crown; engulfed in poison oak.
1258	Coast live oak	34	Yes	4	Moderate	Multiple attachments at 8'; cavity; epicormic shoots.
1259	Plum	6,5,4	No	3	Poor	Leans west; topped for overhead utilities.
1260	Coast live oak	15	Yes	4	Moderate	Twig dieback; pruned for overhead utilities.
1261	Coast live oak	9,4	No	3	Moderate	Suppressed form; crown bowed south.

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1262	Coast live oak	29	Yes	5	Good	Multiple attachments at 7'; good form and structure.
1263	Coast live oak	6	No	5	Good	Good young tree.
1264	Coast live oak	14	Yes	4	Moderate	One-sided south; good form and structure.
1265	Coast live oak	23,22	Yes	5	Good	Group of three trees form unit; good form and structure; one-sided west.
1266	Coast live oak	19,12	Yes	5	Good	Group of three trees form unit; good form and structure; one-sided south.
1267	Coast live oak	18	Yes	4	Good	Group of three trees form unit; leans east.
1268	Coast live oak	42	Yes	4	Moderate	Multiple attachments at 15'; spreading form; cavities.
1269	Coast live oak	43,26	Yes	4	Good	Multiple attachments at 5'; spreading form; twig and branch dieback.
1270	Coast live oak	14,12	Yes	5	Good	Codominant trunks at 3'; good form and structure; in horse coral.
1271	Coast live oak	11	No	5	Good	Codominant trunks at 5'; good form and structure; in horse coral.
1272	Coast live oak	8	No	4	Good	Crowded; slight lean south.
1273	Coast live oak	9	No	5	Good	Good young tree.
1274	Coast live oak	7	No	3	Moderate	Crowded; leans south; in horse coral.
1275	Coast live oak	7	No	4	Moderate	Upright form; flush cuts; wired to fence.
1276	Coast live oak	9	No	3	Moderate	Leans south.
1277	Coast live oak	9	No	4	Moderate	Crowded; asymmetric crown.
1278	Coast live oak	7	No	4	Good	Crowded; one-sided north.
1279	Coast live oak	10	No	4	Good	Crowded; one-sided south.
1280	Coast live oak	7	No	4	Moderate	Crowded; perched on steep slope.
1281	Coast live oak	6,4	No	3	Moderate	Small crown; exposed roots.
1282	Coast live oak	7,4	No	4	Moderate	Good young tree; in horse coral.
1283	Coast live oak	6	No	4	Moderate	One-sided north; in horse coral.
1284	Purple leaf plum	6,5	No	3	Poor	Large trunk wound; in horse coral.
1285	Coast live oak	44,22	Yes	4	Moderate	Multiple attachments at 6'; 21" stem is low lateral east; cavities.

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1286	Coast live oak	21	Yes	5	Good	Upright form; one-sided north.
1287	Coast live oak	24,18	Yes	4	Good	Codominant trunks at 4'; crown bowed north.
1288	Plum	9	No	4	Moderate	Upright form.
1289	Coast live oak	24	Yes	4	Moderate	One-sided east; trunk wounds from branch failures.
1290	Coast live oak	29	Yes	4	Good	Multiple attachments at 6'; upright form.
1291	Coast live oak	25	Yes	4	Moderate	One-sided west; adding wood to southern stem.
1292	Coast live oak	11	No	2	Poor	Half of tree failed; poor form and structure.
1293	Coast live oak	21	Yes	1	Poor	Little live material remains.
1294	Coast live oak	6	No	5	Good	Good young tree; vines in canopy.
1295	Coast live oak	6	No	3	Poor	Small crown; bowed north.
1296	Coast live oak	9	No	3	Moderate	Slight lean north.
1297	Valley oak	13	Yes	4	Moderate	Crowded; high, narrow crown.
1298	Coast live oak	15	Yes	4	Moderate	One-sided west.
1299	Coast live oak	25	Yes	3	Moderate	Codominant trunks at 8'; one stem upright, one stem west.
1300	Coast live oak	24	Yes	3	Moderate	Corrected lean; epicormic shoots; trunk wound south.
1301	Coast live oak	20,19,13	Yes	4	Good	Multiple attachments at base; twig and branch dieback.
1302	Coast live oak	19	Yes	4	Moderate	Asymmetric crown; trunk wound north.
1303	Coast live oak	15	Yes	4	Moderate	Crowded; dead wood.
1304	Coast live oak	15,13	Yes	4	Moderate	Codominant trunks at 4'; one-sided north.
1305	Coast live oak	8	No	3	Poor	Suppressed form; leans northwest.
1306	Coast live oak	9	No	3	Poor	Suppressed form; crown bowed west to horizontal.
1307	Coast live oak	13	Yes	3	Poor	Suppressed form; crown bowed north to horizontal.
1308	Coast live oak	24,16,12	Yes	4	Good	Multiple attachments at 4'; spreading form.
1309	Coast live oak	28	Yes	4	Moderate	Upright form; twig dieback; in bull coral.

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1310	Monterey pine	25	No	2	Poor	No tag; poor form and structure; pine pitch canker; in bull coral.
1311	Coast live oak	23,22	Yes	3	Moderate	No tag; one-sided north; twig and branch dieback; in bull coral.
1312	Coast live oak	36	Yes	4	Moderate	Northern stem failed; small cavities; in bull coral.
1313	Coast live oak	30	Yes	4	Moderate	Codominant trunks at 15'; slight lean north; in bull coral.
1314	Coast live oak	20	Yes	3	Moderate	Multiple attachments at 6'; asymmetric crown; in bull coral.
1315	Coast live oak	48,13	Yes	3	Moderate	Multiple attachments at 10'; twig and branch dieback; in horse coral.
1316	Coast live oak	20	Yes	3	Moderate	Suppressed form; crown bowed east; in horse coral.
1317	Coast live oak	10,8	No	4	Good	Codominant trunks at 4';good form and structure; in horse coral.
1318	Coast live oak	10	No	3	Moderate	One-sided east; in horse coral.
1319	Coast live oak	7	No	3	Moderate	Crowded; in horse coral.
1320	Coast live oak	7,6	No	4	Good	Crook at 6'; in horse coral.
1321	Coast live oak	10,8,7	No	4	Good	Multiple attachments at 1'; good young tree; in horse coral.
1322	Coast live oak	38	Yes	2	Poor	Extensive trunk decay; small crown.
1323	Coast live oak	12,12	Yes	4	Moderate	Part of dense grove; crown bowed south.
1324	Coast live oak	8	No	3	Moderate	Part of dense grove; narrow crown.
1325	Coast live oak	18	Yes	4	Good	Part of dense grove; asymmetric crown.
1326	Coast live oak	14	Yes	4	Moderate	Part of dense grove; crown bowed east.
1327	Coast live oak	18	Yes	4	Good	Part of dense grove; asymmetric crown.
1328	Coast live oak	9	No	3	Poor	Part of dense grove; poor form and structure.
1329	Coast live oak	8,7,6,5	No	3	Poor	Part of dense grove; multiple attachments at base; dieback; leans south.
1330	Coast live oak	19	Yes	3	Moderate	Part of dense grove; thin, asymmetric crown.

