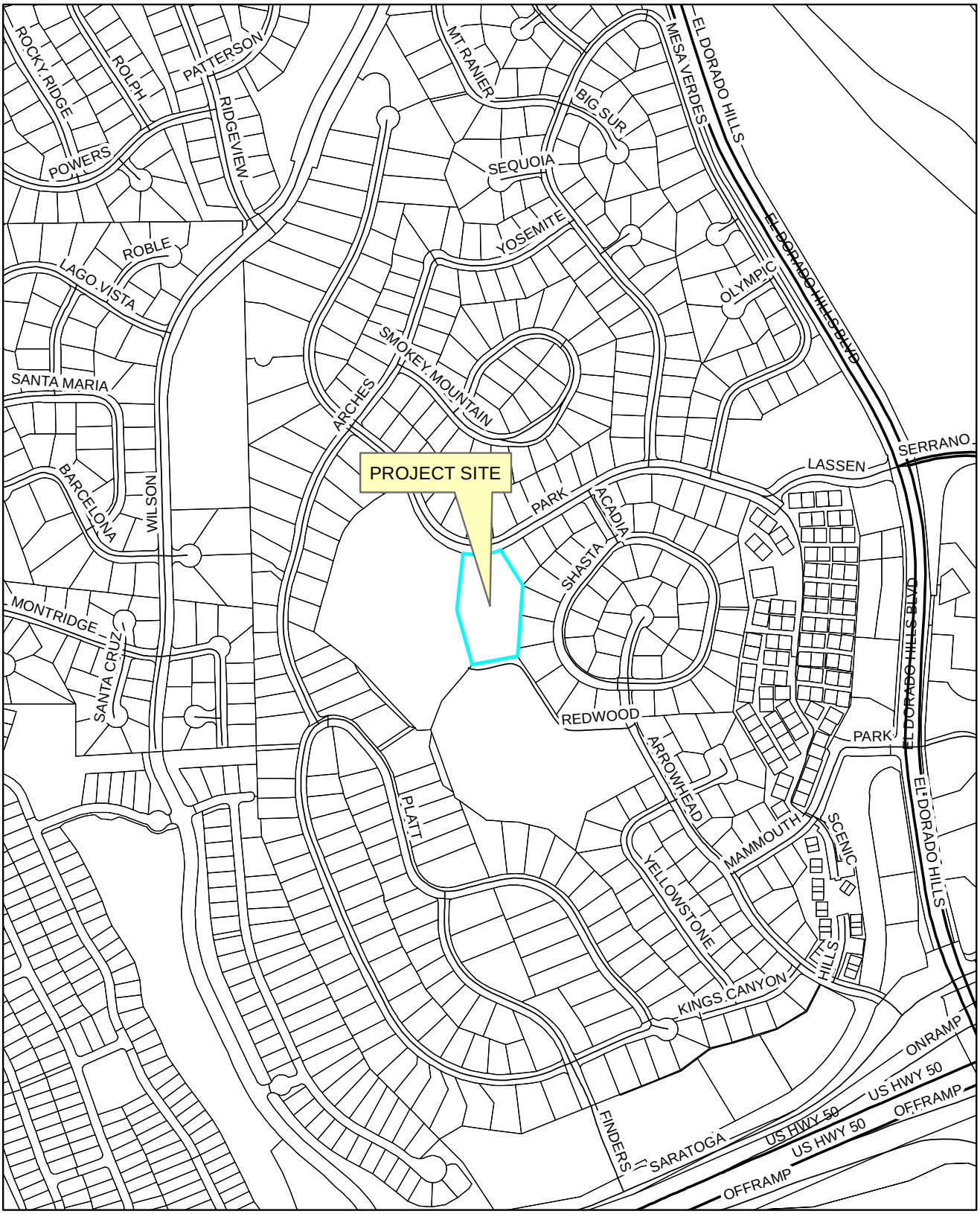
P21-00**10** KUKHARETS PARCEL

MAP **EXHIBIT** A - LOCATION MAP



P21-00**10** KUKHARETS PARCEL

MAP **EXHIBIT** B - AERIAL MAP

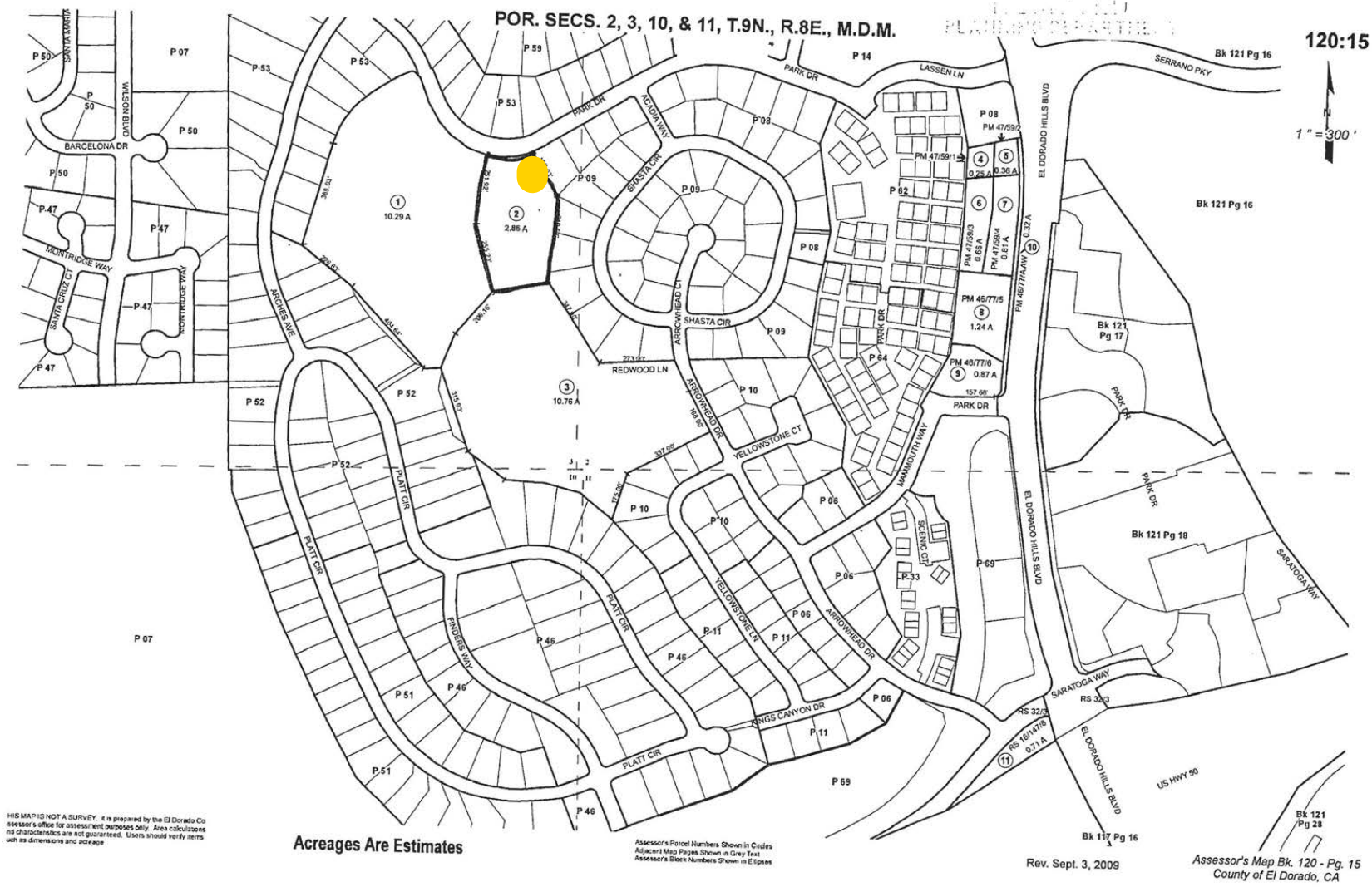
0 130 260 520 780 1,040

Feet

Scale

N

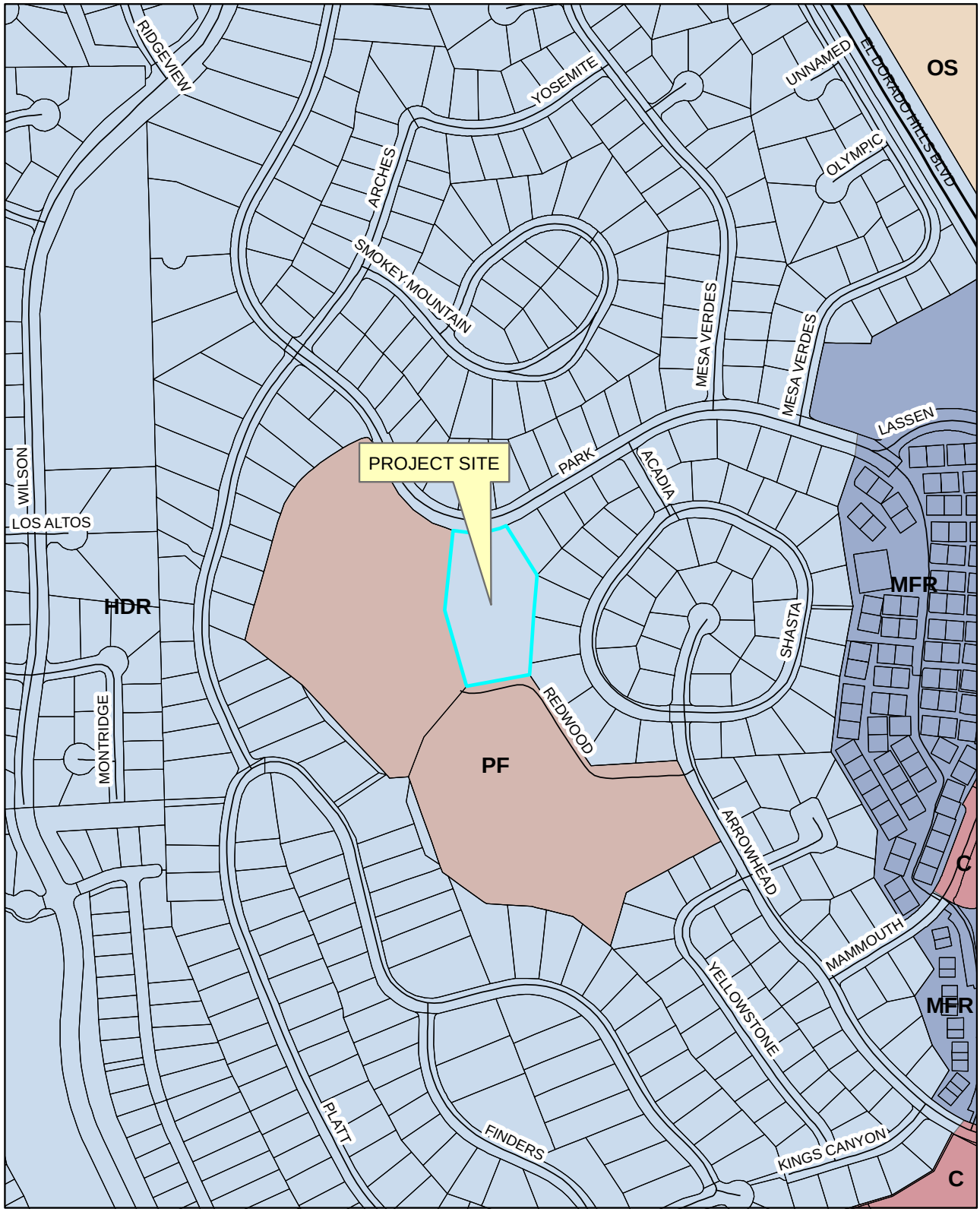
P21-0010 KUKHARETS PARCEL MAP
EXHIBIT C - ASSESSORS PARCEL PAGE



P21-0010

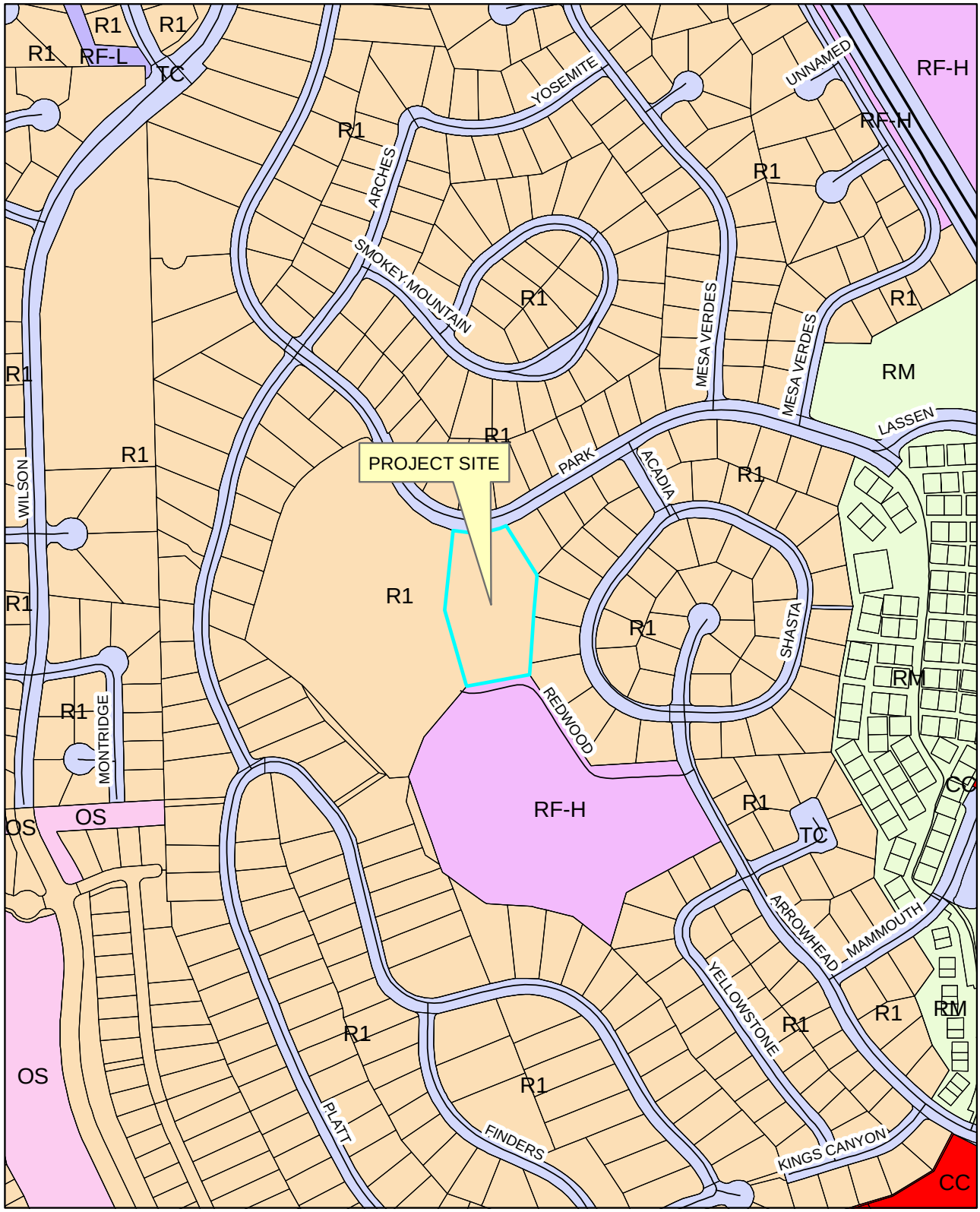
P21-00**10** KUKHARETS PARCEL MAP

EXHIBIT D - GENERAL PLAN LAND USE MAP



P21-00**10** KUKHARETS PARCEL

MAP **EXHIBIT** E - ZONING MAP



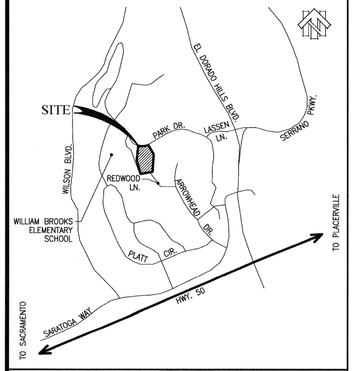
0 130 260 520 780 1,040 Feet

Scale

N

TENTATIVE PARCEL MAP
PARK DRIVE

COUNTY OF EL DORADO — OCTOBER, 2021 — STATE OF CALIFORNIA



VICINITY MAP
NOT TO SCALE

APPLICANT/OWNER
ANATOLIY & YULIYA KUKHARETS
3630 PARK DRIVE
EL DORADO HILLS, CA, 95762

ENGINEER
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MAP SCALE
1" = 30'

CONTOUR INTERVAL
CONTOUR INTERVAL = 1 FOOT

SOURCE OF TOPOGRAPHY
CTA ENGINEERING & SURVEYING FIELD SURVEY – ASSUMED ELEVATION

SECTION, TOWNSHIP and RANGE
SECTION 3, T.9 N., R.8 E M.D.M.

ASSESSOR'S PARCEL NUMBER
120–150–002

PRESENT ZONING
R1

TOTAL AREA
2.86± ACRES

TOTAL NUMBER OF PARCELS
RESIDENTIAL LOTS – 4

MINIMUM PARCEL AREA
21,122 SQUARE FEET

ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THE LAND DEVELOPMENT KNOWN AS "PARK DRIVE PARCEL MAP" HAS BEEN DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS AND GUIDELINES ESTABLISHED BY THE COUNTY OF EL DORADO.