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1331	Coast live oak	11,8	No	4	Moderate	Part of dense grove; codominant trunks at base.
1332	Coast live oak	13,9,8,6,5	Yes	4	Moderate	Multiple attachments at 2'; one-sided south.
1333	Coast live oak	24	Yes	3	Moderate	Thin crown; history of branch failure.
1334	Coast live oak	14,9	Yes	4	Moderate	Codominant trunks at base; leans west.
1335	Coast live oak	13,6	Yes	3	Moderate	Thin crown; one-sided south.
1336	Coast live oak	26	Yes	3	Moderate	One-sided east; bark checking; dead wood.
1337	Coast live oak	48,20	Yes	2	Poor	Extensive bark checking; borer damage south; 20" stem is low lateral south; dieback.
1338	Coast live oak	23	Yes	3	Moderate	One-sided west; bark checking; embedded barbed wire.
1339	Coast live oak	13,10	Yes	4	Good	Part of dense grove; upright form; one-sided north.
1340	Coast live oak	11,7	No	4	Moderate	Part of dense grove; leans northeast.
1341	Coast live oak	12	Yes	3	Moderate	Part of dense grove; one-sided northwest.
1342	Coast live oak	15,14,7,5	Yes	4	Moderate	Part of dense grove; upright form; narrow attachments.
1343	Coast live oak	8	No	3	Moderate	Part of dense grove; leans east.
1344	Coast live oak	17,11,9	Yes	4	Moderate	Part of dense grove; one-sided south; twig dieback.
1345	Coast live oak	40	Yes	4	Good	Multiple attachments at 6'; good form and structure; thin in upper crown.
1346	Coast live oak	13,8	Yes	3	Moderate	One-sided south.
1347	Coast live oak	14	Yes	4	Moderate	One-sided east.
1348	Coast live oak	12,12,10	Yes	4	Moderate	Multiple attachments at 3'; little thin crown.
1349	Coast live oak	19,15,15	Yes	5	Good	Multiple attachments at 4'; good form and structure.
1350	Coast live oak	27,16	Yes	4	Moderate	Multiple attachments at 6'; low lateral south; bleeding along trunk.
1351	Coast live oak	7	No	3	Moderate	Part of dense grove; one-sided south.
1352	Coast live oak	7,7,6	No	4	Moderate	Part of dense grove; one stem upright; other stems one-sided south.

Tree Survey

Napa Oaks site
Napa, California
October & Novemeber 2010

HORT SCIENCE

TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
1353	Coast live oak	18,15,14	Yes	2	Poor	Multiple attachments at 3'; extensive dieback.
1354	Coast live oak	6,6,4,4	No	5	Good	Multiple attachments atbase; good young tree.
1355	Coast live oak	8,7,6	No	5	Good	Part of dense grove; multiple attachments at base; good young tree.
1356	Coast live oak	6	No	4	Good	Part of dense grove; narrow crown.
1357	Coast live oak	6,4,4	No	5	Good	Part of dense grove; multiple attachments at base; good young tree.
1358	Coast live oak	24,17	Yes	3	Moderate	Good form and structure; thin in upper crown.
1359	Coast live oak	26	Yes	5	Good	Multiple attachments at 5'; seam in attachment; nice form.
1360	Coast live oak	7	No	3	Moderate	At edge of road; codomonant at 6' with narrow attachment.
1361	Coast live oak	7	No	3	Moderate	At edge of road; codominant at 5' with narrow attachment.
1362	Coast live oak	6	No	3	Moderate	Trunk wound from recent car accident.
1363	Coast live oak	10,8	No	4	Good	Codominant at 3'.
1364	Coast live oak	18,17	Yes	4	Good	Neighboring tree failed into its crown; codominant at 3'.
1365	Coast live oak	9,8	No	3	Moderate	Codominant at base; stem to west could be removed.
1366	Coast live oak	16	Yes	3	Moderate	Codominant at 4'; one-sided to north.
1367	Coast live oak	17	Yes	4	Good	Corrected lean to east.
1368	Coast live oak	8	No	3	Moderate	Suppressed form north.
1369	Coast live oak	40	Yes	3	Moderate	Tree failed at base and is propped on ground; crown is upright, full and healthy
1370	Coast live oak	50	Yes	4	Good	Bottle butt; multiple attachments at 7'; full wide spreading crown.
1371	Coast live oak	28	Yes	3	Moderate	History of branch failures; leans southeast; thin crownm
1372	Coast live oak	7,4,3	No	4	Good	Part of dense grove; codominant at 1'.
1373	Coast live oak	14,8	Yes	4	Good	Part of dense grove; codominant at 2'; crown to north.

Tree Survey

Napa Oaks site
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HORT SCIENCE

TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
1374	Coast live oak	6	No	3	Moderate	Part of dense grove; crown to north.
1375	Coast live oak	7	No	3	Moderate	Part of dense grove; high narrow crown.
1376	Coast live oak	10	No	3	Moderate	Part of dense grove; high narrow crown.
1377	Coast live oak	6	No	3	Moderate	Part of dense grove; high narrow crown.
1378	Coast live oak	7,4	No	3	Moderate	Part of dense grove; stems from base; suppressed form.
1379	Coast live oak	12,4	Yes	5	Good	Next to tree #471; top of bank; good tree.
1380	Coast live oak	7	No	2	Poor	Very thin crown; suppressed to south.
1381	Coast live oak	8	No	2	Poor	Very thin crown; large failure from neighboring tree left it highly exposed.
1382	Coast live oak	10,8	No	3	Moderate	Next to tree #470; codominant at base; crown to east.
1383	Coast live oak	9	No	3	Moderate	Part of dense grove; high narrow crown.
1384	Coast live oak	6,4	No	1	Poor	Part of dense grove; all but dead.
1385	Coast live oak	9	No	1	Poor	Very thin crown; large failure from neighboring tree left it highly exposed.
1386	Coast live oak	10	No	2	Poor	Very thin crown; large failure from neighboring tree left it highly exposed.
1387	Coast live oak	11,10	No	3	Moderate	Codominant at 3' with included bark; leans to northeast.
1388	Coast live oak	7	No	2	Poor	Part of dense grove; high narrow crown.
1389	Coast live oak	9	No	3	Moderate	Crown to east; engulfed in poison oak.
1390	Coast live oak	12	Yes	3	Moderate	Crown suppressed to east.
1391	Coast live oak	18	Yes	4	Good	Codominant at 5'; full healthy crown.
1392	Coast live oak	10	No	3	Moderate	Crown suppressed to north.
1393	Coast live oak	6,4	No	3	Moderate	Codominant at base; crown suppressed to north.
1394	Coast live oak	10,8,5	No	3	Moderate	Multiple attachments at 1' and 3'; crown suppressed to east.
1395	Coast live oak	9	No	3	Moderate	Codominant at 4'; crown suppressed to east.
1396	Coast live oak	7	No	2	Poor	Poor form; heavily suppressed to south.

Tree Survey

Napa Oaks site
Napa, California
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HORT SCIENCE

TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
1397	Coast live oak	11	No	3	Moderate	Edge of canopy; crown to south; codominant at 5'.
1398	Coast live oak	8,7	No	4	Good	Good young tree; codominant at 3'; low crown.
1399	Coast live oak	25	Yes	4	Good	Good form; crown a bit thin.
1400	Coast live oak	9,9,8,7,5	No	4	Moderate	Tree failed years ago; branches have turned upright to create nice crown.
1401	Valley oak	35	Yes	4	Good	Codominant at 8'; branch dieback; history of branch failures.
1402	Calif. buckeye	13,6	No	3	Moderate	Codominant at 2'; overtopped by neighbor.
1403	Coast live oak	34,31	Yes	3	Moderate	Codominant at 1'; 31" stem had large failure; 34" stem has cavity on south.
1404	Valley oak	16	Yes	2	Poor	High thin crown; twig and branch dieback.
1405	Coast live oak	38	Yes	3	Moderate	Large basal cavity; heavy lateral limb to north.
1406	Valley oak	20	Yes	3	Moderate	Crown and trunk bows to east.
1407	Coast live oak	13	Yes	3	Moderate	Trunk has crook at 10'
1408	Coast live oak	20	Yes	1	Poor	All but dead.
1409	Coast live oak	41	Yes	4	Good	Multiple attachments at 7'; a bit one-sided to west; heavy lateral limb to south has a possible hazard beam forming.
1410	Coast live oak	28,25	Yes	5	Good	Codominant at 2'; excellent form.
1411	Coast live oak	19,13	Yes	3	Moderate	Codominant at base; 13" has severely twisted form; possincluded barkly beginning to fail; crack at point of attachment.
1412	Calif. buckeye	10,6	No	4	Good	Good form; overtopped by neighbors.
1413	Coast live oak	23	Yes	2	Poor	Large area of decay at 15' from previous failure.
1414	Valley oak	9	No	2	Poor	Top of tree dead; small coast live oak at base.
1415	Coast live oak	25,24	Yes	3	Moderate	Codominant at 2'; history of branch failures; twig and branch dieback; decay in some failed stems; needs pruning.
1416	Valley oak	27	Yes	4	Good	High crown; somewhat thin.
1417	Coast live oak	20	Yes	4	Good	Under canopy of #1416; crown to south.

Tree Survey

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
1418	Calif. buckeye	18,17,14,13	No	4	Good	3 separate stems at base leaning to the outside of center; nice little group; some decay.
1419	Valley oak	19,15	Yes	4	Good	Codominant at base; full crown.
1420	Coast live oak	11	No	4	Good	A bit crooked.
1421	Coast live oak	23	Yes	3	Moderate	Twig and brach dieback.
1422	Coast live oak	11	No	3	Moderate	Trunk has crook at 4'.
1423	Calif. buckeye	11,7	No	3	Moderate	Wounds in trunk and center stem.
1424	Coast live oak	16,13	Yes	2	Poor	Codominant at 1'; extensive twig and branch dieback.
1425	Coast live oak	22,17,14	Yes	3	Moderate	Multiple attachments at 1'; twig and branch dieback; 22" stem bows heavily to north.
1426	Valley oak	17	Yes	4	Good	Codominant at 6'; minor dieback.
1427	Coast live oak	17,15	Yes	1	Poor	Failed at base; laying on ground; green crown.
1428	Valley oak	15	Yes	3	Moderate	Trunk bows to east.
1429	Valley oak	17	Yes	3	Moderate	High small crown; low branch is dead.
1430	Coast live oak	24	Yes	4	Good	Slight bow in trunk.
1431	Coast live oak	18	Yes	4	Good	Good form; base fused to #1432.
1432	Valley oak	16	Yes	4	Good	High crown; base fused to #1431.
1433	Coast live oak	22,19	Yes	4	Good	Codominant at 2'; nice full crown.
1434	Coast live oak	13	Yes	3	Moderate	Twig and branch dieback; trunk cavity on west; suppressed form.
1435	Coast live oak	12,10,9,8	Yes	4	Good	One stem from base is separating from main stem; remaining tree is a very good young tree.
1436	Coast live oak	8,7,6	No	4	Good	Multiple attachments at 2'; good young tree.
1437	Coast live oak	13,9,6	Yes	5	Good	Multiple attachments at 1'; low branching; good young tree.
1438	Coast live oak	8,6,5,4,3	No	2	Poor	Very thin; poor color.
1439	Madrone	7,6	No	5	Good	Good young tree; low branching.
1440	Madrone	16,13	No	3	Moderate	Codominant at 1' cracking apart; center stem is dead.
1441	Coast live oak	6	No	5	Good	Good young tree; low braching.
1442	Coast live oak	6,5,5,4	No	2	Poor	Declining; leaves browning.