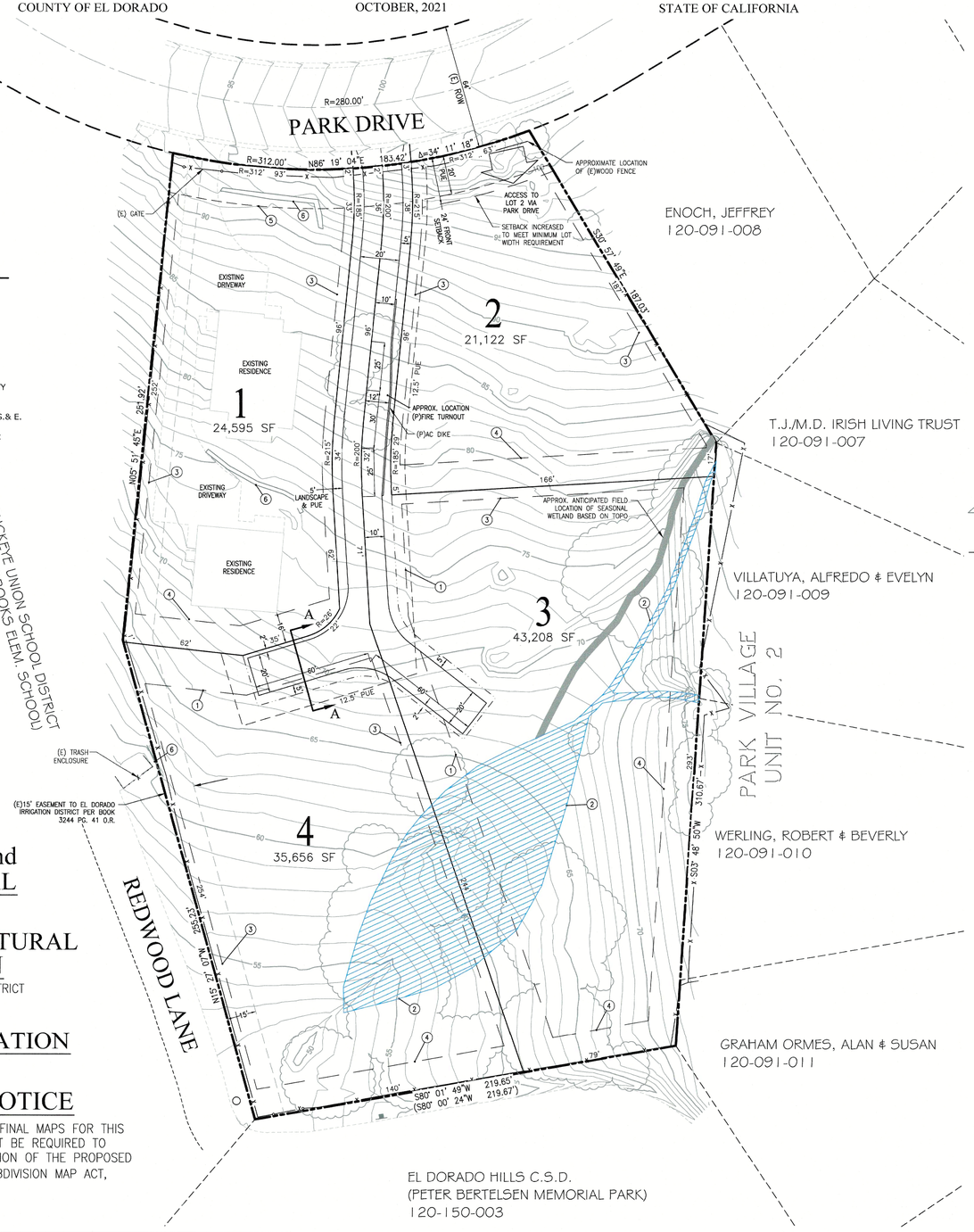
60764 Exp. 12-24-22 CIVIL STATE OF CALIFORNIA

BRIAN M. ALLEN P.E. 60764 — DATE 10-28-21

KEY NOTES
1. 20' FRONT YARD SETBACK
2. SEASONAL WETLAND
3. 5' SIDE YARD SETBACK
4. 15' REAR YARD SETBACK
5. 20' FRONT YARD SETBACK & PUE
6. (E) RETAINING WALL

GENERAL NOTES
1. SEE PRELIMINARY GRADING & DRAINAGE PLAN FOR ANTICIPATED LOCATION OF PROPOSED EASEMENTS.

THE FOLLOWING EASEMENTS MAY AFFECT THE PROPERTY SHOWN HEREON BUT THE EXACT LOCATION IS NOT DISCLOSED BY THE RECORD DOCUMENTS:
1. EASEMENT TO AMERICAN RIVER ELECTRIC, NOW P.G.& E. PER BK. 62 OF DEEDS, PG. 71
2. 10' R/W TO P.T.& T. PER BOOK 85 OF DEEDS, PG. 12
3. EASEMENT TO P.G.& E. PER BOOK 225, PG. 18 O.R.
4. EASEMENT TO P.T.& T. PER BOOK 394, PG. 232 O.R.
5. EASEMENT TO P.G.& E. PER BOOK 836, PG. 539 O.R.



WATER SUPPLY and SEWAGE DISPOSAL
EL DORADO IRRIGATION DISTRICT

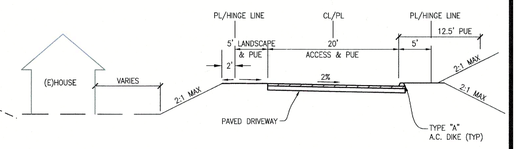
PROPOSED STRUCTURAL FIRE PROTECTION
EL DORADO HILLS COUNTY WATER DISTRICT (FIRE DEPARTMENT)

DATE OF PREPARATION
OCTOBER, 2021

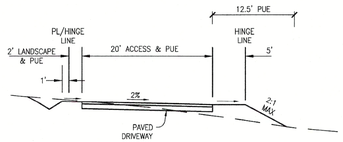
PHASING PLAN NOTICE
THE SUBDIVIDER MAY FILE MULTIPLE FINAL MAPS FOR THIS PROJECT. THE SUBDIVIDER SHALL NOT BE REQUIRED TO DEFINE THE NUMBER OR CONFIGURATION OF THE PROPOSED MULTIPLE FINAL MAPS. (PER THE SUBDIVISION MAP ACT, SECTION 66456.1)

0 15' 30' 60'
SCALE: 1" = 30'

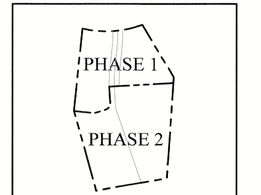
LEGEND
- PROJECT BOUNDARY
- (P) DRIVEWAY EP
- (P) HINGE LINE
- (P) SETBACK
- (P) EASEMENT
- (P) CENTERLINE
- (P) LOT LINE
- SEASONAL WETLAND SEE REPORT PREPARED BY BARNETT ENVIRONMENTAL CONSULTANTS
- (E) EASEMENT
- (E) CENTERLINE
- (E) LOT LINE
- (E) CURB & GUTTER



TYPICAL DRIVEWAY
SCALE: 1" = 10'



SECTION A-A
SCALE: 1" = 10'



PHASING PLAN
SCALE: 1"=200'

ZONING ADMINISTRATOR: _____
APPROVAL/DENIAL DATE: _____
BOARD OF SUPERVISORS: _____
APPROVAL/DENIAL DATE: _____

M:\21-007-001 Park Drive Parcel Map\PLANNING\TENTATIVE MAP\21-007-001-TM-COVER.dwg, 10/27/2021 2:15:43 PM, tjaime, 1:1

PRELIMINARY GRADING & DRAINAGE PLAN
PARK DRIVE PARCEL MAP

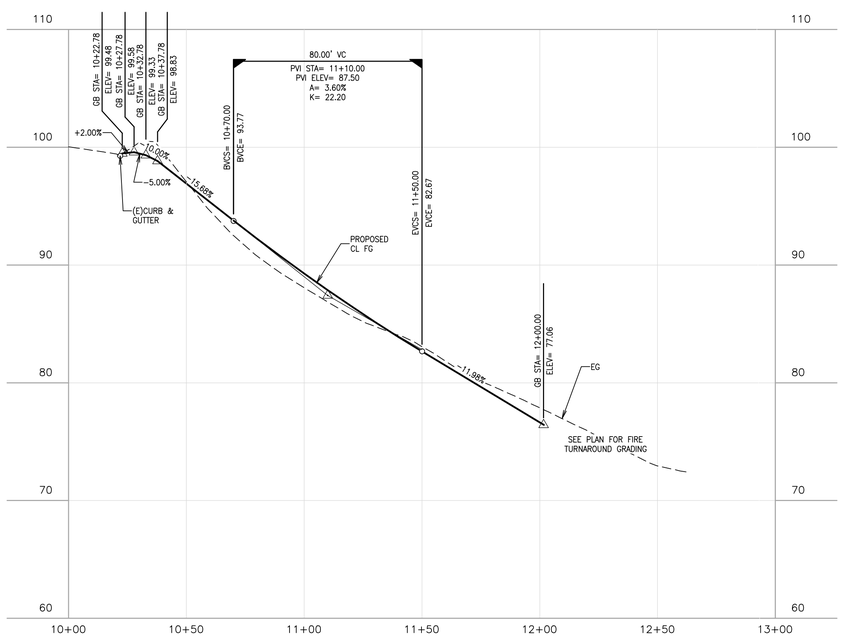
COUNTY OF EL DORADO | OCTOBER, 2021 | STATE OF CALIFORNIA

APPROXIMATE EARTHWORK

EXCAVATION: 205 CY
EMBANKMENT: 205 CY

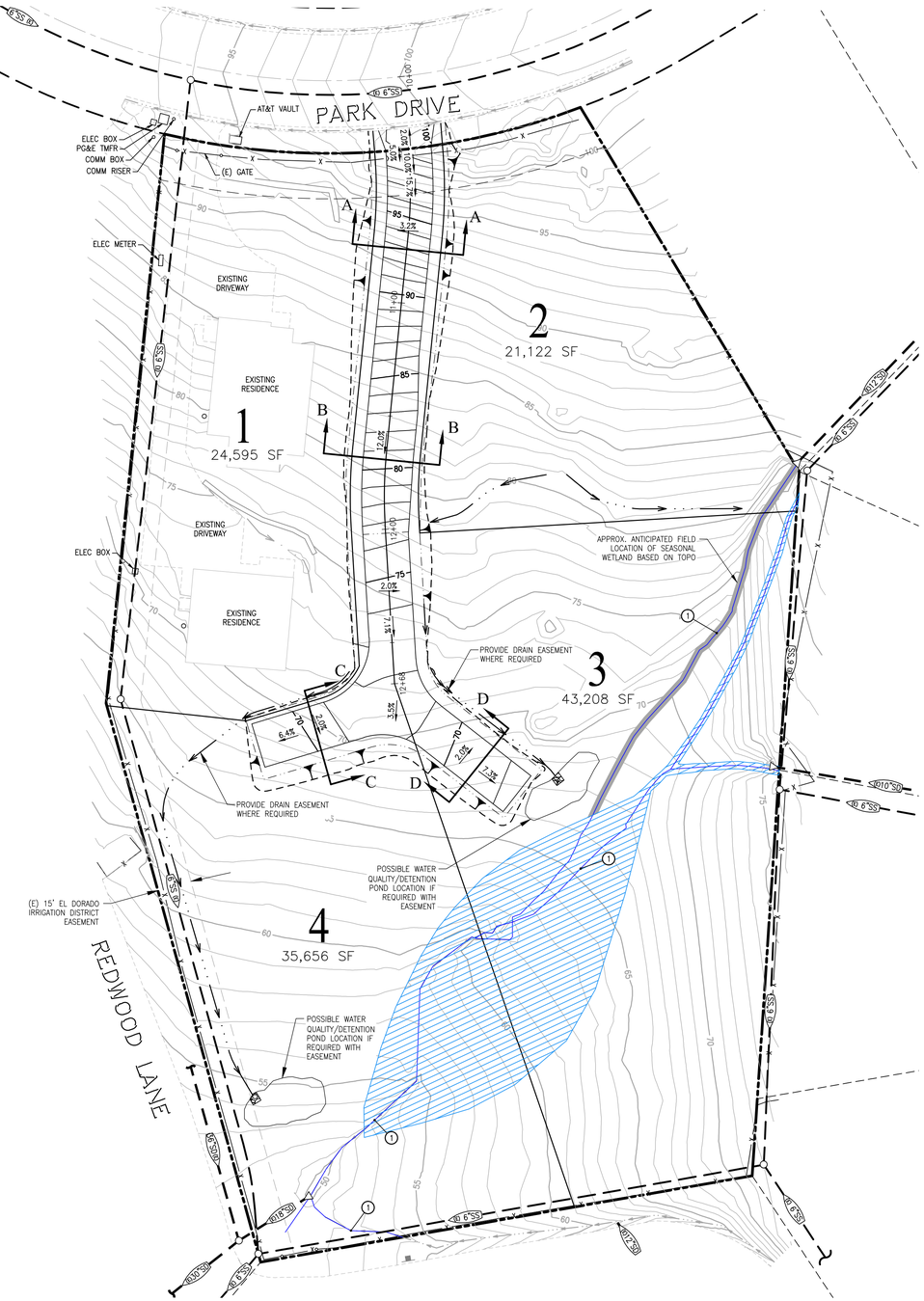
LEGEND

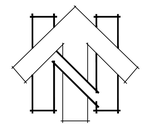
- 1035 — PROPOSED CONTOUR
- 1125 — EXISTING CONTOUR
- 2:1 UNLESS OTHERWISE NOTED — PROPOSED SLOPE BANK
- PROPOSED DAYLIGHT LINE
- PROPOSED DITCH
- EXISTING DITCH
- SEASONAL WETLAND SEE REPORT PREPARED BY BARNETT ENVIRONMENTAL CONSULTANTS



DRIVEWAY PROFILE

HORIZ: 1"=30'
VERT: 1"=6'

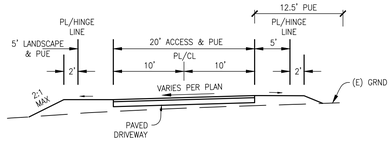




KEY NOTES

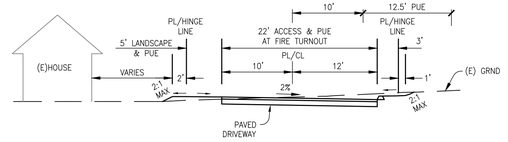
1. APPROX. CL PROPOSED DRAINAGE EASEMENT

FEMA FLOOD MAP: PANEL NO. 06017C0712E
ZONE X – AREA OF MINIMAL FLOOD HAZARD



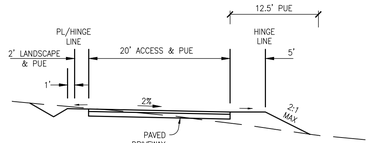
SECTION A

SCALE: 1" = 10'



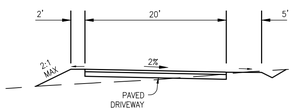
SECTION B

SCALE: 1" = 10'



SECTION C

SCALE: 1" = 10'



SECTION D

SCALE: 1" = 10'

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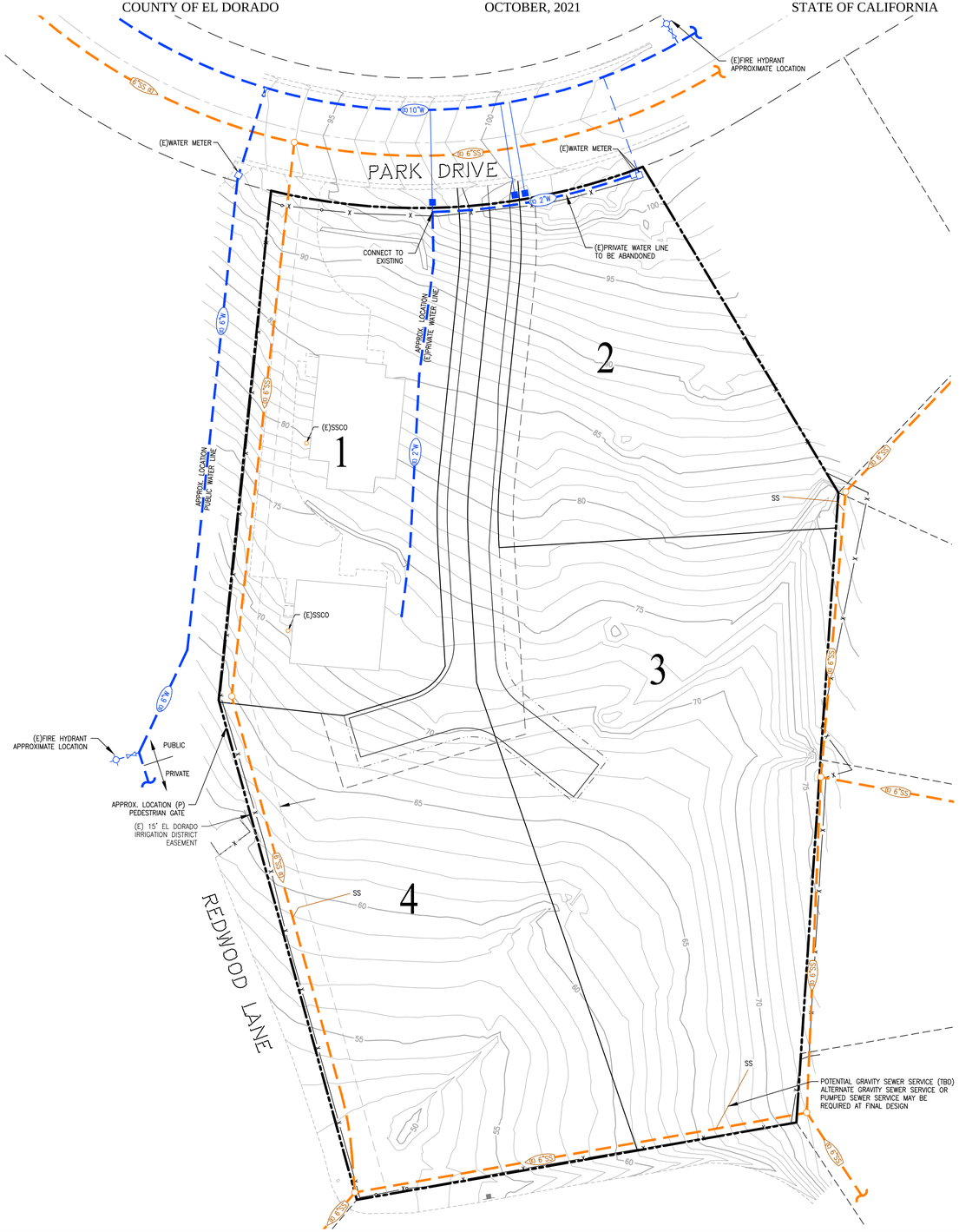
PRELIMINARY SEWER & WATER PLAN

PARK DRIVE PARCEL MAP

COUNTY OF EL DORADO | OCTOBER, 2021 | STATE OF CALIFORNIA



0 15' 30' 60'
SCALE: 1" = 30'

LEGEND

- PROJECT BOUNDARY
- PROPERTY LINE
- EXISTING DOMESTIC WATER
- EXISTING FIRE HYDRANT
- PROPOSED DOMESTIC WATER
- PROPOSED FIRE HYDRANT
- PROPOSED WATER METER
- EXISTING WATER METER
- EXISTING SEWER
- PROPOSED SEWER
- PROPOSED SEWER SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- PROPOSED CLEANOUT
- EXISTING CLEANOUT

NOTE:

WATER AND SEWER IMPROVEMENTS SHOWN ARE CONCEPTUAL ONLY AND SUBJECT TO CHANGE DURING FINAL DESIGN.