Tree Survey

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
1443	Coast live oak	36	Yes	4	Good	Heavy laterals extend uphill and rest on ground; beautiful form.
1444	Coast live oak	32	Yes	4	Good	Codominant at 4'; branching to ground; small branch failures.
1445	Coast live oak	34	Yes	5	Good	Ecellent form and structure; multiple attachments at 7'.
1446	Calif. black oak	35	Yes	5	Good	Excellent form and structure; nice speciman.
1447	Calif. black oak	17	Yes	2	Poor	Only center stem is alive; extensive decay in upper trunk.
1448	Valley oak	22	Yes	3	Moderate	Crown bows downhill to north; otherwise nice crown.
1449	Coast live oak	22,22,21	Yes	3	Moderate	Multiple attachments at 3'; thin crown; center of tree bowing uphill.
1450	Coast live oak	34	Yes	4	Good	Multiple attachments at 7'; twig and branch dieback.
1451	Calif. buckeye	9,9,8,8,6	No	5	Good	Stems from base and 1'; nice form; overtopped by #150.
1452	Calif. black oak	18	Yes	1	Poor	Half of tree failed; bees in base.
1453	Calif. buckeye	20	No	5	Good	Excellent form and structure; a couple of small cavities.
1454	Coast live oak	18	Yes	3	Moderate	Trunk has corrected form to east.
1455	Coast live oak	23	Yes	3	Moderate	Trunk bows to west.
1456	Coast live oak	6	No	2	Poor	Poor form.
1457	Coast live oak	15	Yes	3	Moderate	Suppressed form to east.
1458	Coast live oak	12,10	Yes	3	Moderate	Codominant at 2'; suppressed form to southeast.
1459	Coast live oak	33,10,17	Yes	5	Good	Multiple attachments at 4'; beautiful full crown extends to ground.
1460	Coast live oak	17,11,7	Yes	4	Moderate	Multiple attachments at 1'; thin crown.
1461	Plum	11	No	1	Poor	All but dead.
1462	Coast live oak	9,8,8,6	No	4	Good	Staddles property line; multiple attachments at base; low crown.

Tree Survey

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	NATIVE PROTECTED?	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
1463	Coast live oak	15	Yes	4	Good	Slight lean to north.
1464	Calif. buckeye	7,6,6	No	4	Good	Good form; engulfed in poison oak.
1465	Almond	15	No	2	Poor	Half of tree failed; trunk decay.
1466	Coast live oak	13,11	Yes	5	Good	Codominant at 3'; excellent form and structure.
1467	Coast live oak	8,8	No	4	Good	Part of dense grove; codominant at 1'.
1468	Coast live oak	8	No	4	Good	Part of dense grove; one-sided.
1469	Coast live oak	7	No	4	Good	Part of dense grove; narrow upright form.
1470	Coast live oak	7	No	3	Moderate	Part of dense grove; suppressed form to south.
1471	Coast live oak	7	No	4	Good	Part of dense grove; crown to east.
1472	Coast live oak	10,10	No	4	Good	Part of dense grove; codominant at 3'.
1473	Coast live oak	10,7	No	4	Good	Just south of tree #733; codominant at 2'; bark checking at base; part of dense grove.
1474	Coast live oak	5,5,4,3	Yes	4	Good	East of tree #209; codominant at 1' and 3': low crown.
1475	Coast live oak	8,8,7,6	No	4	Good	Near tree #910; codominant at 3'; top of cut slope; good form.

ATTACHMENT 5

ATTACHMENT 5

U.S. Fish and Wildlife Service, California Natural Diversity Data Base and California Native Plant Society Special Status Species Lists for the Project Area

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

January 28, 2011

Document Number: 110128052418

Gary Deghi
Huffman-Broadway Group, Inc.
828 Mission Avenue
San Rafael, CA 94901

Subject: Species List for Napa Oaks Project

Dear: Mr. Deghi

We are sending this official species list in response to your January 28, 2011 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be April 28, 2011.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at www.fws.gov/sacramento/es/branches.htm.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 110128052418

Database Last Updated: April 29, 2010

Quad Lists

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Speyeria callippe callippe
callippe silverspot butterfly (E)

Speyeria zerene myrtleae
Myrtle's silverspot butterfly (E)

Syncaris pacifica
California freshwater shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Eucyclogobius newberryi
tidewater goby (E)

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)

Oncorhynchus kisutch
coho salmon - central CA coast (E) (NMFS)

Oncorhynchus mykiss
Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)
Critical habitat, Central California coastal steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
Critical habitat, winter-run chinook salmon (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Thamnophis gigas
giant garter snake (T)

Birds

Charadrius alexandrinus nivosus
western snowy plover (T)

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

Strix occidentalis caurina
northern spotted owl (T)

Mammals

Reithrodontomys raviventris
salt marsh harvest mouse (E)

Plants

Astragalus clarianus
Clara Hunt's milk-vetch (E)

Blennosperma bakeri
Baker's stickyseed [=Sonoma Sunshine] (E)

Castilleja affinis ssp. neglecta
Tiburon paintbrush (E)

Cordylanthus mollis ssp. mollis
soft bird's-beak (E)

Lasthenia conjugens
Contra Costa goldfields (E)
Critical habitat, Contra Costa goldfields (X)

Navarretia leucocephala ssp. pauciflora
few-flowered navarretia (E)

Proposed Species

Amphibians

Rana draytonii
Critical habitat, California red-legged frog (PX)

Plants

Cordylanthus mollis ssp. mollis
Critical habitat, soft bird's-beak (PX)

Quads Containing Listed, Proposed or Candidate Species:

CORDELIA (482B)
CUTTINGS WHARF (483A)
SEARS POINT (483B)
CAPELL VALLEY (499B)
MT. GEORGE (499C)
YOUNTVILLE (500A)
RUTHERFORD (500B)
SONOMA (500C)
NAPA (500D)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or

injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you

will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be April 28, 2011.

CNPS California Native Plant Society

Inventory of Rare and Endangered Plants

Plant List

51 matches found. *Click on scientific name for details*

Search Criteria

Found in 9 Quads around 38122C3,
Community is one of [Broadleafed upland forest, Cismontane woodland, Meadows and seeps, Marshes and swamps, Valley and foothill grassland, Vernal pool