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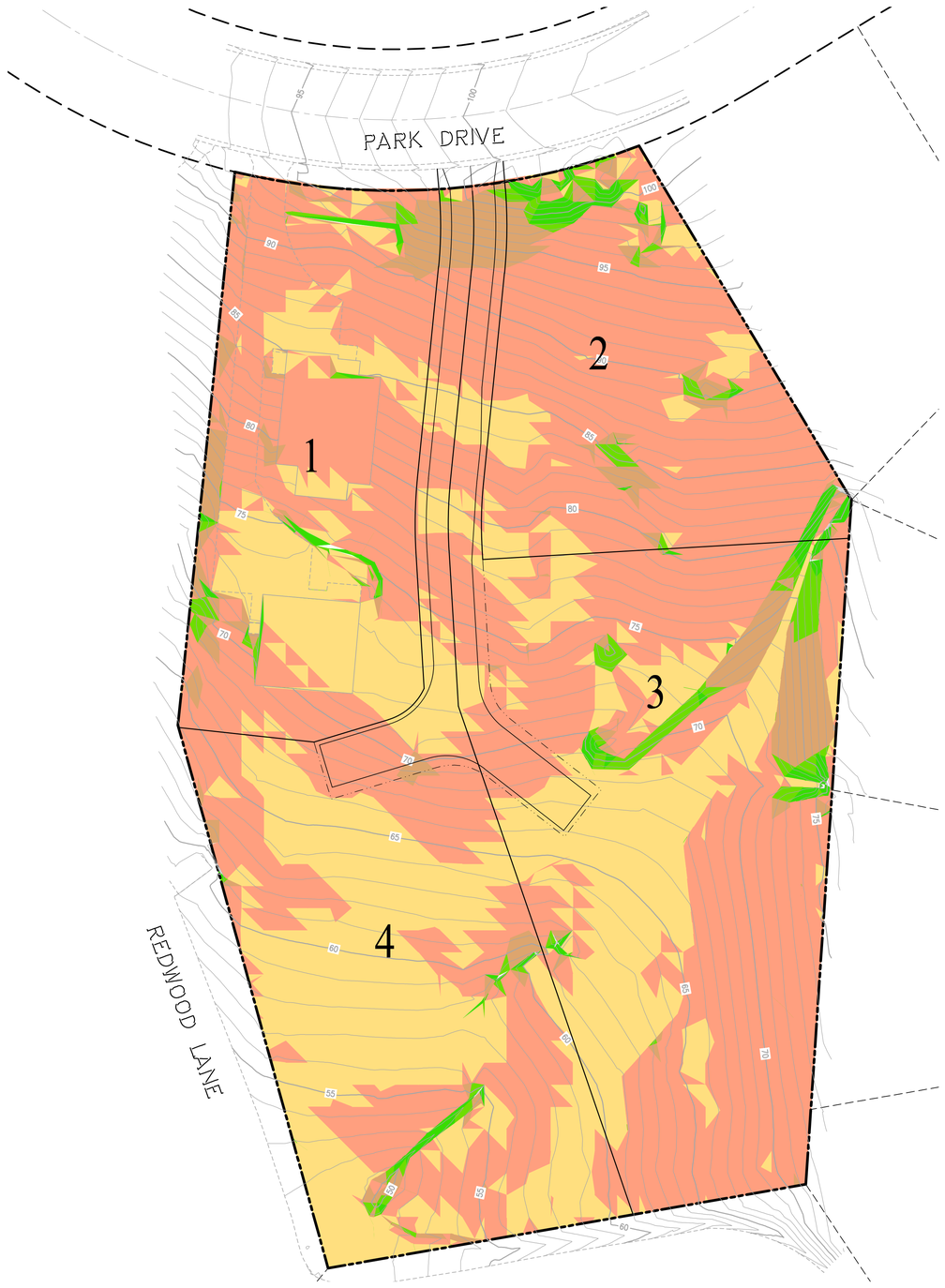
SLOPE MAP
PARK DRIVE PARCEL MAP

COUNTY OF EL DORADO | OCTOBER, 2021 | STATE OF CALIFORNIA



0 15' 30' 60'
SCALE: 1" = 30'

Slopes Table					
Number	Minimum Slope	Maximum Slope	Color	Area	Percentage of Area Shown
1	0.00%	10.00%		0.99	34.62%
2	10.00%	20.00%		1.62	56.64%
3	20.00%	30.00%		0.16	5.59%
4	30.00%	40.00%		0.05	1.75%
5	40.00%+			0.04	1.40%

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TREE PRESERVATION PLAN
PARK DRIVE PARCEL MAP

COUNTY OF EL DORADO | OCTOBER, 2021 | STATE OF CALIFORNIA

0 15' 30' 60'
SCALE: 1" = 30'

LEGEND

- PROJECT BOUNDARY
- TREE NO. 712 — OAK TREE
- TREE NO. 712 — OAKS ≥ 24"
- TREE NO. 712 — HERITAGE OAKS ≥ 36"
- TREE NO. 712 — OAK TREE - APPROX. LOCATION
- TREES (OTHERS)
- TREE TO BE REMOVED
- RIPARIAN WOODLAND

NOTES: SEE ARBORIST REPORT PREPARED BY CALIFORNIA TREE AND LANDSCAPE CONSULTING, INC. FOR TREE INVENTORY. APPROXIMATE TREE LOCATIONS ARE BASED ON THIS REPORT, A FIELD WALK, AND AN AERIAL MAP OF THE SITE. SEE A WETLAND & BIOLOGICAL RESOURCES ASSESSMENT AT 3630 PARK DR. (APN 120-150-002) PREPARED BY BARNETT ENVIRONMENTAL CONSULTANTS FOR RIPARIAN WOODLAND EXTENTS.

NOTE:

ADDITIONAL REMOVALS OR IMPACTS MAY OCCUR SUBJECT TO FINAL DESIGN.

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AERIAL OVERLAY

PARK DRIVE PARCEL MAP

COUNTY OF EL DORADO | OCTOBER, 2021 | STATE OF CALIFORNIA

0 20' 40' 80'
SCALE: 1" = 40'

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M:\21-007-001 Park Drive Parcel Map\PLANNING\TENTATIVE MAP\21-007-001-TM-AM.dwg, 10/26/2021 11:52:10 AM, tjaime, 1:1

A Wetland & Biological Resources Assessment

at 3630 Park Dr. (APN 120-150-002)
in El Dorado Hills, CA 96752

Prepared By:

BARNETT ENVIRONMENTAL

Prepared For:
Anatoliy Kukharets
3630 Park Drive
El Dorado Hills, CA 95672

P21-0010

Table of Contents

Figures

Tables

Appendices

1.0 Introduction

Barnett Environmental has prepared this Wetland & *Biological Resources* Assessment (W/BRA) of an approximately 2.6-acre area ("Study Area") at 3630 Park Drive in El Dorado Hills, California (APN: 120-150-002) 95762 (Figure 1). The parcel is within Section 3, Township 9 North, Range 8 East of the California 7.5-minute USGS Clarksville quadrangle (Figure 1) and lies within the Upper Consumes River watershed (HUC 18040013) at approximately 680 – 731 feet above mean sea level (msl) and is centered at latitude 38°39'30.86"N and longitude 121°442.49"W. The parcel currently contains a single family dwelling on the NW corner. The parcel is bounded on the north and east by residential properties, on the west by a school, and on the south by a baseball field.

Beyond an in informal delineation of wetlands and "other waters of the U.S." and "waters of the State" according to U.S. Army Corps of Engineers (1987) and California Regional Water Quality Control Board (2020) protocol, this report also:

- Identifies and describes extant vegetation communities;
- Records all plant and animal species observed during the field survey(s);
- Evaluates and identifies sensitive habitats and special status plant and animal species that may occur in the Study Area and could be affected by project activities; and
- Provides conclusions and recommendations for mitigating potential adverse impacts to identified resources.

2.0 Regulatory Setting

The following federal laws, regulations and/or policies provide the legal framework guiding the protection of biological resources. We have included those laws most relevant to biological and wetland resources in and around the Study Area.

2.1 Federal Laws & Regulations

Federal Endangered Species Act (FESA)

The FESA, enacted in 1973, prohibits the taking, possession, sale, or transport of endangered species. Under the FESA, the Secretary of the Interior and the Secretary of Commerce jointly have the authority to list a species as threatened or endangered. Both the National Marine Fisheries Service (NMFS) and the U.S. Fish & Wildlife Service (USFWS) administer FESA. NMFS is accountable for animals that are threatened or endangered (16 United States Code [USC] 1533[c]) and spend most of their lives in marine waters, including marine fish, most marine mammals, and anadromous fish such as Pacific salmon. The USFWS is accountable for all other federally listed plants and animals.

Pursuant to the requirements of FESA, a federal agency reviewing a project within its jurisdiction must determine whether any federally listed threatened or endangered species could be present in the Study Area and whether the project will have a potentially significant impact on such species. In addition, federal agencies are required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed

under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]).

Projects that would result in a "take" of any federally listed threatened or endangered species are required to obtain authorization from NMFS and/or USFWS through either Section 7 (interagency consultation) or section 10(a) (incidental take permit) of FESA, depending on whether the federal government is involved in permitting or funding the project. The Section 7 authorization process is used to determine if a project with a federal nexus would jeopardize the continued existence of a listed species and what mitig.ation measures would be required to avoid jeopardizing the species. The Section 10(a) process allows take of endangered species or their habitat in non-federal activities.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50 Code of Federal Regulations (CFR) Section 10.13. The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country and is enforced in the United States by the USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50 CFR 20. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors).

Bald & Golden Eagle Protection Act

The federal Bald & Golden Eagle Protection Act regulates or prohibits taking, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16 U.S.C. 668(a); 50 CFR 22). "Take" includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb (16 U.S.C. 668c; 50 CFR 22.3).

Federal Clean Water Act (CWA)

Section 404

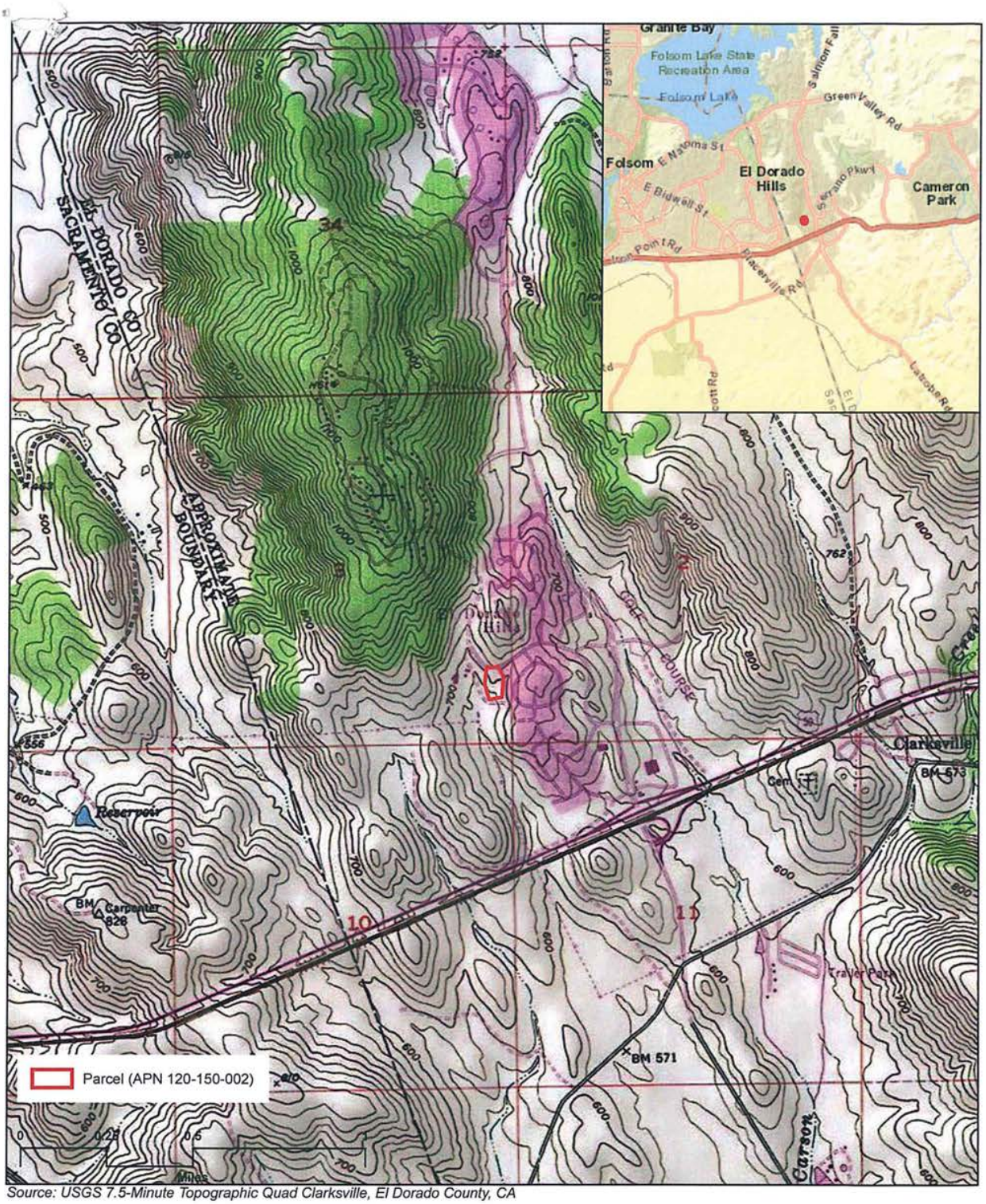
Section 404 of the CWA identifies the U.S. Army Corps of Engineers (USACE) as the principal authority to regulate activity that could discharge fill or dredge material or otherwise adversely modify wetlands or Waters of the U.S. (WOUS). The USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or function. U.S. Congress has authorized the Environmental Protection Agency (EPA) to have a specific oversight role over USACE's authority.

Section 401

The State Water Resources Control Board (SWRCB) has authority over wetlands through Section 401 of the CWA, as well as the Porter-Cologne Act, California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy.

The CWA requires that an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) first obtain a certificate from the appropriate state agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant certification or waive

P21-0010 KUKHARETS PARCEL MAP
EXHIBIT L - WETLAND AND BIOLOGICAL RESOURCES ASSESSMENT
WITH SOIL RESOURCE REPORT



Source: USGS 7.5-Minute Topographic Quad Clarksville, El Dorado County, CA

FIGURE 1 - PROJECT VICINITY

Date: March 02, 2021

3630 PARK DR • EL DORADO COUNTY, CA

P21-0010 KUKHARETS PARCEL MAP
EXHIBIT L - WETLAND AND BIOLOGICAL RESOURCES ASSESSMENT
WITH SOIL RESOURCE REPORT

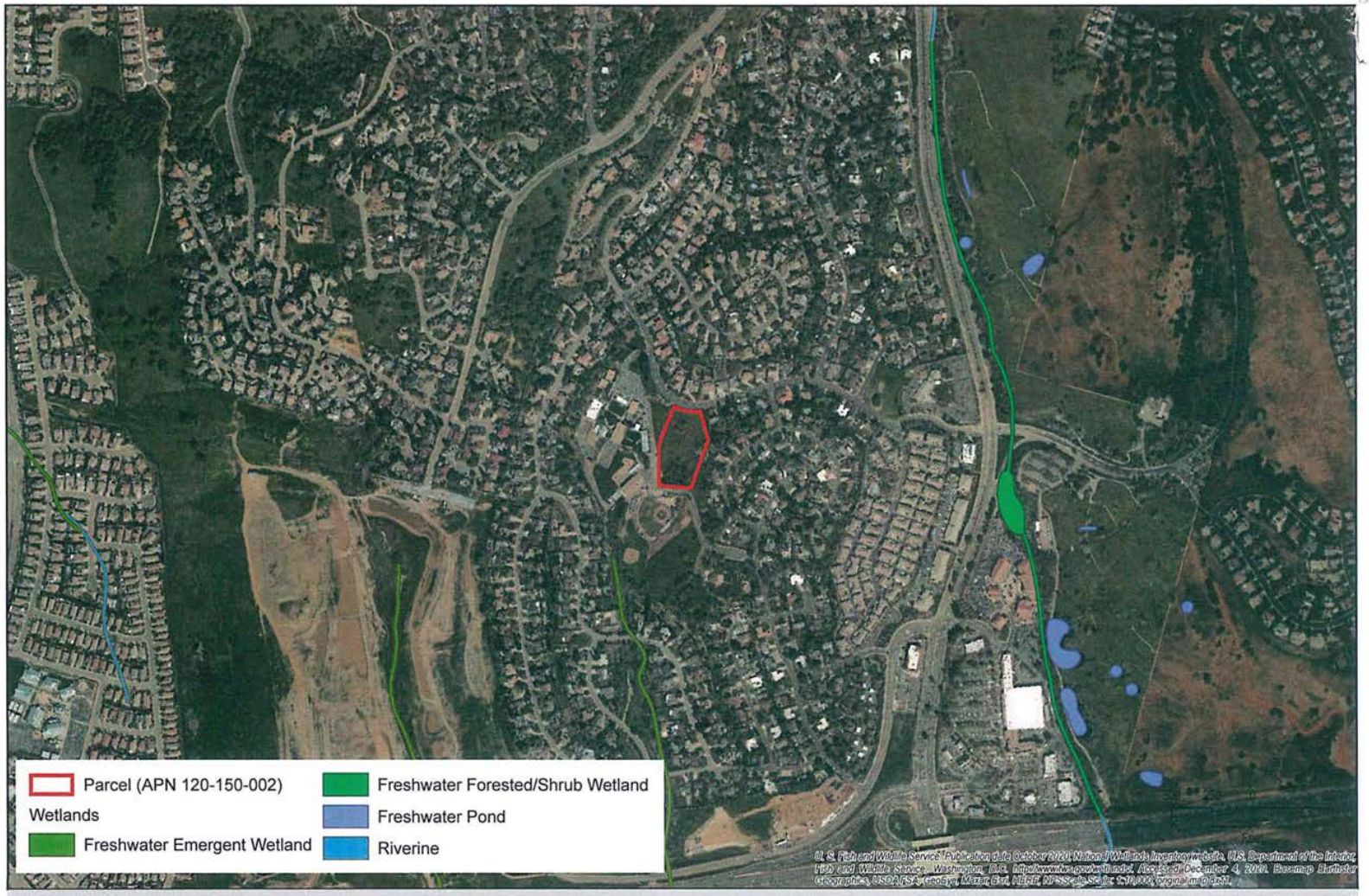


FIGURE 2 - U.S. NATIONAL WETLANDS INVENTORY RECORDED WATERS/WETLANDS

3630 PARK DRIVE • EL DORADO COUNTY, CA

Date: March 02, 2021

the requirement for permits is delegated by the SWRCB to the nine regional boards. The Central Valley Regional Water Quality Control Board (CVRWQCB) is the appointed authority for Section 401 compliance in the project site. The SWRCB additionally requires additional Waste Discharge Requirements under Porter-Cologne to protect aquatic resources that are outside federal jurisdiction.

A request for certification or waiver is submitted to the Regional Board at the same time an application is filed with the USACE. The regional board has 60 days to review the application and act on it. Because no USACE permit is valid under the CWA unless "certified" by the state, these boards may effectively veto or add conditions to any USACE permit.

2.2 State Laws & Regulations

California Endangered Species Act (CESA)

The CESA was enacted in 1984. Under the CESA, the California Fish and Wildlife Commission (CFWC) has the responsibility for maintaining a list of threatened and endangered species, while The California Department of Fish & Wildlife (CDFW) is responsible for enforcement. CDFW also maintains lists of species of special concern. A Species of Special Concern (CSC) is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role;
- is listed as federally-, but not state-, threatened or endangered;
- meets the state definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

CESA prohibits the take of California listed animals and plants in most cases, but CDFW may issue incidental take permits under special conditions. Pursuant to the requirements of CESA, a State agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present in the site and determine whether the project would have a potentially significant impact on such species. In addition, CDFW encourages consultation on any project that could affect a listed or candidate species.

Fish and Game Code – Sections 1600-1616

Under Sections 1600-1616 of the California Fish and Game Code, the CDFW regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFW's jurisdiction are defined in the code as the *"... bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit ..."* (Section 1601). In practice, the CDFW usually marks its jurisdictional limit at the top of the stream or bank, or at the outer edge of the riparian vegetation, whichever is wider.

The CDFW also derives its authority to oversee activities that affect wetlands from state legislation. This authority includes Sections 1600-1616 of the Fish and Game Code (lake and streambed alteration agreements), Section 30411 of the California Coastal Act (CDFW becomes the lead agency for the study and identification of degraded wetlands within the Coastal Zone), CESA (protection of state listed species and their habitats - which could include wetlands), and the Keene-Nejedly California Wetlands Preservation Act of 1976 (states a need for an affirmative and sustained public policy program directed at wetlands preservation, restoration, and enhancement). In general, the CDFW asserts authority over wetlands within the state either through review and comment on USACE Section 404 permits, review and comment on CEQA documents, preservation of state listed species, or through stream and lakebed alteration agreements.