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Allium peninsulare var. franciscanum	Franciscan onion	Liliaceae	perennial bulbiferous herb	1B.2	S2.2	G5T2
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	1B.2	S2.2	G4T2
Arctostaphylos bakeri ssp. bakeri	Baker's manzanita	Ericaceae	perennial evergreen shrub	1B.1	S2	G2T2
Astragalus clarianus	Clara Hunt's milk-vetch	Fabaceae	annual herb	1B.1	S1.1	G1
Astragalus clevelandii	Cleveland's milk-vetch	Fabaceae	perennial herb	4.3	S3.3?	G3
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	1B.2	S1.1	G1T1
Atriplex joaquiniana	San Joaquin spearscale	Chenopodiaceae	annual herb	1B.2	S2	G2
Balsamorhiza macrolepis var. macrolepis	big-scale balsamroot	Asteraceae	perennial herb	1B.2	S2	G3G4T2
Blennosperma bakeri	Sonoma sunshine	Asteraceae	annual herb	1B.1	S1.2	G1
Brodiaea californica var. leptandra	narrow-anthered California brodiaea	Liliaceae	perennial bulbiferous herb	1B.2	S2S3.2	G4?T2T3
Calochortus pulchellus	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	1B.2	S2.1	G2
Calycadenia micrantha	small-flowered calycadenia	Asteraceae	annual herb	1B.2	S2S3.2	G2G3
Castilleja affinis ssp. neglecta	Tiburon paintbrush	Scrophulariaceae	perennial herb (hemiparasitic)	1B.2	S1.2	G4G5T1
Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	1B.1	S2.2	G2
Ceanothus purpureus	holly-leaved ceanothus	Rhamnaceae	perennial evergreen shrub	1B.2	S2.2	G2
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	1B.2	S2.2	G4T2
Cordylanthus mollis ssp. mollis	soft bird's-beak	Scrophulariaceae	annual herb (hemiparasitic)	1B.2	S1.1	G2T1
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	2.2	S2	G2
Erigeron biolettii	streamside daisy	Asteraceae	perennial herb	3	S3?	G3?
Eriogonum luteolum var. caninum	Tiburon buckwheat	Polygonaceae	annual herb	1B.2	S2	G5T2
Gilia capitata ssp. tomentosa	woolly-headed gilia	Polemoniaceae	annual herb	1B.1	S1.1	G5T1
Harmonia nutans	nodding harmonia	Asteraceae	annual herb	4.3	S3.3	G3
Hemizonia congesta ssp. congesta	pale yellow hayfield tarplant	Asteraceae	annual herb	1B.2	S2S3	G5T2T3
Hesperolinon breweri	Brewer's western flax	Linaceae	annual herb	1B.2	S2.2	G2
Horkelia tenuiloba	thin-lobed horkelia	Rosaceae	perennial herb	1B.2	S2.2	G2
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	4.2	S3.2	G3
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	annual herb	1B.1	S1.1	G1
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	1B.2	S2.2	G5T2
Legenere limosa	legenere	Campanulaceae	annual herb	1B.1	S2.2	G2
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	4.2	S3.2	G3
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	1B.2	S2.2	G2
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	3	S3	G3
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	1B.1	S2	G2
Lilium rubescens	redwood lily	Liliaceae	perennial bulbiferous herb	4.2	S3.2	G3
Limnanthes vinculans	Sebastopol meadowfoam	Limnanthaceae	annual herb	1B.1	S2.1	G2
Lomatium repostum	Napa lomatium	Apiaceae	perennial herb	4.3	S3.3	G3
Lupinus sericatus	Cobb Mountain lupine	Fabaceae	perennial herb	1B.2	S2.2	G2
Microseris paludosa	Mt. Diablo cottonweed	Asteraceae	annual herb	3.2	S3.2?	G3
Monardella villosa ssp. globosa	robust monardella	Lamiaceae	perennial rhizomatous herb	1B.2	S2.2	G5T2
Monardella viridis ssp. viridis	green monardella	Lamiaceae	perennial rhizomatous herb	4.3	S3.3	G3T3
Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	Polemoniaceae	annual herb	1B.1	S1.1	G4T1
Polygonum marinense	Marin knotweed	Polygonaceae	annual herb	3.1	S1.1	G1Q
Rhynchospora californica	California beaked-rush	Cyperaceae	perennial rhizomatous herb	1B.1	S1.1	G1
Streptanthus breweri var. hesperidis	green jewel-flower	Brassicaceae	annual herb	1B.2	S2.2	G5T2
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	1B.2	S2	G2
Trichostema rubisepalum	Hernandez bluecurls	Lamiaceae	annual herb	4.3	S3.3	G3
Trichostema oxyalii	Napa bluecurls	Lamiaceae	annual herb	1B.2	S2	G2
Trifolium amoenum	two-fork clover	Fabaceae	annual herb	1B.1	S1.1	G1

Trifolium hydrophilum	saline clover	Fabaceae	annual herb	1B.2	S2.2?	G2?
Triteleia lugens	dark-mouthed triteleia	Liliaceae	perennial bulbiferous herb	4.3	S3.3	G3
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	2.3	S2.3	G5

Suggested Citation

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ATTACHMENT 6

ATTACHMENT 6

Habitat Assessment for the California Tiger Salamander on the Napa Oaks Project Site, Napa County, California. Prepared by Mark Jennings of Rana Resources February 10, 2011

HABITAT ASSESSMENT FOR THE CALIFORNIA TIGER SALAMANDER (*Ambystoma californiense*), ON THE NAPA OAKS PROJECT SITE, NAPA COUNTY, CALIFORNIA

Prepared by:

Mark R. Jennings
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P.O. Box 2185
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For
Gary Deghi
The Huffman-Broadway Group, Inc.
828 Mission Avenue
San Rafael, CA 94901

February 10, 2011

EXECUTIVE SUMMARY

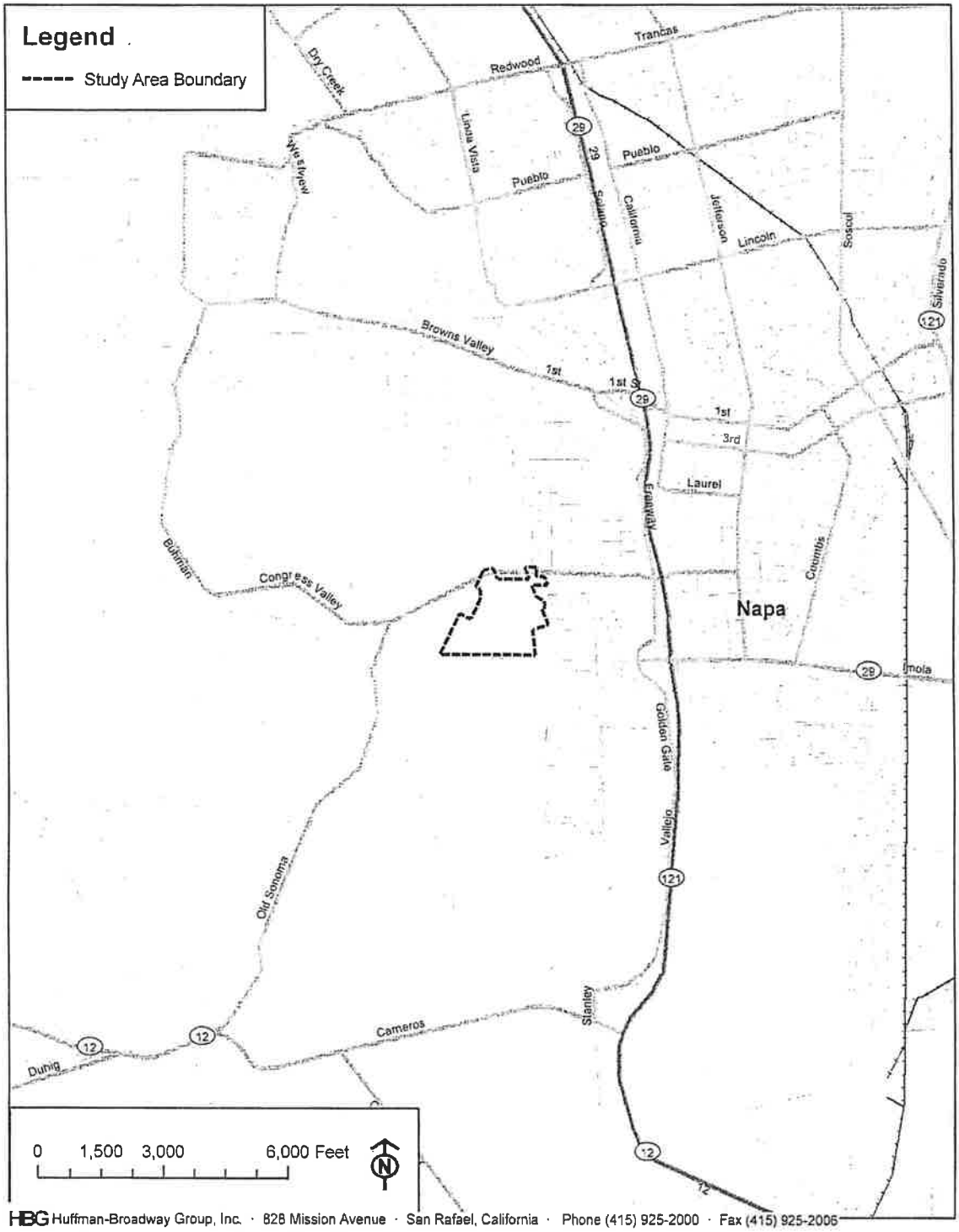
A habitat assessment was conducted for the California tiger salamander (*Ambystoma californiense*; CTS) during 01 February 2011 on the 80.64-acre Napa Oaks Project site (at 3095 Old Sonoma Road) in Napa, Napa County, California. Results showed that the site is outside of the known native range for CTS, it is not within any of the U.S. Fish and Wildlife Service critical habitat areas designated for the species, and it lacks suitable breeding habitat for CTS. The closest known historic populations are located approximately 18 miles to the southeast of the site in the vicinity of Fairfield (near Travis Air Force Base) in Solano County, and 19 miles to the northwest at the southern edge of the Santa Rosa Plain (near Cotati and Rohnert Park) in Sonoma County. In-between the project site and the closest known populations are extensive areas of natural waterways (including rivers), mountain ranges, urbanization, freeways, and agricultural areas. It is my professional opinion that CTS do not occur on the site or within at least 15 miles of the project location.

INTRODUCTION

The Napa Oaks Project is a proposed development on 80.64 acres in the low hills just west of the current city of Napa at 3095 Old Sonoma Road in Napa County (Figure 1). The project boundary lies just within the current city limits. Because this project site is located near the historic native range of the California tiger salamander (*Ambystoma californiense*; CTS) [Jennings and Hayes 1994], the following habitat assessment was conducted to see if this salamander could potentially occur on site. The common and scientific names utilized in this report follow Jennings (2004), as per recent taxonomic revisions.

STUDY AREA

The Napa Oaks Project is located at 3095 Old Sonoma Road within the City of Napa, Napa County (Figure 1). The 80.64-acre site lies within the western edge of the city limits of Napa in the low hills of a partly-wooded oak (*Quercus* spp.) area. The site is bounded on the east by the City of Napa, to the north by Old Sonoma Road, and to the south and west by extensive vineyards. The site contains a house, barn, corrals, and other



HBG Huffman-Broadway Group, Inc. · 828 Mission Avenue · San Rafael, California · Phone (415) 925-2000 · Fax (415) 925-2005

Figure 1. Project Area Location Map
Napa Oaks Project
City of Napa, Napa County, California

Figure 1. Location of the Project within the City of Napa.

associated structures, and a mixed grassland-oak woodland area that is used for grazing. There are piped watering troughs for livestock on the property. However, all drainages and wetland areas on the site are intermittent and only hold water for up to several weeks after periods of rainfall.

The vineyards to the west and south are largely cleared of natural vegetation and contain numerous large irrigation ponds. I counted 4 such irrigation ponds (including 1 immediately south of the project site) within 0.25 miles of the project boundary. There are many other vineyard irrigation ponds that lie further away from the four ponds alluded to above. These ponds provide suitable aquatic and riparian habitat for a number of wildlife which forage on the adjacent project site (e.g., Pacific treefrogs (*Hyla regilla*), raccoons (*Procyon lotor*), mule deer (*Odocoileus hemionus*), great egrets (Ardea alba), etc.).

MATERIALS AND METHODS

The site was examined by myself on 01 February 2011. I looked at the overall area of the proposed development, as well as the adjacent areas by the use of public roads and the views (via binoculars) from the heights of the project site. All areas were assessed for potential habitat of CTS by following the guidance provided by the U.S. Fish and Wildlife Service (2003). Additionally, I examined pertinent locality information for CTS via the California Natural Diversity Data Base (California Department of Fish and Game 2011) and recently published information in the Federal Register by the U.S. Fish and Wildlife Service.

RESULTS AND DISCUSSION

There are no wetlands or water bodies located on the project site that are suitable for CTS breeding. All of the areas that naturally hold water for any period of time are very shallow (only 1-3 inches deep) and completely dry after only a few weeks when rainfall ceases. The numerous irrigation ponds within the vineyards adjacent to the site are potentially suitable for CTS breeding. However, I observed introduced western mosquitofish (*Gambusia affinis*) in the pond closest to the property and introduced bullfrogs (*Rana catesbeiana*) are known to be abundant in aquatic habitats within the

Napa area (e.g., see Jennings and Padgett-Flohr 2004). These negative factors, coupled with the lack of records for CTS within any part of Napa County (California Department of Fish and Game 2011) suggest that CTS do not inhabit the area. Further, Napa County is not within any of the U.S. Fish and Wildlife Service critical habitat areas designated for CTS (U.S. Fish and Wildlife Service 2005, 2011). The closest known historic CTS populations are located approximately 18 miles to the southeast of the site in the vicinity of Fairfield (near Travis Air Force Base) in Solano County and 19 miles to the northwest at the southern edge of the Santa Rosa Plain (near Cotati and Rohnert Park) in Sonoma County (Jennings and Hayes 1994, California Department of Fish and Game 2011). In-between the project site and the closest known populations are extensive areas of natural waterways (including rivers), mountain ranges, urbanization, freeways, and agricultural areas. Thus, it is my professional opinion that CTS do not occur on the site or within at least 15 miles of the project location.