Fish and Game Code – Sections 1900-1913

These Sections embody the Native Plant Protection Act, which is intended to preserve, protect, and enhance endangered or rare native plants in the state. The act directs CDFW to establish criteria for determining what native plants are rare or endangered. Under Section 1901, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is rare when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens. Under the act, CDFW may adopt regulations governing the taking, possessing, propagation or sale of any endangered or rare native plant.

Section 1913 of that Act allows landowners in conducting certain activities to take actions that will destroy rare or endangered plants, provided that, where the Department of Fish and Game (DFG) has previously notified the owner "that rare or endangered plants are growing" on his or her land, the owner notifies CDFW "at least 10 days in advance of changing the land" to allow the state agency to come and "salvage" the plants. Subject to this requirement, section 1913 states that "the presence of rare or endangered plants" on a property shall not restrict (1) timber operations conducted pursuant to an approved timber harvest plan, (2) "required mining assessment work pursuant to federal or state mining laws," (3) "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, other right-of-way by the owner of the land or his agent," or (4) "the performance by a public agency or publicly or privately owned public utility of its obligation to provide service to the public."

Fish and Game Code – Sections 3503, 3503.5, 3513

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Fish and Game Code Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act.

Fish and Game Code – Sections 3511, 4700, 5050, and 5515

Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code designate certain species as "fully protected." Fully protected species, or parts thereof, may not be taken or possessed at any time, and no provision of the CFWC or any other law may be construed to authorize the issuance of permits of licenses to take any fully protected species. No such permits or licenses heretofore

issued may have any force or effect for any such purpose, except that the CFGC may authorize the collecting of such species for necessary scientific research. Legally imported and fully protected species or parts thereof ay be possessed under a permit issued by CDFW. Porter-Cologne Water Quality Control Act

California Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act established the SWRCB and each Regional Water Quality Control Board (RWQCB) as the principal state agencies for coordinating and controlling water quality in California. Responsibility for the protection of water quality in California rests with the SWRCB and nine RWQCBs. The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. Pursuant to the Act, each of California's nine regional boards must prepare and periodically update basin plans that set forth water quality standards for surface and groundwater, as well as actions to control point and non-point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to achieve wetlands protection through enforcement of water quality standards.

The Porter-Cologne Water Quality Control Act provides that "All discharges of waste into the waters of the State are privileges, not rights." Waters of the State are defined in Section 13050(e) of the Porter-Cologne Water Quality Control Act as "...any surface water or groundwater, including saline waters, within the boundaries of the state." All dischargers are subject to regulation under the Porter-Cologne Water Quality Control Act, including both point and nonpoint source dischargers. The RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction, which would include the project site. As noted above, the RWQCB is the appointed authority for Section 401 compliance in the project site. If the USACE determines that they have no regulatory authority on the project site and they also determine that a CWA Section 404 permit is not required, the project proponent could still be responsible for obtaining the appropriate CWA Section 401 permit or waiver from RWQCB for impacts to Waters of the State.

In 2019, the State Water Resource Control Board extended their water quality certification to include waste discharge requirements as adopted in the "State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State," which include elements of the Clean Water Act. These procedures also lay out the steps for the submission, review, and approval of applications for activities related to these activities.

California Environmental Quality Act

Although specific federal and state statutes protect threatened and endangered species, California Environmental Quality Act (CEQA) Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals and allows a public agency to undertake a review to determine if a significant effect on a species that has not yet been listed by either the USFWS or CDFW (i.e., species of concern) would occur. Whether a species is rare, threatened, or endangered can be legally significant because, under CEQA Guidelines Section 15065, an agency must find an impact to be significant if a project would "substantially reduce

the number or restrict the range of an endangered, rare, or threatened species." Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

2.3 Local Laws and Regulations

El Dorado County Setbacks

The County of El Dorado establishes standards for avoidances and minimization of impacts to wetlands and sensitive riparian habitat through General Plan Policies 7.3.3.4, 7.4.2.5, and 7.4.2.8. Section 7.3.3.4 states *"Until standards for buffers and special setbacks are established in the Zoning Ordinance, the County shall apply a minimum setback of 100 feet from all perennial streams, rivers, lakes and 50 feet from intermittent."* However, section 130.30.050 G of the El Dorado County Zoning Code states that *"single family dwelling and accessory structures shall be set back a distance of 25 feet from any intermittent stream, wetland, or sensitive riparian habitat, or a distance of 50 feet from any perennial lake, river, or stream."* This, then, would appear to supersede Section 7.3.3.4 of the General Plan, as it was issued subsequent to this document.

Setbacks from wetlands and sensitive riparian habitat in Section 130.30.030 G of the El Dorado County Zoning Code, however, *"do not apply to culverted creeks and engineered systems developed or approved by the County or other agency for the collection of storm or floodwaters."* The wetlands on this parcel are directly due to artificial drainage directed onto the site from neighboring parcels. Consequently, the need for any setbacks from these features is questionable.

3.0 Methodology

Prior to our field surveys, we queried the U.S. Fish & Wildlife Service's *National Wetland Inventory* (NWI; Figure 3); EcoAtlas' *California Aquatic Resources Inventory* (CARI; Figure 3); NRCS Web Soil Survey (Appendix A; Figure 5); and Hydric Soil Map Units for Los Angeles County, California to determine whether any wetlands or "other waters of the U.S.," "waters of the State," or soils compatible with wetland resources had been historically recorded on or around, or are likely to occur on the site, as defined by the 1987 U.S. Army Corps of Engineers (USACE, 1987) *Wetlands Delineation Manual and its 2008 Arid West Regional Supplement.* We also assessed potentially federal and/or state jurisdictional wetlands and "other waters of the U.S." in the Study Area in accordance with the 2014 *Corps Field Guide to the Identification of the Ordinary High Water Mark (OHWM) for Non-perennial Streams in the Arid West Region of the Western United States.*

To provide a vision of what potential biological resources may be present on the property, we queried the following online sources for information on the Study Area's potential plant and wildlife communities.

1. California Department of Fish & Wildlife's Natural Diversity Database (RareFind 5) for observations of special status plant and animal species within five miles of the Study Area (Figure 6; Appendix D),
2. U.S. Fish and Wildlife Service's *iPac* Database of federally-listed special status species in Sacramento County (Appendix E),

3. The California Native Plant Society's Inventory of Rare & Endangered Plants in California

Dr. Barnett surveyed the Study Area on March 1, 2021 for special status plant and wildlife species and their habitats that could be supported onsite. The survey included recorded observations of: (1) dominant plant communities, (2) plant and animal species (with emphasis on rare and endangered species) observed or their sign (nests, burrows, tracks, scat) and (3) the suitability of onsite habitats and those immediately adjoining the Study Area to support special status plant or animal species. We used generalized plant community classification schemes to classify onsite habitat types (Sawyer, Keeler-Wolf, and Evens, 2009).

Dr. Barnett also examined the eastern drainage to confirm that its course and size had not changed over the 50+ years since its establishment and characterized the riparian woodlands surrounding this feature.

4.0 Existing Conditions

4.1 Soils

According to Natural Resource Conservation Service (NRCS), the Study Area is comprised of only one soil type, Auburn very rocky silt loam, two to 30 percent slopes (Figure 5 and Appendix A).

Auburn very rocky silt loam, two to 30 percent slopes. This type of soil consists is derived from residuum weathered from basic igneous rock or metamorphic rock. Silt loams make up the first layer from the surface down to 14 inches, underlaid by up to four inches of unweathered bedrock. Rock outcrop makes up 15 percent of this soil. Found on hills at elevations between 120-3000 feet, Auburn very rocky silt loams are well-drained and have a medium run-off class. The depth to the water table is typically more than 80 inches, and the capacity to transmit water is very low (0.00 inches/hour) to moderately low (0.06 inches/hour).

While serpentitic soils were not observed on the property at the time of the field survey, there is a large swath of these soils running parallel to the site's western border across Redwood road, within 10-20 feet of the site.

4.2 Hydrology

The project site sits at an elevation of roughly Upper Consumes watershed (HUC 18040013) at approximately 680 to 731 feet above mean sea level. Water enters the property primarily from rainfall or from runoff from adjacent properties. Drainage water was directed onto the site sometime in the 1960s, via two outfall pipes, when the area was first developed for residential use. One culvert enters the site from the northeast corner of the parcel and the other 140' to the south along the eastern property line. Over the ensuring 50+ years, the drainage water has created/sustained a distinct riparian woodland along the majority of the flowline.

4.3 Wetlands and "Other Waters of the U.S." and "Waters of the State"

An approximately 0.23-acre historic drainage runs in a N-S direction for approximately 400 feet, from a culvert on the property's NE corner, through the entire eastern half of the Study Area (see Table 1 and Figure 5), before

P21-0010 KUKHARETS PARCEL MAP
EXHIBIT L - WETLAND AND BIOLOGICAL RESOURCES ASSESSMENT
WITH SOIL RESOURCE REPORT

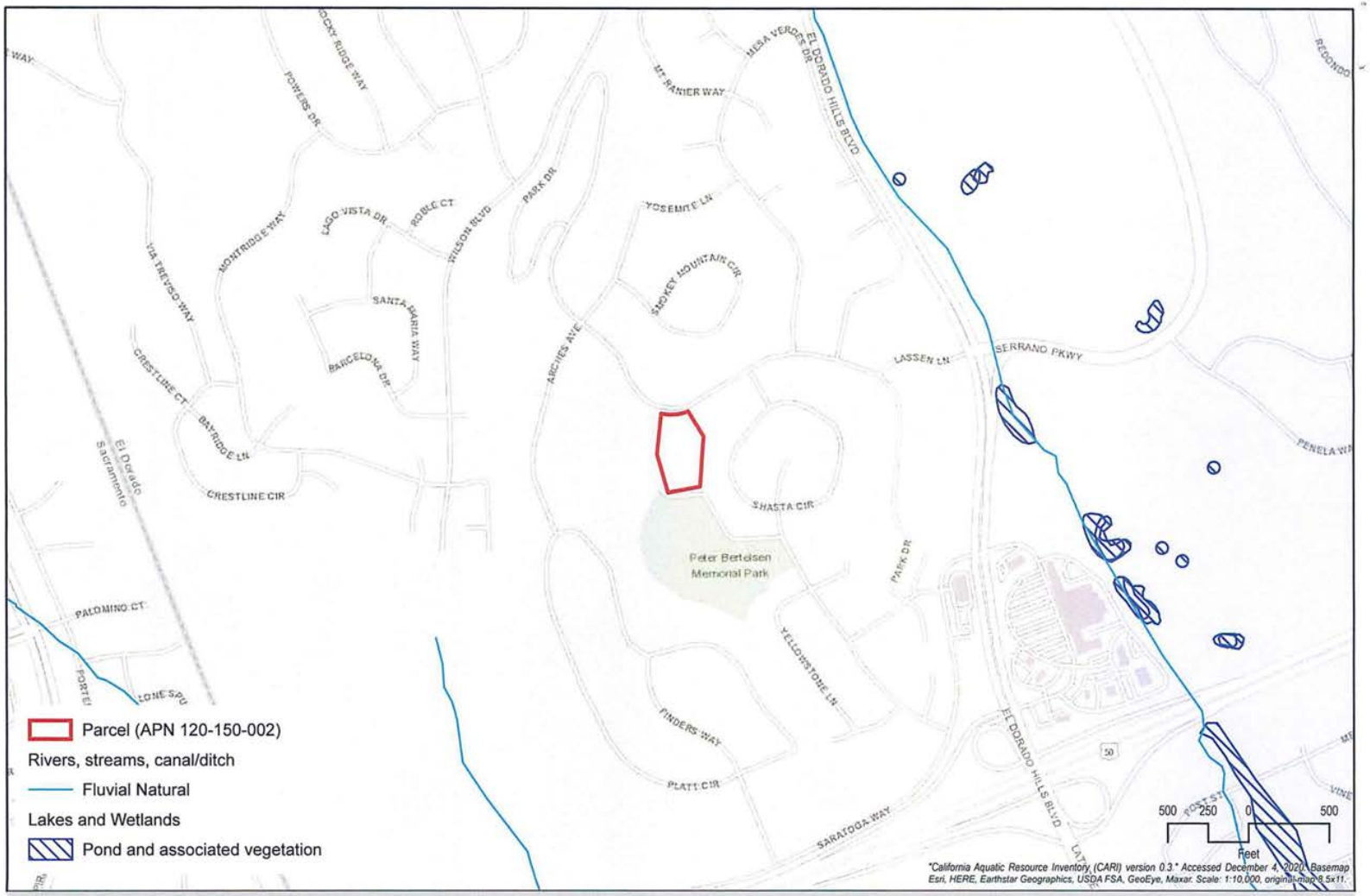


FIGURE 3 - CALIFORNIA AQUATIC RESOURCES INVENTORY RECORDED WATERS/WETLANDS

3630 PARK DRIVE • EL DORADO COUNTY, CA

Date: March 02, 2021

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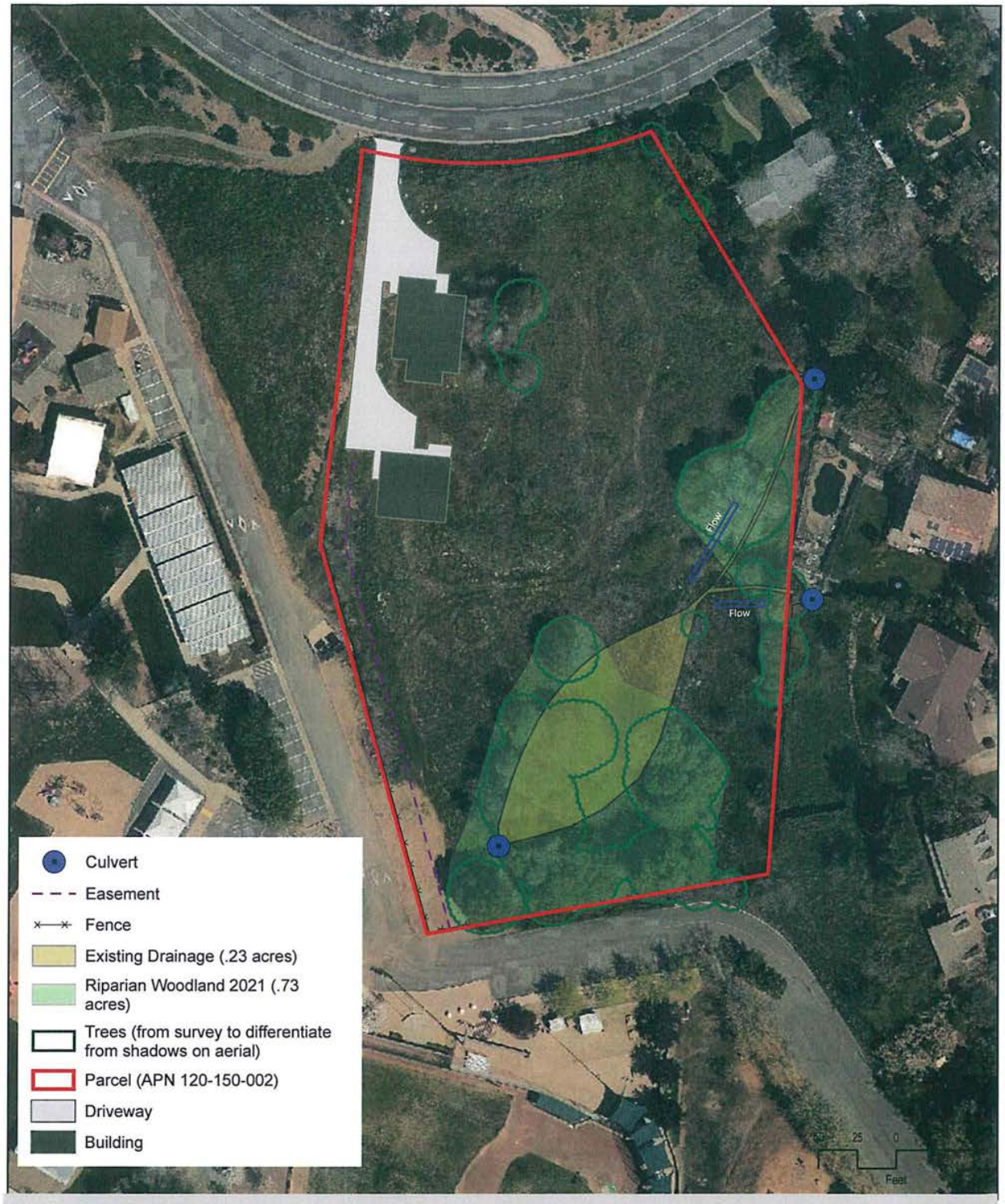
P21-0010 KUKHARETS PARCEL MAP
EXHIBIT L - WETLAND AND BIOLOGICAL RESOURCES ASSESSMENT
WITH SOIL RESOURCE REPORT

FIGURE 4 - NRCS PROJECT AREA MAPPED SOILS

3630 PARK DRIVE • EL DORADO COUNTY, CA

Date: March 02, 2021

P21-0010 KUKHARETS PARCEL MAP
EXHIBIT L - WETLAND AND BIOLOGICAL RESOURCES ASSESSMENT WITH SOIL RESOURCE REPORT



exiting the parcel through a culvert at the parcel's SW corner. Another drainage enters the parcel through a culvert on the property's eastern boundary and joins with the N-S drainage about ½-way along its course.

This N-S drainage supports a healthy riparian woodland in the northeastern and southern portions of the property and an open, wet, grassland sump where the eastern drainage joins in the center of the site. The drainage did contain some "flowing" (~1cfs) water at the time of the field survey.

Table 1: Mapped Wetlands by Type

Name	Area (SF)	Area (acres)
Seasonal Wetland	10019	0.23
Total	*10019*	*0.23*

4.4 Vegetation Communities

The approximately 400'-long (0.23-acre) N-S drainage through the parcel's eastern side supports two relatively healthy stands of oak trees in the northeastern (0.17-acre) and southern (0.5-acre) portions of the parcel. The 54 overstory trees in these stands consist of 44 interior live oaks (*Quercus wislizenii*) and 10 blue oaks (*Q. douglasii*). Only one of the live oaks at the southern end of the parcel could potentially qualify as a heritage tree (54" DBH), but is experiencing severe basal decay and inclusion and is generally in very poor health. The predominant shrub layer under these oak trees is Himalayan blackberry (*Rubus armeniacus*), and there was no detectable herbaceous layer in these woodlands at the time of the Barnett Environmental survey.

4.5 Wildlife

Oak groves provide food, cover, reproductive sites and corridors for numerous wildlife species, including tree frogs, gopher snakes, acorn woodpeckers, oak titmice, white-breasted nuthatches, California quail, and western gray squirrels. We observed the following wildlife species (or sign of their presence) during our field visit, including: western fence lizard (*Sceloporus occidentalis*), black-tailed jackrabbit (*Lepus californicus*), mockingbird (*Mimus polyglottis*), scrub jay (*Aphelocoma coerulescens*), house finch (*Carpodacus mexicanus*), white-crowned sparrow (*Zonotrichia leucophrys*), American goldfinch (*Carduelis tristis*), dark-eyed junco (*Junco hyemalis*), chipping sparrow (*Spizella passerina*), spotted towhee (*Pipilo erythrophthalmus*), and mourning dove (*Zenaida macroura*).

5.0 Special Status Species

Special status species are those that fall into one or more of the following categories:

- Listed as endangered or threatened under the Federal Endangered Species Act (FESA) (50 CFR 17.11/17.12) (or formally proposed for listing) (64 FR 205, October 25, 1999; 57533-57547),
- Listed as endangered or threatened under the California Endangered Species Act (CESA) (or proposed for listing) (14 California Code of Regulations [CCR] 670.5),
- Designated as rare, protected, or fully protected pursuant to California Fish and Game Code (FGC, Section

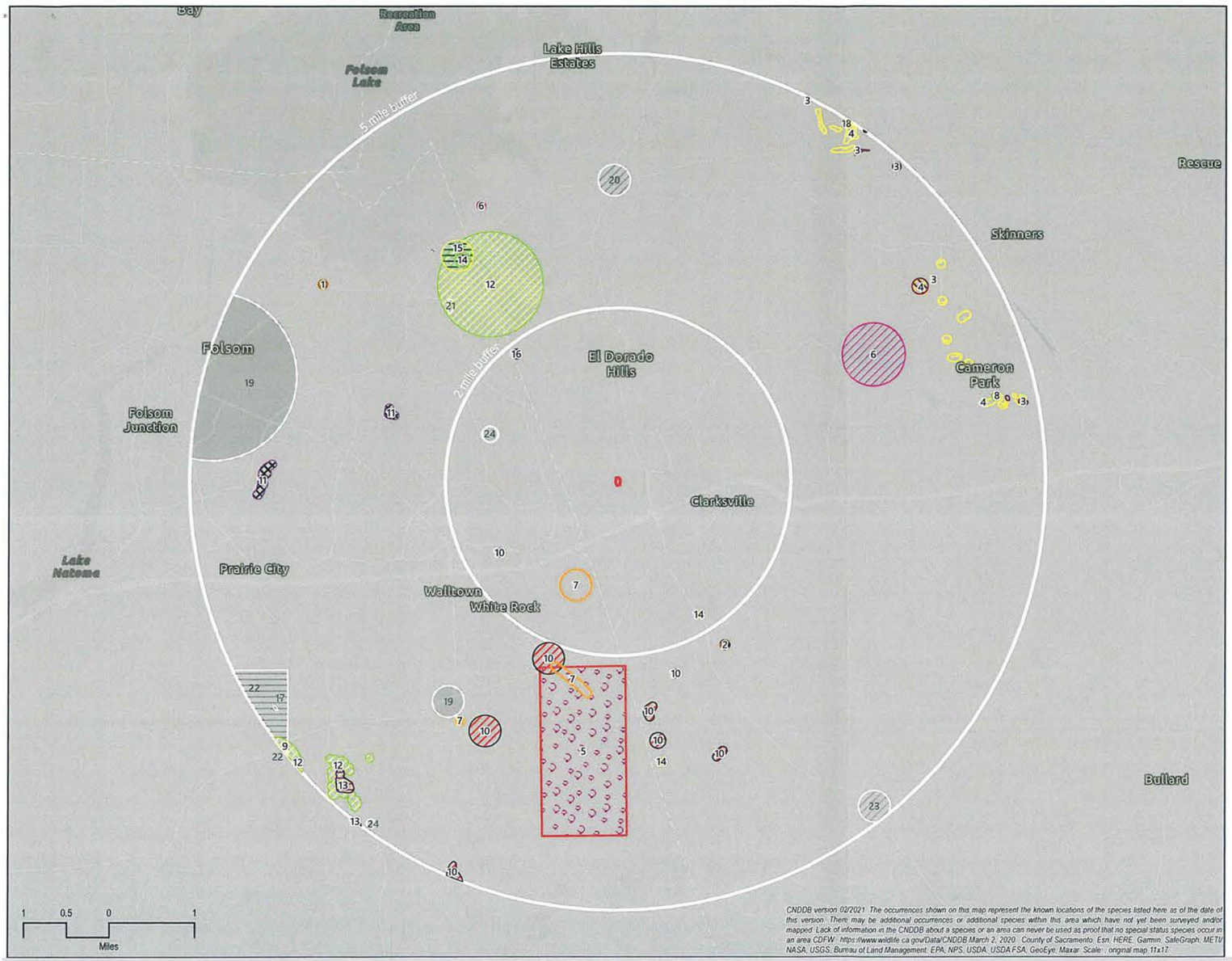
3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

- Designated a Species of Concern by the California Department of Fish and Game,
- Defined as rare or endangered under the California Environmental Quality Act (CEQA), or
- Occurring on List 1 or 2 maintained by the California Native Plant Society.

We reviewed California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) Inventory, and U.S. Fish & Wildlife Service (FWS) iPAC database for special status species potentially occurring within the project vicinity (i.e. five-mile radius). While there may be a number of plant and animal species occurring within five miles of the Study Area (Figure 6), we can refine the list of those species with any real potential of occurring in the Study Area by filtering our query for relevant onsite habitats, locations, and elevations. A summary of the results of this query can be found in Table 1. Species that were evaluated but have no potential for occurrence are listed in Appendix D.

5.1 Critical Habitat for Special Status Species

The Federal Endangered Species Act (FESA) requires the federal government to designate critical habitat for any listed species. Critical habitat is defined as: (1) specific areas within the geographical area occupied by the species at the time of listing, if they contain physical or biological features essential to conservation, and those features may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation. There is no designated critical habitat within the Study Area.



- Parcel (APN 120-150-002)
- American badger, 1
- California black rail, 2
- El Dorado County mule ears, 3
- Layne's ragwort, 4
- Sanford's arrowhead, 5
- bald eagle, 6
- burrowing owl, 7
- coast horned lizard, 8
- legenere, 9
- tricolored blackbird, 10
- valley elderberry longhorn beetle, 11
- vernal pool fairy shrimp, 12
- vernal pool tadpole shrimp, 13
- western pond turtle, 14
- western spadefoot, 15
- white-tailed kite, 16

CNDDB Occurrences over 30 years ago

- Boggs Lake hedge-hyssop, 17
- Red Hills soaproot, 18
- Swainson's hawk, 19
- foothill yellow-legged frog, 20
- tricolored blackbird, 21
- vernal pool tadpole shrimp, 22
- western pond turtle, 23
- white-tailed kite, 24

FIGURE 6 - CALIFORNIA NATIONAL DIVERSITY DATABASE (CNDDB) RECORDED SPECIES OBSERVATION

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Table 2: Special Status Species with Potential to Occur in the Study Area

Birds						
Species	**Federal**	**State**	**CNPS**	**Habitat**	**Potential for Occurrence**	**Rationale for Assessing Potential**
white-tailed kite *Elanus leucurus*		FP		Found in a wide variety of open habitats in North America, including open oak grassland, desert grassland, farm country, marshes. The main requirements seem to be trees for perching and nesting, and open ground with high populations of rodents.	Low	There is marginal foraging habitat for this species. There are three CNDDB reported occurrences within five miles of the Study Area. The closest was 1.86 miles to the northwest, and the most recent was in 2008. There was no sign of this species during the Barnett Environmental site survey in March 2021.
grasshopper sparrow *Ammodramus savannarum*		SSC		Grasshopper sparrows utilize prairie and cultivated grasslands, weedy fallow fields and alfalfa fields.	Low	There is marginal habitat on site for this species. There have been no CNDDB reported occurrences within five miles of the Study Area. There was no sign of this species during the Barnett Environmental site survey in March 2021.
loggerhead shrike (mainland) *Lanius ludovicianus*		SSC		In California, loggerhead shrike breed primarily in shrublands or open woodlands with a fair amount of grass cover and areas of bare ground. They require tall shrubs, trees, fences, or powerlines for hunting perches and pair maintenance.	Low	The open field and adjacent trees provide marginal foraging habitat on site for this species. However, there have been no CNDDB reported occurrences within five miles of the Study Area. In addition, there was no sign of this species during the Barnett Environmental site survey in March 2021.
yellow warbler *Dendroica petechia*		SSC		Yellow warblers prefer moist habitats because they offer a large variety of insects. These habitats include the edges of marshes and swamps, willow-lined streams, and leafy bogs. Yellow warblers also inhabit dry areas such as thickets, orchards, farmlands, forest edges, and suburban yards and gardens.	Low	There is marginal foraging but not breeding habitat on site for this species. There are no CNDDB reported occurrences within five miles of the Study Area. There was no sign of this species during the Barnett Environmental site survey in March 2021.
yellow-breasted chat *Icteria virens*		SSC		This species is a skulker, favoring low, impenetrable vegetation along forest edges and in riparian areas, powerline cuts, and old fields.	Low	There is marginal habitat on site for this species within the riparian area on the site. There are no CNDDB reported occurrences within five miles of the Study Area. There was no sign of this species during the Barnett Environmental site survey in March 2021.

Birds

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential
yellow-headed Blackbird *Xanthocephalus xanthocephalus*		SSC		This species always build their nests over water/ mainly marshes. They form large flocks and forage in agricultural fields where they feed on rice and weed seeds.	Very low	Due to the ongoing disturbance, there is only marginal foraging habitat on site for this species. There are no CNDDB reported occurrences within five miles of the Study Area. There was no sign of this species during the Barnett Environmental site survey in March 2021.

Plants

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential
Layne's ragwort *Packera layneae*	FT	Rare	1B.2	This species grows in cismontane chaparral and oak woodlands habitats of the California Interior chaparral and woodlands ecoregion, often on serpentine soils and weathered gabbro.	Low	There are serpentine soils within 15 feet of the site, providing the possibility for a suitable habitat. There are three reported CNDDB occurrences within five miles of the Study Area. The closest was four miles to the northeast, the most recent in 2017. Barnett Environmental saw no sign of this species during its March 2021 field survey.
El Dorado County mule ears *Wyethia reticulata*			1B.2	El Dorado County mule ears can be found in chapparal, foothill woodland, and yellow pine forest communities	Very low	There is marginal suitable habitat on site. There have been five reported CNDDB occurrences within five miles of the Study Area. The closest was four miles to the southwest, and the most recent was in 2007. There were no observances of this species during the Barnett Environemental March 2021 site survey.
Red Hills soaproot *Chlorogalum grandiflorum*			1B.2	This species endemic to the Sierra Nevada foothills, such as the Red Hills (Tuolumne County), of California, where it grows in chaparral, woodland, and forest communities. It sometimes grows in ultramafic soils.	Very low	There is very marginal habitat for this species on site. There has been only one reported CNDDB occurrences within five miles of the Study Area. It was 4.9 miles to the southeast over 30 years ago. Barnett Environmental saw no sign of this species during its March 2021 survey.
Sanford's arrowhead *Sagittaria sanfordii*			1B.2	Sanford's arrowhead occurs in wetlands, shallow freshwater marshes, and wetland -riparian areas. It has mostly disappeared from the Central Valley and is not present in southern California.	Very low	There is marginal habitat on site for this species in the drainageway in the southern portion of the Study Area. The is only one CNDDB reported occurrences within five miles of the Study Area. It was encountered 2.15 to

Plants						
Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential
el dorado bedstraw *Galium californicum H. & A. ssp. sierrae*			1B.2	This species grows in gabbro soils, and in chaparral, cistmontane woodland and kower montane coniferous forest	Very low	There is marginal habitat on site for this species. There are no CNDDB reported occurrences within five miles of the Study Area. There was no sign of this species during the Barnett Environmental site survey in March 2021.
Stebbins' morning-glory *Calystegia stebbinsii*	FE		1B.1	This species grows on the gabbro soil as well as the similar serpentine soil that can also be found on the Pine Hill intrusion. The plant does not tolerate shade, and when the brush around it grows too high and shades it out, it does not survive.	Very low	The Study Area is within the Pine Hill intrusion in El Dorado County, and the lack of tall vegetation on the property prevents shade from precluding this species. However, there have been no reported CNDDB occurrences within five miles of the Study Area, and there was no sign of this species during the Barnett Environmental March 2021 site survey.

Amphibians						
Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential
western spadefoot *Spea hammondii*		SSC		The western spadefoot is predominantly a grassland species, although some populations can be found in pine-oak woodlands of the valley foothills. Western spadefoots require shallow, temporary pools or streams during the breeding season.	Low	The drainage in the Study Area provides marginal habitat on site for this species. There is only one CNDDB reported occurrence within five miles of the Study Area. It was encountered 3.03 miles to the northwest in 1999. There was no sign of this species during the Barnett Environmental site survey in March 2021.
foothill yellow-legged frog *Rana boylii*		CE		The foothill yellow-legged frog is found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types	Very low	While normally occurring in streams and rivers with rocky substrate and on open, sunny streambanks in forests, chaparral, and woodlands, which do not occur here, they are sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools, habitat that does occur in the Study Area.

Special Status Species Codes:

FE = Federally listed as Endangered
FT = Federal listed as Threatened
CE = State listed as Endangered
CT = State listed as Threatened
Rare = State listed as Rare
FP = State, Fully Protected
SSC = State Species of Special Concern

1B.1 = Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California
1B.2 = Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California
2B.1 = Plants rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California
2B.2 = Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California

Potential for Occurrence Codes:

None: No suitable habitat for the special status species within the Study Area

Very Low: Either the special status species is known to occur within five miles and there is marginal suitable habitat exists in the Study Area, or the Study Area provides suitable habitat, but the species is not known to occur within a five-mile radius.

Low: Marginally suitable habitat exists in the Study Area and the special status species occurs within 5 miles but surrounding urban land use conditions and regularity of human activity make it unlikely that the species occurs in the Study Area.

Moderate: The special status species is known to occur within a five-mile radius and the Study Area contains suitable habitat, however surrounding urban land use conditions and onsite disturbance reduce the likelihood of occurrence.

High: The Study Area provides suitable habitat and there is either documentation of species occurrence within a five-mile radius or evidence gathered by a professional surveyor during an onsite field assessment.

Present: Species known to occur within the Study Area based on record search and/or evidence collect during onsite field surveys.

5.2 Special Status Plants and Wildlife

There are six special status plant species that have any potential to occur onsite.

1. **El Dorado county mule ears** (*Wyethia reticulata*) – This small perennial herb, listed as rare in California (1B.1), is a dicot producing a hairy, glandular, sticky-textured stem growing from 15.7 to 27.5 inches high, sometimes reaching three feet in height. The leaves have triangular or lance-shaped blades up to 15 centimeters long. The inflorescence is a usually solitary sunflower-like head with up to 21 yellow ray florets measuring up to 2. 5 centimeters long. At the center are yellow disc florets. The flowers are pollinated by native bees. The fruit is an achene a few millimeters long which usually lacks a pappus. El Dorado County mule ears can be found in chapparal, foothill woodland, and yellow pine forest communities. There have been five reported CNDDB occurrences within five miles of the Study Area. The closest was four miles to the southwest, and the most recent was in 2007. No El Dorado county mule ears were observed during the Barnett Environmental March 2021 field survey.
2. **El Dorado bedstraw** (*Galium californicum H. & A. ssp. sierrae*) – This herb is federally listed as endangered and is classified as a rare 1B.2 plant in California. This species is a member of the coffee (Rubiaceae) family. It is a soft hairy perennial with pale yellow flowers, which are clustered at the tips of stems. Minute hairs cover the fleshy fruit. The blooming period is between May and June. This species grows in gabbro soils, chaparral, cistmontane woodland and lower montane coniferous forest. There were no CNDDB reported occurrences within five miles of the Study Area. No El Dorado bedstraw were observed during the March 2021 field survey.
3. **Layne's ragwort** (*Packera layneae*) – Listed both as federally threatened and a California rare plant species (1B.2), this plant is perennial herb in the aster family. is a perennial herb producing an erect stem or a small cluster of stems up to 27.5 inches tall. The thick leaves have wide lance-shaped blades a few centimeters long which are borne on long petioles; smaller leaves occur farther up the stems. The inflorescence bears several flower heads containing many yellow disc florets and several narrow yellow ray florets. This species grows in cismontane chaparral and oak woodlands habitats of the California Interior chaparral and woodlands ecoregion, often on serpentine soils and weathered. There are three reported CNDDB occurrences within five miles of the Study Area. No Layne's ragworts were observed during the Barnett Environmental March 2021 field survey.
4. **Stebbins' morning glory** (*Callestegia stebbinsii*) – Stebbins' morning glory is classified as a 1B.1 rare plant in California and is also listed as federally endangered. This species is a low-growing perennial herb with white flowers that bloom from May to June. This species grows on the gabbro soil as well as the similar serpentine soil that can also be found on the Pine Hill intrusion. The plant does not tolerate shade, and when the brush around it grows too high and shades it out, it does not survive. Historically, Stebbins' morning-glory has only been found in two areas of the northern California foothills in El Dorado and Nevada counties. The Study Area is within the Pine Hill intrusion in El Dorado County, and the lack of tall vegetation on the property prevents shade from precluding this species. There have been no CNDDB reported occurrences within five miles of the Study Area. No Stebbins' morning glory were observed during the Barnett Environmental March 2021 field survey.
5. **Sanford's Arrowhead** (Sagittaria sanfordii) – Classified as a 1.B2 rare plants species in California, Sanford's Arrowheads is a perennial rhizomatous herb that blooms May through October. It grows up to 51 inches tall, and the leaves are very often submerged, variable in shape, usually long and strap-shaped or narrowly

lanceolate, growing up to 10 inches long from the underwater stem. The plant is monoecious, with individuals bearing both male and female flowers. The flower is up to 1.4 inches wide with white petals. The species grows in wetlands, shallow freshwater marsh, wetland -riparian. There is marginal habitat on site for this species in the drainageway in the southern portion of the Study Area. The is only one CNDDB reported occurrence within five miles of the Study Area. It was encountered 2.15 to the south in 2005. No Sanford's arrowheads were observed during the Barnett Environmental March 2021 field survey.

6. **Red hills soaproot** (*Chlorogalum grandiflorum*) – The red hills soaproot, a perennial bulbiferous herb, is classified as a 1B.2 rare plant species in California. The basal leaves have very wavy edges. The inflorescence may be a three feet long and is composed of many flowers, each with six tepals which are white with a purple midvein. The tepals are narrow, up to 1 ½" inch long, and curl back as they spread open. Each ephemeral flower opens in the evening and closes by the following morning. There are six stamens tipped with yellow anthers. The species is found on serpentitic and gabbrotic soils in chapparal, cismontane, and lower montane coniferous forest. There is very marginal habitat for this species on site. There has been only one reported CNDDB occurrence within five miles of the Study Area. It was 4.9 miles to the south over 30 years in the past. No red hills soaproots were observed during the Barnett Environmental March 2021 field survey.

5.3 Special Status Wildlife

California Listed Species

There is only one California threatened or endangered species that has the potential to occur within the Study Area (Table 2):

1. **Foothill yellow-legged frog** (*Rana boylii*) –This California endangered species is a small-sized frog, 1.5 to 3.23 inches, in the family Ranidae. Its coloring is gray, brownish, or olive, and the undersides of the legs and belly are yellow. It is usually active in daylight. The foothill yellow-legged frog is found near or in rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chapparal, and wet meadow types. There has been only one reported CNDDB occurrence within five miles of the Study Area. It was 3.3 miles to the north in 1970. No yellow-legged frogs were observed during the Barnett Environmental March 2021 field survey.