In summary, it appears that the Napa Oaks Project site lacks suitable aquatic habitat for CTS, and is outside the known native range of the species. It is my professional opinion that the project will have no negative effects on these species within the City of Napa.

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ATTACHMENT 7

ATTACHMENT 7

Habitat Assessment for the California Red-legged Frog on the Napa Oaks Project Site, Napa County, California
Prepared by Mark Jennings of Rana Resources
February 11, 2011

HABITAT ASSESSMENT FOR THE CALIFORNIA RED-LEGGED FROG (*Rana draytonii*), ON THE NAPA OAKS PROJECT SITE, NAPA COUNTY, CALIFORNIA

Prepared by:

Mark R. Jennings
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P.O. Box 2185
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For
Gary Deghi
The Huffman-Broadway Group, Inc.
828 Mission Avenue
San Rafael, CA 94901

February 11, 2011

EXECUTIVE SUMMARY

A habitat assessment was conducted for the California red-legged frog (*Rana draytonii*; CRLF) during 01 February 2011 on the 80.64-acre Napa Oaks Project site (at 3095 Old Sonoma Road) in Napa, Napa County, California. Results showed that although the site lies is within the native range for this species (and there are two historic 1912 museum records for 2 miles southwest of the city), it is currently not within any of the U.S. Fish and Wildlife Service critical habitat areas designated for CRLF, and it lacks any suitable breeding habitat for CRLF. Although there are a number of adjacent vineyard irrigation ponds in the vicinity of the site, none of these water bodies appear to harbor CRLF due to the presence of dense populations of introduced bullfrogs (*Rana catesbeiana*) and introduced predatory fishes. The high summer and fall air temperatures of the vicinity make the local aquatic habitats optimal for bullfrog reproduction and growth, which has presumably resulted in the localized extinction of CRLF in the vicinity of Napa. The closest known CRLF population is currently located approximately 8 miles to the south-southeast of the site in the hills in the vicinity of Napa Junction, Napa County. In-between the project site and this closest known population are extensive areas of natural waterways (including the Napa River), urbanization, freeways, and agricultural areas. It is my professional opinion that CRLF do not occur on site or within at least 6 miles of the project location.

INTRODUCTION

The Napa Oaks Project is a proposed development on 80.64 acres in the low hills just west of the current city of Napa at 3095 Old Sonoma Road in Napa County (Figure 1). The project boundary lies just within the current city limits. Because this project site is located within the historic native range of the California red-legged frog (*Rana draytonii*; CRLF) [Jennings and Hayes 1994], the following habitat assessment was conducted to see if this species could potentially occur on site. The common and scientific names utilized in this report follow Jennings (2004), as per recent taxonomic revisions.

STUDY AREA

The Napa Oaks Project is located at 3095 Old Sonoma Road within the City of Napa, Napa County (Figure 1). The 80.64-acre site lies within the western edge of the city limits of Napa in the low hills of a partly-wooded oak (*Quercus* spp.) area. The site is bounded on the east by the City of Napa, to the north by Old Sonoma Road, and to the south and west by extensive vineyards. The site contains a house, barn, corrals, and other associated structures, and a mixed grassland-oak woodland area that is used for grazing domestic cows (*Bos taurus*) and horses (*Equus caballus*). There are piped watering troughs for livestock on the property. However, all drainages and wetland areas on the site are intermittent and only hold water for up to several weeks after periods of rainfall.

The vineyards to the west and south are largely cleared of natural vegetation and contain numerous large irrigation ponds. I counted 4 such irrigation ponds (including 1 immediately south of the project site) within 0.25 miles of the project boundary. There are many other vineyard irrigation ponds that lie further away from the four ponds alluded to above. These ponds provide suitable aquatic and riparian habitat for a number of wildlife which forage on the adjacent project site (e.g., Pacific treefrogs (*Hyla regilla*), raccoons (*Procyon lotor*), mule deer (*Odocoileus hemionus*), great egrets (Ardea alba), etc.).

MATERIALS AND METHODS

Prior to commencing field surveys, aerial photographs, the California Natural Diversity Data Base (California Department of Fish and Game 2011), and pertinent literature published by the U.S. Fish and Wildlife Service were consulted. I also examined my field notes for information about amphibians observed during previous surveys in the vicinity of the City of Napa during the past 20 years.

The entire site was examined by me on 01 February 2011. I looked at the overall area of the proposed development, as well as the adjacent areas by the use of public roads and the views (via binoculars) from the heights of the project site. All areas were assessed for potential habitat of CRLF by following the guidance provided by the U.S. Fish and Wildlife Service (2005). Additionally, I reviewed the most recent pertinent