California Species of Special Concern (CEQA)

Six state species of special concern have the potential to occur within the Study Area (Table 2):

1. **Western spadefoot toad** (*Anniella pulchra*) – A amphibian species in the Scaphiopodidae family, this toad is listed as a species of special concern in California. It is a medium-sized toad with a head as wide as its body. Forelimbs and hindlimbs are short and stout, and the feet have well-developed webbing between the toes. The dorsal color ranges from light green to gray with scattered darker splotches. The western spadefoot is predominantly a grassland species, although some populations can be found in pine-oak woodlands of the valley foothills. Western spadefoots require shallow, temporary pools or streams during the breeding season. There has been one reported CNDDB occurrences within five miles of the Study Area 1.8 miles to the northwest in 2008. No western spadefoots were observed within the Study Area during Barnett Environmental's March 2021 field surveys.

2. **Yellow-breasted chat** (*Icteria virens*) – The yellow-breasted chat is a large songbird found in North America and is the only member of the family Icteriidae. Chats are olive-green with a bright yellow breast and bold face markings. The fact is gray, with a white eyerling that connect to the bills, forming spectacles. The lower belly is white. It breeds from Southern British Colombia to southern Saskatchewan and North Dakota south to south-central Baja California and west Texas. In California, it occurs as a migrant and summer resident primarily from late March to late September. For habitat, this species favors low, impenetrable vegetation along forest edges and in riparian areas, powerline cuts, and old fields. There have been no reported CNDDB occurrences within a five-mile radius. No yellow-breasted chats were observed within the Study Area during Barnett Environmental's March 2021 field survey.
3. **Yellow warbler** (*Dendroica petechia*). The yellow warbler, a species of concern in California, are uniformly yellow birds. They measure between 4.7 to 5.1 inches in length and have a wingspan of between 6.3 to 7.9 inches. Yellow warblers prefer moist habitats because they offer a large variety of insects. These habitats include the edges of marshes and swamps, willow-lined streams, and leafy bogs. Yellow warblers also inhabit dry areas such as thickets, orchards, farmlands, forest edges, and suburban yards and gardens. There have been no reported CNDDB occurrences within a five-mile radius, and no yellow warblers were observed within the Study Area during the Barnett Environmental March 2021 field survey.
4. **Loggerhead shrike** (*Lanius ludovicianus*). This species of special concern is a loggerhead passerine shrike in the family Liniidae. The loggerhead shrike is a chunky songbird averaging eight to ten inches in length and has a thick, hooked bill, and a blue-gray head and back. Their breasts and bellies are white and faintly barred, and their rumps are gray to white. A broad black mask extends across and slightly above the eyes approaching the bill. The bird's bill is black and hooked. The wings are dark with large white wing bars and white scapulars or feathers along the base of the upper wing. The tail is also dark with white along the edges. . Loggerhead shrikes inhabit open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. They frequent agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses and cemeteries. There have been no reported CNDDB occurrences within a five-mile radius, and no loggerhead shrike were observed within the Study Area during Barnett Environmental's Match 2021 field surveys.
5. **Yellow-headed blackbird** (*Xanthocephalus xanthocephalus*). The yellow-headed blackbird is a medium-sized blackbird and the only member of the genus Xanthocephalus. This species has a golden head, a white patch on black wings. The yellow-headed blackbird always builds their nests over water, principally marshes. They form large flocks and forage in agricultural fields, open country, plowed fields and feedlots where they feed on rice and weed seeds. There have been no reported CNDDB occurrences within a five-mile radius, and no yellow warblers were observed within the Study Area during Barnett Environmental's March 2021 field surveys.
6. **Grasshopper sparrow** (*Ammodramus savannarum*). The yellow warbler, a species of special concern in California, are uniformly yellow birds. They measure between 4.7 to 5.1 inches in length and have a wingspan of between 6.3 to 7.9 inches. Yellow warblers prefer moist habitats because they offer a large variety of insects. These habitats include the edges of marshes and swamps, willow-lined streams, and leafy bogs. Yellow warblers also inhabit dry areas such as thickets, orchards, farmlands, forest edges, and suburban yards and gardens. There have been no reported CNDDB occurrences within a five-mile radius, and no yellow warblers were observed within the Study Area during Barnett Environmental's March 2021 field surveys.

California Fully Protected Species

There is only one fully protected animal species that has the potential to occur within the Study Area (Table 2):

1. **White-tailed kite** (*Elanus leucurus*). The white-tailed kite, a small to medium sized species, is a fully protected species in California. It ranges in length between 12.6 to 15.0 inches in length, and 10.6 to 12.7 ounces in weight. This species is largely pale with a white tail, black shoulder patches, white heads, and red eyes. They hover above open areas while hunting small animals. During the nonbreeding season, it gathers in communal roosts. There have been no reported CNDDB occurrences within a five-mile radius, and no white-tailed kites were observed within the Study Area during the Barnett Environmental field survey.

6.0 Effects if Proposed Action

6.1 Effects of Proposed Action on Wetlands, "Other Waters of the U.S." or "Waters of the State"

Any work done within the drainage or the riparian area would require resource permitting with federal (U.S. Army Corps of Engineers) and state (Central Valley Regional Water Quality Control Board & California Department of Fish & Wildlife) agencies if this feature would be modified during project development. Consequently, should the parcel's eastern half be developed, we would strongly recommend communicating with these agencies to determine whether CA Dredge & Fill Procedures (aka Waste Discharge Requirement; WDR) permitting would be required and with the California Department of Fish & Wildlife to inquire about a possible 1602 Lake & Streambed Alteration Agreement. In addition, the Army Corps of Engineers Sacramento division should be contacted to determine which permit would be appropriate for the proposed work.

Any resource permitting with these agencies could also require mitigation of any wetland habitat loss through purchase of equivalent wetland credits at an approved mitigation bank within the project's service area.

6.2 Effects of Proposed Action on Rare Plants and Habitat

The following discussion of biological resources impacts, and mitigation measures is based on implementation of the proposed project in comparison to existing conditions.

Rare plants

There are only six plant species, El Dorado County mule ears, El Dorado neststraw, Layne's ragwort, Sanford's Arrowhead, Red hills soaproot, and Stebbin's morning glory, that have a potential (very low) to occur because the habitat is only marginally suitable for these species. Two of these species, Layne's ragwort and Stebbin's morning glory, are federally listed as endangered. None of these species were observed during Barnett's Environmental's March 2021 field survey.

In order to ensure there are no impacts to these species, the applicant should conduct a survey within the blooming period of these species to establish the presence or lack of these plants in the Study Area.

6.3 Effects of Proposed Action on Wildlife and Habitat

There is one California endangered species, one California fully protected species and six California species of special concern that have the potential to occur in the Study Area. However, there have been no occurrences reported within the Study Area itself. We would recommend pre-construction surveys within two weeks of planned construction to confirm the presence or absence of any of these species.

7.0 Conclusions

The Study Area contains approximately 0.23 acres of what could potentially be considered Waters of the U.S. and/or Waters of the State. Any activity causing direct adverse impacts to the drainage running through the eastern side of this parcel could therefore require resource permits from the Army Corps of Engineers, the Regional Water Quality Control Board (401; WDR), and California Department of Fish & Wildlife (1602). Until permits are issued from these regulatory bodies, we recommend avoiding development on the southeastern part of the parcel.

There are six special plant species with the potential to occur in the Study Area: the El Dorado County mule ears, Layne's ragwort, Sanford's arrowhead, red hills soaproot, and Stebbins' morning glory. In order to confirm presence or absence of these plant species, we recommend surveys for them during their respective blooming periods.

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Appendix A:
NRCS Soil Report

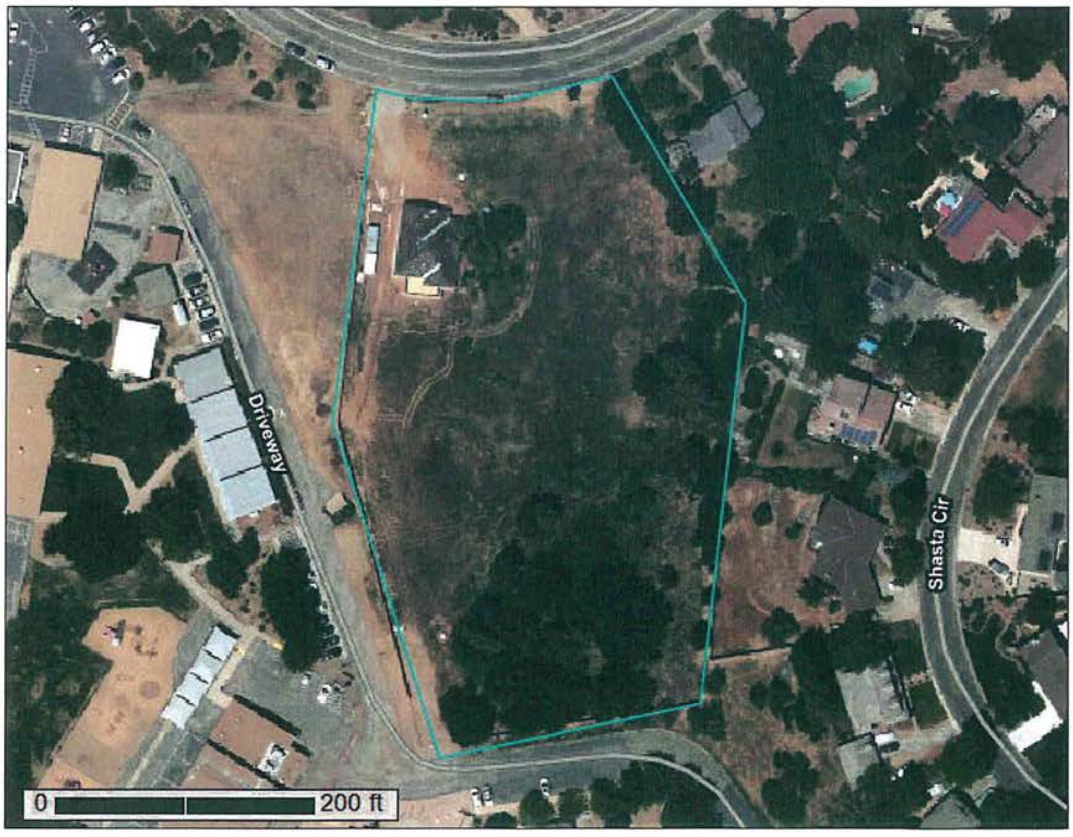
USDA United States Department of Agriculture

NRCS Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for El Dorado Area, California

3630 Park Drive, El Dorado Hills CA 95762



February 19, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

P21-0010 KUKHARETS PARCEL MAP
EXHIBIT L - WETLAND AND BIOLOGICAL RESOURCES ASSESSMENT
WITH SOIL RESOURCE REPORT

6

Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Dorado Area, California
Survey Area Data: Version 12, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 8, 2019—May 12, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AxD	Auburn very rocky silt loam, 2 to 30 percent slopes	3.0	100.0%
Totals for Area of Interest		**3.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series.* Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases.* Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas.* Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

El Dorado Area, California

AxD—Auburn very rocky silt loam, 2 to 30 percent slopes

Map Unit Setting

National map unit symbol: hhyr
Elevation: 120 to 3,000 feet
Mean annual precipitation: 20 to 40 inches
Mean annual air temperature: 55 to 63 degrees F
Frost-free period: 175 to 275 days
Farmland classification: Not prime farmland

Map Unit Composition

Auburn and similar soils: 75 percent
Rock outcrop: 15 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Auburn

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from basic igneous rock and/or basic residuum weathered from metamorphic rock

Typical profile

H1 - 0 to 14 inches: silt loam
H2 - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 2 to 30 percent
Depth to restrictive feature: 14 to 18 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R018XD076CA - SHALLOW LOAMY
Hydric soil rating: No

Description of Rock Outcrop

Setting

Parent material: Metamorphic rock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Minor Components

Boomer

Percent of map unit: 3 percent
Landform: Mountain slopes, hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank, side slope
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Argonaut

Percent of map unit: 3 percent
Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Sobrante

Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Unnamed

Percent of map unit: 2 percent
Hydric soil rating: No

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Appendix B: California Natural Diversity Database (CNDDB)

3630 Park Drive, El Dorado Hills CA 95762

California Department of Fish and Wildlife California

Natural Diversity Database

Query Criteria: Quad IS (Clarksville (3812161))
 AND County IS (El Dorado)
 AND Elevation IS greater than OR equal to "600"
 AND Elevation IS less than OR equal to "700"
 AND Habitat IS (Broadleaved upland forest OR Pavement plain OR Ultramafic OR Valley & foothill grassland)

3630 Park Dr, El Dorado Hills CA 95762

Erethizon dorsatum **Element Code:** AMAFJ01010

North American porcupine

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S3
	Other:	IUCN_LC-Least Concern			
Habitat:	**General:**	FORESTED HABITATS IN THE SIERRA NEVADA, CASCADE, AND COAST RANGES, WITH SCATTERED OBSERVATIONS FROM FORESTED AREAS IN THE TRANSVERSE RANGES.			
	Micro:	WIDE VARIETY OF CONIFEROUS AND MIXED WOODLAND HABITAT.			

Occurrence No.	349	**Map Index:** A5760	**EO Index:**	107503	**Element Last Seen:** 2010-12-XX
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:** 2010-12-XX
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2017-08-07

Quad Summary: Clarksville (3812161)

County Summary: El Dorado

Lat/Long:	38.6541 / -121.0713	**Accuracy:**	1/5 mile
UTM:	Zone-10 N4280158 E667827	**Elevation (ft):**	649
PLSS:	T09N, R08E, Sec. 11, NW (M)	**Acres:**	70.0

Location: NEAR THE INTERSECTION OF HWY 50 AT EL DORADO HILLS BLVD, 0.8 MI WSW OF HWY 50 AT SILVA VALLEY PKWY, W OF CLARKSVILLE.

Detailed Location: MAPPED TO INCLUDE BOTH SETS OF PROVIDED COORDINATES. ROADKILLS APPEAR TO HAVE HAPPEN ON EL DORADO HILLS BLVD AND HWY 50 ACCORDING TO THE COORDINATES.

Ecological: OAK WOODLAND.

General: 1 PORCUPINE OBSERVED AS ROADKILL IN MAR 2010. 1 PORCUPINE OBSERVED AS ROADKILL IN DEC 2012.

Owner/Manager: UNKNOWN

Appendix C: U.S. Fish and Wildlife Service iPAC

IPaC U.S. Fish & Wildlife Service

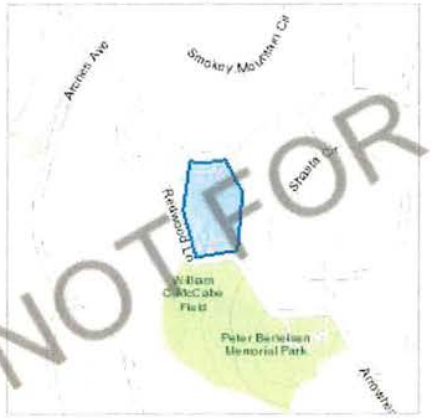
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

El Dorado County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Reptiles

NAME	STATUS

Giant Garter Snake Thamnophis gigas — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4482

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii	Threatened
California Tiger Salamander Ambystoma californiense	Threatened

Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2891

Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus	Threatened

Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus	Threatened

Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/7850

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi	Threatened

Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp Lepidurus packardi — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2246

Flowering Plants

NAME	STATUS

El Dorado Bedstraw Galium californicum ssp. sierrae — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/5209

Layne's Butterweed Senecio layneae — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4062

Pine Hill Ceanothus Ceanothus roderickii — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/3293

Pine Hill Flannelbush Fremontodendron californicum ssp. decumbens — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4818

Stebbins' Morning-glory Calystegia stebbinsii — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/3991

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES

THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle Haliaeetus leucocephalus — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10
Yellow-billed Magpie Pica nuttalli This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any

week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season ( )

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix D: Special Species with No Potential for Occurrence

Species with potential to occur as "none"							
Scientific Name	**Common Name**	**Federal**	**State**	**CNPS**	**Habitat**	**Potential for Occurrence**	**Rationale**
Taxidea taxus	American badger		SSC		Badgers live in dry, open grasslands, fields, and pastures. They can also live in deserts and marshes. They are found from high alpine meadows to sea level. Mostly nocturnal, but	None	The Study Area is highly disturbed, and its position within an urban environment, preclues the presence of this species. There were no badgers observed during the Barnett Environmental January 2021 site visit.
Haliaeetus leucocephalus	bald eagle	Delisted	CE		They prefer lakes and reservoirs with lots of fish and surrounding forests. In the winter, bald eagles can be seen around unfrozen lakes and hunting along coastlines,	None	The Study Area is highly disturbed an provides no lakes or forrests that could provide foraging habitat for this species. There were no badgers observed during the Barnett Environmnetal January 2021 site visit.
Athene cunicularia	burrowing owl		SSC		Burrowing owls live in burrows dug by other animals in open, treeless spaces. Favored nest burrow sites are those with sandy locations and areas with low vegetation around the burrows.	None	There were no burrows observed on the site during the Barnett Environmental January 2021 site survey which could provide habitat for this species.
Laterallus jamaicensis coturniculus	California black rail		CT		California rails inhabit tidal marshes and freshwater marshes. They inhabit the drier parts of wetlands.	None	There are no freshwater marshes or wetlands on site to provide habitat for this species. In addition, there was no sign of this species during the Barnett Environmental January 2021 site survey.
Phrynosoma blainvillii	coast horned lizard		SSC		This species occurs in valley-foothill hardwood, conifer and riparian habitats, as well as pine-cypress, juniper, and annual grassland habitats. Its elevational range extends up to 5900 feet the mountains of southern California.	None	There is only one reported CNDDB occurrence of this species within five miles of the Study Area. In addition, there was no sign of this species during the Barnett Environmental site survey.
Legenere limosa	legenere			1B.1	Legene is found in valley grasslands, freshwater wetlands, and wetland-riparian communities.	None	The Study Area is outside of this species' area of occurrence.
Buteo swainsoni	Swainson's hawk		CT		Swainson's hawk favors open areas like savannas, grasslands, steppes, and cultivated lands.	None	The parcel is too small and too disturbed to be an effective foraging ground for Swainson's hawk. In addition, there are no historical or current nests in the on site trees to suggest that Swainson's hawk.
Agelaius tricolor	tricolored blackbird		CT		This species forages in open habitat such as farm fields, pastures and large lawns. It often found in cattails or bulrushes in freshwater marshes and must have open water within 1600 feet for colony establishment. Open	None	There are no open waters within 1600 feet for colony establishment. In addition, there was no sign of this species during the Barnett Environmental
Branchinecta lynchi	vernal pool fairy shrimp	FT			Vernal pool fairy shrimp occur primarily in vernal pools, seasonal wetlands, and stagnant ditches that fill with water during fall and winter rains and dry up in spring and summer.	None	There are no vernal pools or other wetlands that could provide habitat for this species on site. In addition, there was no sign of this species during the Barnett Environmental January 2021 site survey.
Branchinecta lynchi	vernal pool fairy shrimp	FT			Vernal pool fairy shrimp occur primarily in vernal pools, seasonal wetlands, and stagnant ditches that fill with water during fall and winter rains and dry up in spring and summer.	None	There are no vernal pools or other wetlands that could provide habitat for this species on site. In addition, there was no sign of this species during the Barnett Environmental 2021 site survey.
Lepidurus packardi	vernal pool tadpole shrimp	FE			Found in vernal pools that is clear to murky and 50-84 degrees Fahrenheit, and the pools range from 55 square feet (5 square meters) to almost 90 acres (36 hectares)	None	There are no vernal pools that could provie habitat for this species on site. In addition, there was no sign of this species during the Barnett Environmental 2021 site survey.
Emys marmorata	western pond turtle		SSC		The western pond turtle is found in permanent and intermittent waters of rivers, creeks, small lakes and ponds, marshes, irrigation ditches and reservoirs. Turtles bask on land or near water	None	The wetlands on site only contain water shortly after rain events, and thus, the do not provide suitable habitat for this species.
Ambystoma californiense	California tiger salamander	FT	CT		The species is restricted to grasslands and low foothills with pools or ponds that are necessary for breeding	None	The waters on site are not natural streams, but outfalls from neighboring property runoff. Therefore, there is no land or water connection to natural breeding pond habitat for this species.

Rana draytonii	California red-legged frog	FT	SSC		This species inhabits aquatic habitats including pools and backwaters within streams and creeks, ponds, marshes, springs, sag ponds, dunes, and lagoons.	None	The waters on site are not natural streams, but outfalls from neighboring property runoff. Therefore, there is no land or water connection to natural breeding pond habitat for this species.
Thamnophis gigas	giant gartersnake	FT	CT		Agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands in the Central Valley.	None	The short stormwater residence time in the onsite wetlands is only several days after rain events and precludes the development of habitat for this species.
Oncorhynchus mykiss pop. 11	steelhead - Central Valley DPS	FT			Freshwater, brackish, or marine waters of temperate zones. The anadromous form, called steelhead, spawn and complete their early development in freshwater mountain streams, then migrate to spend their adult life in the ocean. In freshwater, they prefer cool water but	None	There are no permanent sources of water on the Study Area that could provide habitat for this species on site. Barnett Environmental encountered no sign of this species during thr January 2021 site visit.
Oncorhynchus tshawytscha	chinook salmon - central valley spri	FT	CT		Chinook salmon are an anadromous species which at different phases of their life history, inhabit marine, brackish	None	There are no permanent sources of water on the Study Area that could provide habitat for this species on site. Barnett Environmental encountered no sign of this species during thr January 2021 site visit.
Strix occidentalis occidentalis	california spotted owl		SSC		California spotted owls generally inhabit older forests that contain structural characteristics necessary for nesting, roosting, and foraging. Nests are typically found in areas	None	There are no old forests on site that could provide habitat for this species. In addition, the urban disturbance precludes occurrence of the California spotted owl on site.
Asio otus	long-eared owl		SSC		Long-eared owls live in forests and shrub lands that are near to open areas, such as grasslands. They can be found from sea level up to 2000 m elevation. They are common in tree belts along streams in dry habitats.	None	There are no forests or shrub lands on the site that could provide habitat for this species. In addition, there was no sign of this species during the Barnett Enviromental site visit.
Pooecetes gramineus affinis	Oregon vesper sparrow		SSC		This species is migratory and overwinters in California west of the Sierra Nevada Mountains and south of San Francisco Bay, and historically into northwestern Baja California, Mexico. Within the breeding range, it is restricted to grassland and savannah habitat types in lowland valleys and foothills, except for the Klamath Mountains ecoregion where it occurs in montane meadows. Within these habitat types, breeding habitat conditions can be generally characterized as moderately short and patchy grass and forb cover with some bare ground, low to moderate shrub or tall forb cover, and low tree cover. They typically avoid mesic areas or sites with tall, dense herbaceous vegetation.	None	The Study Area is not in the geographical range for this species, and there were no CNDDB reported occurences within five miles of the Study Area. There was no sign of this species during the Barnett Environmental site survey.
Circus cyaneus	northern harrier		SSC		These birds inhabit grasslands, fields, marshes, upland prairies, savannas and alpine meadows. They also occur in wetland habitats and upland habitats such as desert steppe. They avoid forested and mountainous areas.	None	The Study Area is outside of any desert steppe habitat that could provide habitat for this speciess. There were no CNDDB reported occurences within five miles of the Study Area. No sign of this species was observed during the Barnett Environmental site survey.
Melospiza melodia	song sparrow (modesto population)		SSC		Brushy fields, streamsides, shrubby marsh edges, woodland edges, hedgerows, well-vegetated gardens. Some coastal populations live in salt marshes.	None	This species primarily find habitat at elevations less than 200 feet. There were no CNDDB reported occurences within five miles of the Study Area, an there was no sign of this species during the Barnett Environmental site survey.
Ceanothus roderickii	pine hill ceanothus	FE			This species is found almost exclusively on soils of gabbro origin in the Pine Hill geological formation. It grows in chapparal and woodlands of the Sierra Nevada Foothills.	None	There are no gabbro soils on site to provide habitat for this species. In addition, there was no sign of this species during the Barnett Environmental site visit.
Fremontodendron californicum ssp. decumbens	pine hill flannelbush	FE			The Pine hill flannelbush grows in dry sandy washes, primarily in the High Sierra Nevada.	None	The Study Area is out of the pine hill flannelbush's habitat elevational range. In addition, there are no sandy washes on site that could provide habitat for this species. There was no sign of this species during the Barnett Environmental site survey

Hypomesus transpacificus	delta smelt	FT			The Delta Smelt inhabits the freshwater-saltwater mixing zone of the Sacramento-San Joaquin estuary of California, except during the spawning season, when it migrates to fresh water following winter "first flush" events.	None	The Study Area is not within this species' geographical habitat in the Sacramento-San Joaquin estuary.
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT			The species is nearly always found on or close to its host plant, red or blue elderberry (Sambucus species), along rivers and streams. arly always found on or close to its host plant, red or blue elderberry (Sambucus species), along rivers and streams.	None	The site contains no elderberry bushes, and thus there is no habitat on site for this species. There are two CNDDB reported occurences within five miles of the Study Area. The closest was 2.63 miles to the west, and the most recent was in 1999. There was no sign of this species during the Barnett Environmental site survey in March 2021.
Gratiola heterosepala	Boggs Lake hedge-hyssop		CE	1B.2	It grows in mud and valley shallow water within an area of open juniper and sagebrush. Freshwater wetlands, wetland-riparian.	None	The lack of juniper or sagebrush on the property preclude the presence of this species. The has been only one CNDDB occurrence reported within five miles of the site. This occurence was 4.5 miles to the west in 1988. There was no sign of this species during the

California Tree and Landscape Consulting, Inc.

Arborist Report

October 12, 2021

Mr. Anatoliy Kukharets
3630 Park Dr
El Dorado Hills, CA 95762
c/o CTA Engineering & Surveying

Work location
3630 Park Drive
El Dorado Hills, CA 95762

Amended Arborist Report for Oak Conservation Resources

APN
120-150-02-010

Prepared by:
Gordon Mann, Consulting Arborist

359 Nevada Street, Auburn, suite 201, CA 95603 Office: (530) 745-4086 Direct: (650) 740-3461 www.caltlc.com

Arborist Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Assignment

The subject site is a single-family lot approximately 3 acres. The property is proposed to be subdivided into 4 lots with a driveway near the center connecting the 2 new south parcels with Park Drive. The remaining north parcel, 2, will come with a private drive off Park Drive on its own. Mr. Kukharets contacted our office and requested we provide the information required to satisfy the County of El Dorado's Oak Conservation Resources, determining if there is any oak woodland area, identifying all individual oak trees and all oak trees on the property 24 inches in diameter and greater, all Heritage Trees 36 inches in diameter and greater, and any individual oak trees 6 inches and greater located outside of the oak woodland designation for mitigation for tree removal based on the County ORMP Oak Resources requirements and Ordinance No. 5061. This report is the result of an onsite inspection performed on March 26, 2021, and the use of Google Maps aerial imagery.

Assignment limits

All the trees were observed while standing on the ground. Data collected is limited to a visual ground inspection. The aerial image was used from Google Maps. Ground inspections and measurements were used to ensure the accuracy of the inspection data. All site information was provided by Mr. Kukharets and Terra Jaime from CTA Engineering and Surveying.

Current Existing Tree Status (Observations)

The site is on Park Drive between bends in Redwood Lane. There are single family homes to the east and north, a school to the west, and a park to the south. The biologist reported riparian woodland calculated as .73 acres in two sections on the property, and there are individual oak trees. There is remnant oak woodland on the property, considered the continuation of other oak trees growing on adjacent developed properties to the east. The two species are Interior Live Oak (*Quercus wislizenii*),

and Blue Oak (*Quercus douglasii*), growing in groves and scattered individual trees. 54 Oak trees were inspected.

A single-family home is existing on Parcel 1. The driveway to connect the proposed 2 southern parcels to Park Drive will require the removal of tree number 9136, a 13-inch Interior Live Oak in Fair condition. Tree number 9136 will need to be removed with some surrounding non-native trees for the proposed driveway.

The development is required to comply with the El Dorado County ORMP Oak Resources requirements and Ordinance No. 5061 for individual oak trees.

The site is approximately 3 acres. The site will be subdivided into 4 parcels. The 3 new parcel layouts have adequate space to construct homes without impacting the remaining oak trees. In the final design, one individual oak tree is proposed for removal. The oak woodland on the site was determined to be riparian. There are native oak trees in the riparian areas, and there are individual oak trees outside of the woodland. All the trees present on the site, with the exception of tree number 9136 which is proposed to be removed, are proposed outside the driveway and are expected to be outside the future home construction zones and are unlikely to be impacted by the future construction. Mitigation for tree #9136 will be 13 inches. If additional trees or oak woodlands are impacted or removed for future home construction or utility service construction, the impact/removal and mitigation shall comply with the El Dorado County oak resource regulations and ordinance no. 5061.

There were 3 oak trees found to be 24 inches diameter or greater, trees number 9161, 9179, and 9187. One tree, #9187, is a Heritage tree 36 inches in diameter or greater in very poor condition and outside of any proposed development. These trees are shown on the tree list and are to be retained and protected for the construction. This tree should be removed for site use safety due to significant basal decay in the multiple stems, and is not related to the construction for the project and should not need to be mitigated based on the very poor condition.

All the tree data is included in the attached 3630 Park Drive El Dorado Hills Tree List.

Technical Recommendations

It is recommended that all tree care follow specifications written in accordance with ANSI A-300 standards. Pruning of the trees should be performed in the outer edge of the canopy to reduce leverage and end weights and allow the center of the canopies to grow and fill in with foliage. If roots are encountered, prior to excavating the roots the roots shall be pruned at the outside edge of the excavation. When root pruning, the smallest size roots as possible be pruned, cuts shall be performed with handsaws, loppers, chainsaws, or power saws appropriate for the size of the root being cut. The roots shall be exposed by excavating prior to cutting. Roots should be pruned prior to root removal within the tree protection area to limit the damage and tearing of roots back towards the tree. Root pruning should be overseen by a qualified arborist. One tree, #9136 is proposed to be removed. No other oak trees are proposed to be encroached upon and root pruning will only be performed on roots outside the tree protection zone, avoiding impact for the proposed driveway construction. There is one tree, number 9187, that was found to be in very poor condition and should be removed based on the very poor condition that is not related to the site development impacts, and would not require mitigation.

Tree protection shall be accomplished by fencing the trees outside of the work area with either an orange plastic fence or chain link fence that keeps work activities out of the protected area. A sign shall be placed on the fencing every 50 feet or on each side of an angled or polygon fence that states Tree Protection Zone. If any work is proposed in the tree protection area, the soil shall be covered with 4 inches of wood chip mulch to protect against soil compaction. The fencing may be opened to allow the approved work, and after the work is completed, the fencing shall be put back in place.

Tree planting should follow the specifications included in Appendix A.

General Tree Care and Maintenance

The appendix information is given so that an onsite landscape manager can properly take care of the retained trees, and newly planted trees. Established native oak trees do not like to have the base of the trunk or their roots and the surrounding soil disturbed or tampered with. Applying or having unintentional landscape water in the root zone can cause catastrophic and negative affects to most species of native oak trees. Newly planted oak trees do need their root balls watered until established and then may need supplemental watering during extended periods of dry or hot weather. It is, therefore, recommended that the landscape be designed using drought tolerant plants that will require little to no watering after establishment. Irrigation should be delivered using an on-surface drip type system that does not require trenching around the oak trees to install. The plants should be spaced at least 6 feet away from the trunk of native oak trees, and the drainage from irrigation should be managed so water does not flow to the trunks of the oak trees. Trees that are growing in high use areas should be inspected by a qualified arborist for tree risk on a routine basis, the frequency depending on site use and tree condition.

Other testing or examination:

No additional testing or examination was requested at the time of the inspection or found necessary.

Mitigation Calculations:

Per ordinance 5061, section 130.39.070.C.1, mitigation for oak woodland removal shall be addressed in the following options:

a. In-lieu Fee payment based on the percent of on-site Oak Woodland impacted by the development as shown in Table 5 (Oak Woodland In-Lieu Fee) in the ORMP to be either used by the County to acquire off-site deed restrictions and/or conservation easements or to be given by the County to a land conservation organization to acquire off-site deed restrictions and/or conservation easements;

b. Off-site Deed Restriction or Conservation Easement acquisition for purposes of off-site oak woodland conservation consistent with Chapter 4.0 (Priority Conservation Areas) of the ORMP;

c. Replacement planting within an area on-site for up to 50 percent of the total Oak Woodland mitigation requirement consistent with Section 2.4 (Replacement Planting Guidelines) of the ORMP. This area shall be subject to a Deed Restriction or Conservation Easement;

d. Replacement planting within an area off-site for up to 50 percent of the total Oak Woodland mitigation requirement. Off-site replacement planting areas shall be consistent with Section 2.4 (Replacement Planting Guidelines) and Chapter 4.0 (Priority Conservation Areas) of the ORMP. This area shall be subject to a Deed Restriction or Conservation Easement;

e. A combination of options a through d above.

Per ordinance 5061, section 130.39.070.C.2, mitigation for individual oak tree removal shall be addressed in the following options:

a. In-lieu Fee payment for individual oak tree removal to be either used by the County to plant oak trees or to be given by the County to a land conservation organization to plant oak trees as shown in Table 6 (Individual Oak Tree In-Lieu Fee) in the ORMP;

b. Replacement planting on-site consistent with Section 2.4 (Replacement Planting Guidelines) of the ORMP within an area subject to a Deed Restriction or Conservation Easement and utilizing the replacement tree sizes and quantities shown in Table 4 (Oak Tree Replacement Quantities) in the ORMP. On-site replacement planting shall be consistent with Section 2.4 (Replacement Planting Guidelines) of the ORMP;

c. Replacement planting off-site within an area subject to a Conservation Easement or acquisition in fee title by a land conservation organization utilizing the replanting sizes and quantities specified in Table 4 (Oak Tree Replacement Quantities) in the ORMP. Off-site replacement planting shall be consistent with Section 2.4 (Replacement Planting Guidelines) of the ORMP; or

d. A combination of options a through c above.

The ORMP requires mitigation in 3 areas of a project impacting oak woodland:

A. Acreage of oak woodland impacted
B. Individual Oak Trees 6-inch diameter and greater growing outside of the oak woodland
C. Heritage Trees 36-inch diameter and greater in the project area

A. The project site is approximately 3 acres and the area was considered a riparian woodland by the biologist. There were 54 oak trees found that are of protected size, 6 inches diameter and greater. Tree #9136, an individual oak tree is proposed for removal.

The mitigation ratio chart for El Dorado County ORMP is:

Percent of Oak Woodland Impact	Oak Woodland Mitigation Ratio
0-50%	1:1
50.1 – 75%	1.5:1
75.1-100%	2:1

A total of 0 acres of oak woodland are impacted and there is no required mitigation.

B. The next mitigation required is the individual oak trees. There were 5 trees considered individual oak trees that are of protected size. Four trees, #9136, 9137, 9138 & 9189, are on the subject property and one tree, #9139 is on an adjacent property encroaching across the property line. Tree #9136, a 13-inch diameter Interior Live Oak is proposed for removal and will

need to be mitigated with 13 inches of planting, or an in-lieu fee payment. The in-lieu payment is calculated at 13 inches x $153 per inch, totaling $1,989.00.

c. The final mitigation requirement is the proposed removal of Heritage trees, trees 36 inches and greater. There are no Heritage Trees proposed for removal, and there is no additional mitigation fee.

The total trees to be planted is 13 inches, or an in-lieu mitigation fee for the proposed project would be $1,989.00.

The applicant will determine if they will perform the mitigation planting or pay the in-lieu fee.

The oak woodland and individual oak tree in-lieu fee mitigation requirements for the project was calculated based on the following information:

Total area of the project area: approximately 3 acres
Total area of oak woodland: 0.73 acres
Total percent of existing oak woodland: 24.3%
Total area of total oak woodland to be removed: 0 acres
Total percent of oak woodland to be removed: 0%
Oak Woodland Mitigation Ratio: 1:1
Total area of Oak Woodland to be mitigated: 0 acres
Total number and diameter inches of individual oak trees to be removed: 1 tree, 13 inches
Total number and diameter inches of Heritage Trees to be mitigated: 0 trees
Total area of pre-mitigated oak canopy to be removed: 0 sq. ft.
Total area of oak woodland required to be mitigated: 0 acres
Total Oak Woodland Area Impacted Mitigation: .0 acres @ $8,285 per acre = $0
Individual Oak tree Impacted Mitigation: 1 tree, 13 inches, $153 per inch: $1,989.00
Heritage Tree Impacted Mitigation: 0 trees, 0 inches, $459 per inch: $0.00
Total Amount of In-Lieu Fee Oak Resource Mitigation: $1,989.00

Conclusion:

The site is being subdivided into 4 parcels with one existing home. There will be 3 new parcels. There are a combination of 0.73 acres of Riparian Oak Woodland and 5 individual oak tree. There is no oak woodland impacted by the proposed project. One individual oak tree, 13 diameter inches, is proposed for removal. 53 trees are proposed to be retained and protected.

There is a required planting of 13 inches of native oak trees or an in-lieu mitigation payment of $1,989.00, and the proposed project will be in compliance with the Ordinance 5061, Oak Resources Conservation.

There were no Heritage Trees requiring mitigation impacted by the proposed development.

Please contact Gordon Mann, of California Tree and Landscape Consulting, Inc., if there are any questions about this report.