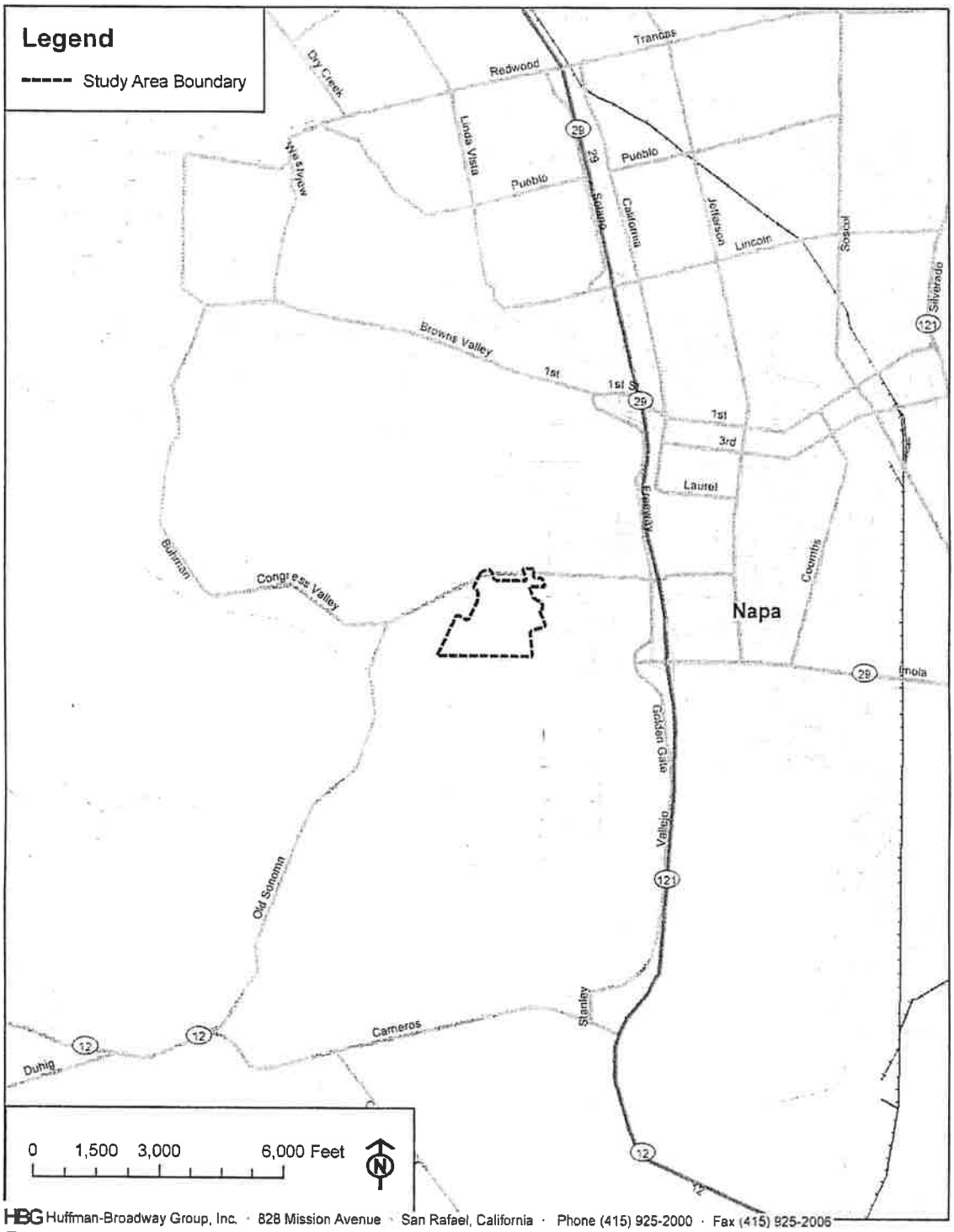

Figure 1. Project Area Location Map
Napa Oaks Project
City of Napa, Napa County, California

Figure 1. Location of the Project within the City of Napa.

locality information for CRLF via the California Natural Diversity Data Base (California Fish and Game 2011).

RESULTS AND DISCUSSION

There are no wetlands or water bodies located on the project site that are suitable for CRLF breeding. All of the areas that naturally hold water for any period of time are very shallow (only 1-3 inches deep) and completely dry after only a few weeks when rainfall ceases. The livestock watering troughs I examined have vertical sides and the tops are relatively high off the ground thus making them unsuitable for CRLF to use. However, there are numerous irrigation ponds within the vineyards adjacent to the property that are potentially suitable for CRLF breeding. Close examination of the irrigation pond closest to the property revealed the presence of introduced western mosquitofish (*Gambusia affinis*) and I observed two men fishing with rod and reel in one of the other adjacent ponds nearby. Although there are two old CRLF museum records at the Museum of Vertebrate Zoology for "2 miles southwest of Napa" which are almost 100 years old (collected in 1912), previous habitat assessments by me (and many other biologists since the frog was listed in 1996) in the vicinity of Napa and lower Napa River during the past 20 years have shown introduced bullfrogs (*Rana catesbeiana*) to have completely replaced CRLF along the lower Napa River sometime during the 20th Century (e.g., see Jennings 2000, and Jennings and Padgett-Flohr 2004). The high summer and fall air temperatures of the vicinity make the local aquatic habitats optimal for bullfrog reproduction and growth, hence their total replacement of CRLF in this part of Napa County.

Additionally, the project site is not within the Current or Proposed Critical Habitat for the CRLF (U.S. Fish and Wildlife Service 2006, 2008, 2009a, 2009b). The closest Critical Habitat units are CRLF – Nap 1 (~10 miles to the northeast) and Proposed CRLF SOL-2 (~6 miles to the south). The project location is not within Core Areas as designated in the Recovery Plan (U.S. Fish and Wildlife Service 2002). The closest Core Area is #15 Jameson Canyon – Lower Napa River (~6 miles to the southeast), where I have previously observed CRLF in suitable habitats in Jameson Canyon proper.

The closest known CRLF population is currently located approximately 8 miles to the south-southeast of the site in the hills in the vicinity of Napa Junction, Napa County. In-between the project site and this closest known population are extensive areas of natural waterways (including the Napa River) that contain many bullfrogs and introduced predatory fishes, urbanization, freeways, and agricultural areas. It is my professional opinion that CRLF do not occur on site or within at least 6 miles of the project location.

In summary, it appears that the Napa Oak Project site lacks suitable aquatic habitat for CRLF and the species is presently extinct in this part of Napa County. It is my professional opinion that the project will have no negative effects on CRLF within the City of Napa.

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ATTACHMENT 8

ATTACHMENT 8

Letter Report on Western Pond Turtle
Napa Oaks Project Site, Napa County, California
Prepared by Mark Jennings of Rana Resources
February 12, 2011

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#15,291
February 12, 2011

Mr. Gary Deghi
Huffman and Associates, Inc.
828 Mission Avenue
San Rafael, CA 94901-3209

Dear Gary:

This letter is in regards to my observation of western pond turtles (*Actinemys marmorata*; WPT) in vineyard irrigation ponds adjacent to the Napa Oaks Project site within the City of Napa. During my site survey on 01 February 2011, I was able to observe (with binoculars) basking or swimming adult WPTs in every irrigation pond adjacent to the property within a distance of about a quarter of a mile. Although the project site is totally unsuitable for WPT nesting and estivation due to the rocky nature of the soil, the very close proximity of one of these irrigation ponds to the southern boundary of the site makes it likely that WPT might move across a small part of the property. In order to avoid any potential negative effects to WPT with this project, it is suggested that the client conduct the following avoidance measures: 1) create at least a 200-foot buffer between the project development boundary and the high water edge of the irrigation pond; and 2) that black silt fencing be installed at the southern edge of the development area to prevent WPT from potentially entering the construction area (and being crushed by vehicles, etc). The fence could be examined by a qualified biologist on a regular basis during the construction period to make sure that it is functioning properly.

Thanks for allowing me to be involved with this project. Please let me know if you have any questions on the above.

Sincerely,

Mark R. Jennings
President and
Herpetologist/Fisheries Biologist