Respectfully submitted,

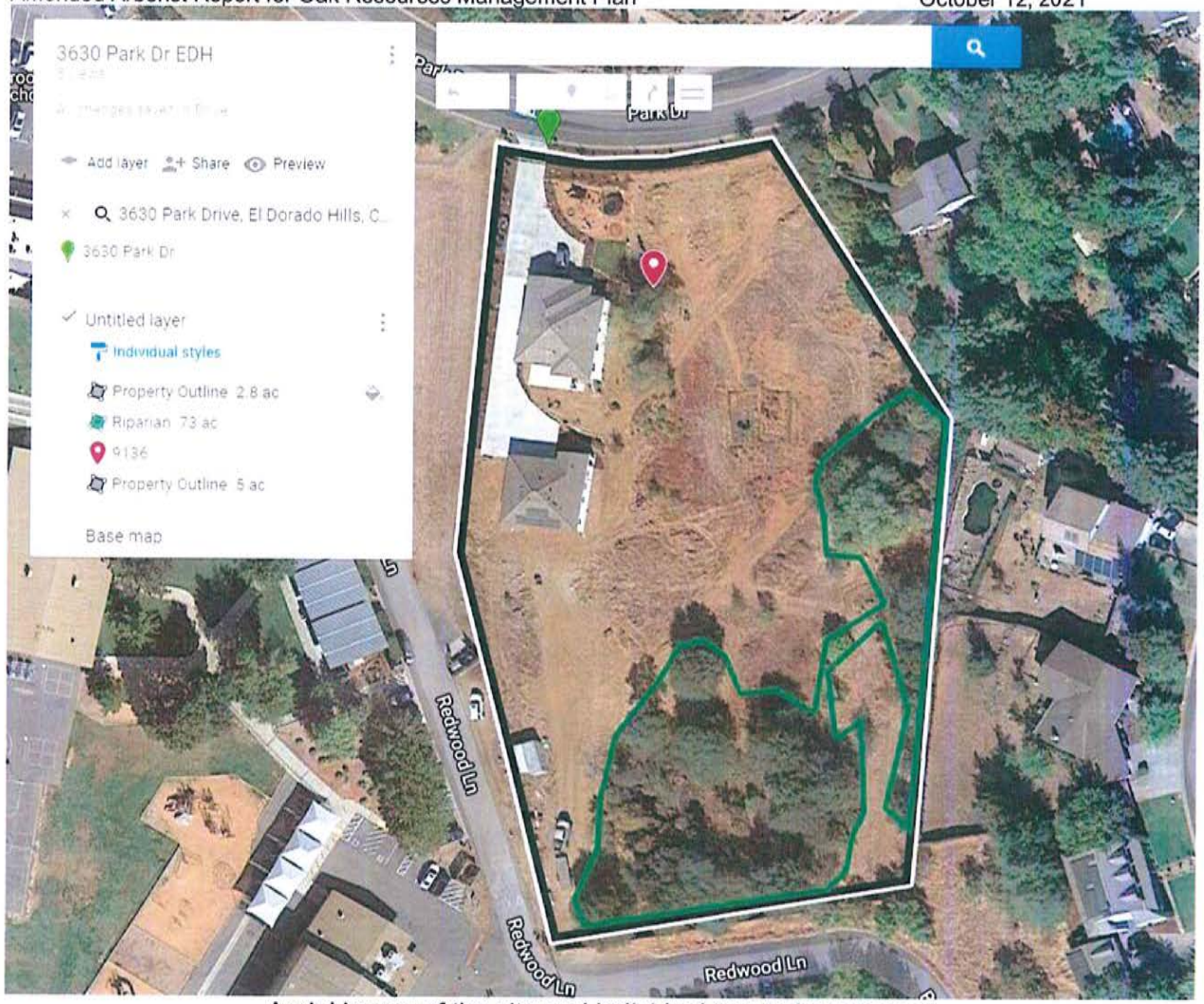
3630 Park Drive, El Dorado Hills, CA
Amended Arborist Report for Oak Resources Management Plan October 12, 2021

Gordon Mann
ASCA Registered Consulting Arborist #480
ISA Certified Arborist WE- 0151AM
ISA TRAQ Qualified Tree Risk Assessor
Gordon@caltlc.com
650-740-3461

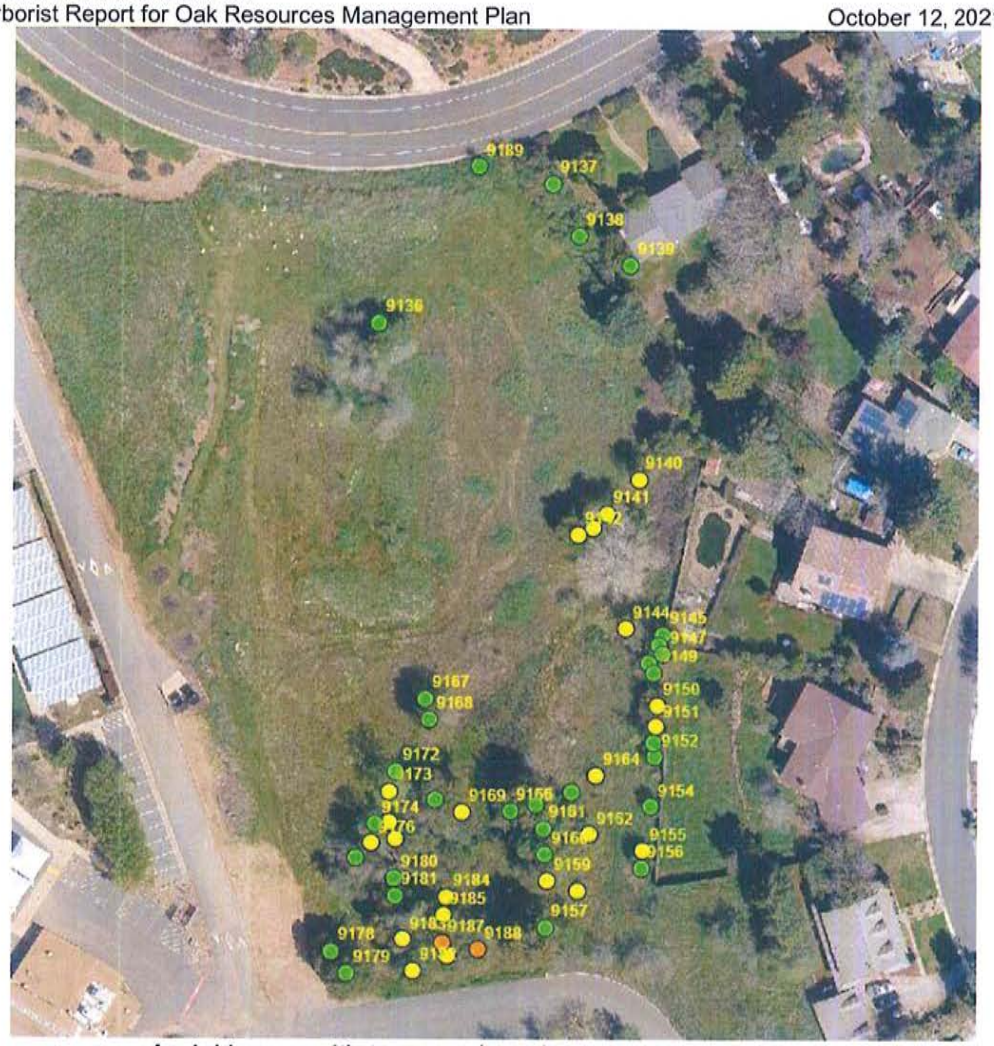
Attachments:

Appendix A Images - Aerial Image with tree numbers in approximate locations; Park Drive Parcel Map Site Exhibit dated April 2021
Appendix B Tree Planting Specifications
Appendix C Nursery Stock and Tree Planting
Appendix D Tree Protection
Appendix E Avoiding Damage During Construction
Resume for Gordon Mann
3630 Park Drive El Dorado Hills Tree List

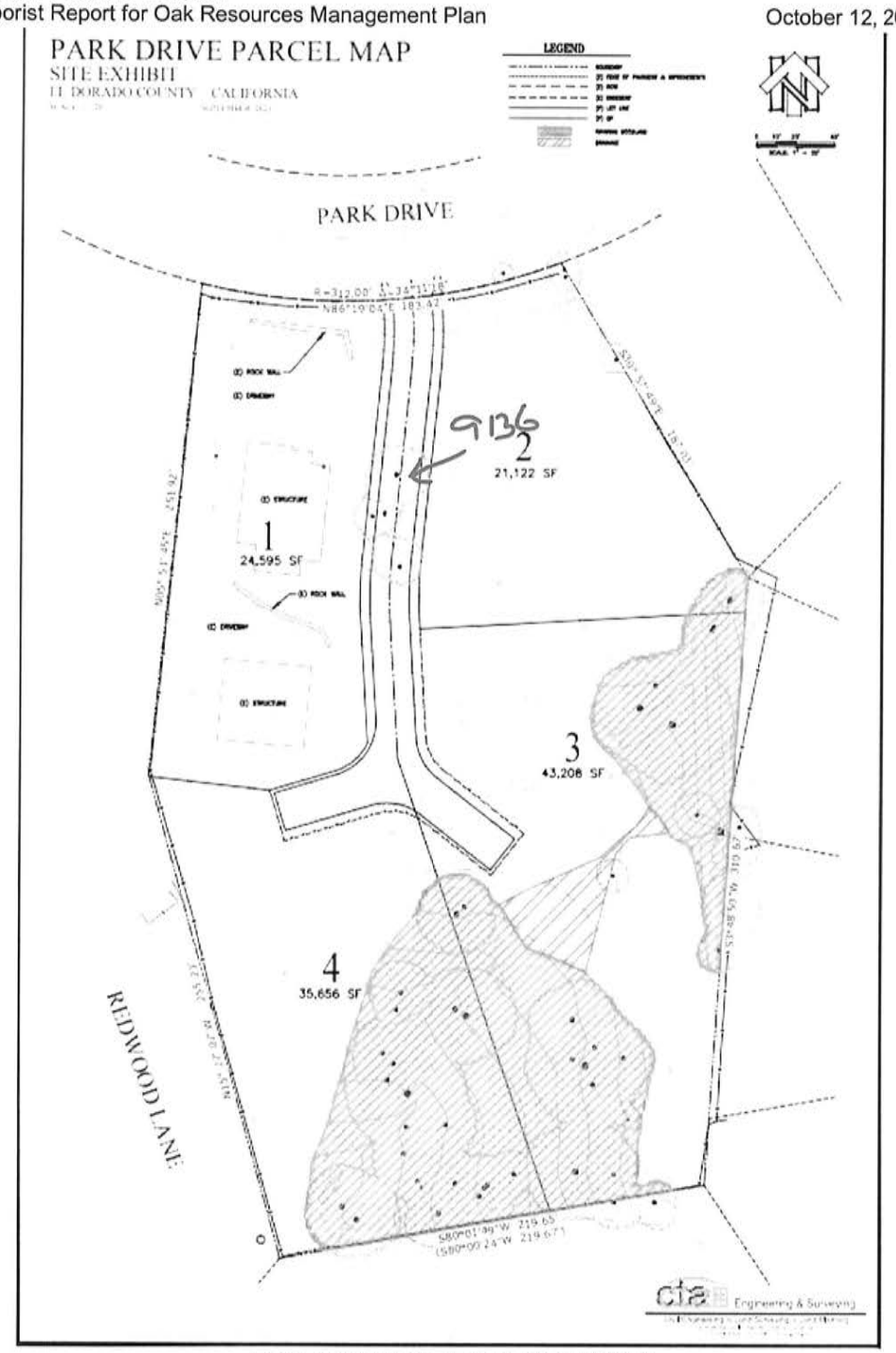
Appendix A Images



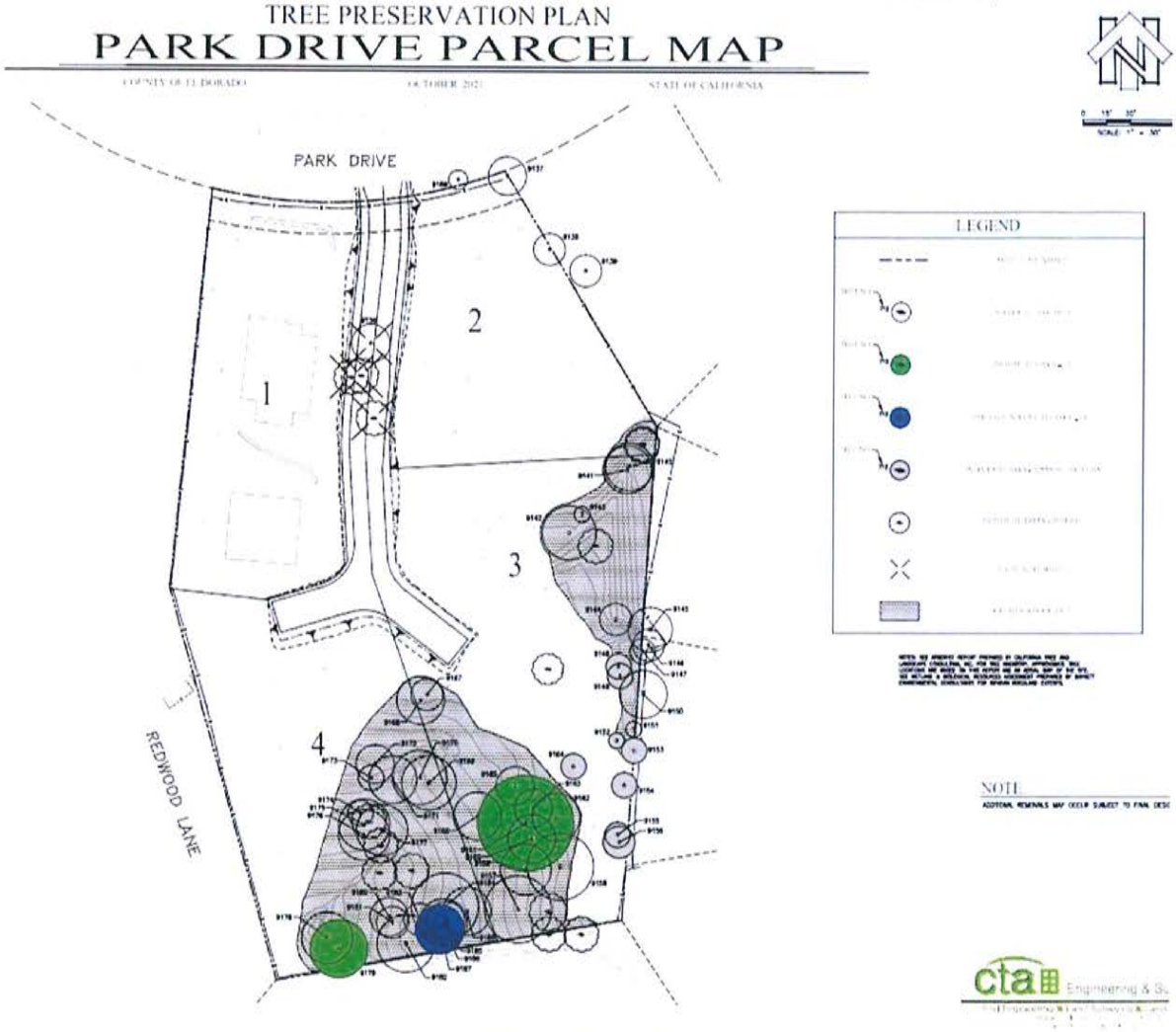
Aerial image of the site and individual tree to be removed



Aerial image with tree numbers in approximate locations



Park Drive Parcel Map Site Exhibit



Tree Preservation Plan

Appendix B
Tree Planting Specifications

Trees shall be free of major injury such as scrapes that remove greater than 20% of the bark circumference, a broken central leader, or constrictions from staking or support. The graft, if present, shall be consistent for the production of the cultivar or species. The trunk flare shall be at grade, not buried by soil, and adventitious roots shall not be growing from above the trunk flare.

The tree shall not be root bound in the container, and the trunk diameter relative to the container sizes, within the limits of American National Standards Institute (ANSI) Z-60 Nursery Standards.

Prior to acceptance, upon delivery, trees may be pulled from the container, so the rootball can be inspected for compliance with the specifications. An agreed upon maximum percent of trees may be checked for compliance. The nursery should provide post delivery care specifications to keep the trees in optimum condition until planting.

Tree Planting

1.0 INSPECT THE TREE

1.1 Carefully remove the soil at the top of the container to locate the trunk flare. Check for girdling roots and damage to the root system and lower trunk.
1.2 Until a relationship is established with the supplying nursery, randomly select an acceptable sample for the delivery. Inspect the root system by taking the rootball out of the container, and remove all the soil from the root system. Inspect the inner roots to verify that the roots were properly pruned when moved from the initial container to the next larger size. Keep the root system moist during the check. If the roots were properly pruned during container transfer, and the roots have been kept moist, the tree can be planted as a bare root tree.
1.3 If the trees are acceptable, each tree shall be removed from the container prior to digging the hole, and the depth of the rootball from the trunk flare to the bottom of the rootball shall be measured. This measurement, less 1" is the depth the pedestal in the center of the planting hole shall be excavated to.

2.0 DIG THE HOLE

2.1 Shave and discard grass and weeds from the planting site.
2.2 The hole should be a minimum 3 times the diameter of the container diameter.
2.2.1 Square containers shall be dug with a circular hole 3 times the container measurement.
2.3 Dig the hole, leaving an undisturbed pedestal in the center that the root ball will be set on.
2.4 The pedestal shall be excavated to the depth measurement determined above

3.0 ROOT BALL PREPARATION

3.1 Loosen and straighten outside and bottom roots prior to placing the rootball on the pedestal. The trunk flare (the point where the trunk meets the roots) should be 1" above ground level.
3.2 Winding and girdling roots shall be pruned to either the point they are perpendicular to the root ball, or a point where they can be straightened and placed perpendicular to the rootball.
3.3 Keep the roots moist during this process so they do not dry out.

4.0 BACKFILL

4.1 Hold the tree so the trunk and central leader are in a straight upright position.
4.2 Backfill soil with the soil you removed around the base of the pedestal and rootball no higher than 2/3, so the tree stands in the upright position
4.3 Tamp the soil to remove air gaps, or fill with water and allow soil to settle and drain. Continue to fill the entire hole with existing soil in layers and tamping, up to finished grade. Backfill soil shall not be placed on top of the rootball.
4.4 Build a berm at the outside edge of the rootball. The berm shall be a minimum 3 inches high and wide.
4.5 Cover the remainder of the backfill soil outside the berm with a set level of mulch (2 to 4 inches deep).

5.0 STAKING

5.1 Remove the nursery stake (the thin stake tied to the trunk) that is secured to the tree.
5.2 Install the appropriate number of stakes – for example, two stakes on the windward and leeward side of the tree, set at least 2 feet into the native soil outside the rootball.
5.2.1If the area is exceptionally windy, high traffic, or when specified, install 3 or 4 stakes spaced evenly around the circumference, outside the rootball.
5.3 One tie per stake shall be placed at the lowest point on the trunk where the tree crown stands upright. Ties shall be placed using a "figure 8" crossing pattern wrapped around the trunk and firmly tied or attached to the stake.
5.3.1 Ties shall be loose enough so the tree crown moves up to 3 times the trunk diameter in the wind, and taut enough that the trunk does not rub the stakes during movement.
5.4 The stakes shall be cut off above the tie point so branches do not rub the stake above the tie point.
5.5 Check the stakes and ties periodically, removing them when the tree is able to stand on its own.

5.6 If a leader that should be vertical is drooping, the leader may be temporarily straightened using a bamboo or small diameter wood splint approximately 25% longer than the drooping section of stem, tied to the stem at the top and bottom of the splint to hold the stem vertical. The splint shall be removed prior to girdling or constricting the stem, and may be re-installed as necessary.

6.0 Mulch

6.1 Apply a set depth (2 to 4 inches) of wood chips or other organic mulch over the planting hole excavated soil.
6.2 Mulch may be placed inside the berm and shall be kept at least 4" away from the trunk flare.
6.3 The soil area of the planting hole shall be kept clear of grass and landscape plantings.

7.0 Water/Irrigation

7.1 Apply water using a low pressure application, i.e.: trickle from a hose, soaker hose, or bubbler.
7.2 Use low water volume to apply the water. Add water long enough to saturate the rootball and planting area.
7.2.1 Lawn sprinklers shall not be considered an acceptable method of applying irrigation to newly planted trees.
7.3 The initial watering frequency shall be checked by monitoring the soil moisture. Based on the temperature and humidity, learn how long the soil retains the moisture.
7.4 After the soil is below field capacity, and before it dries out, repeat the watering process, every so determined days.
7.4.1 As the weather and seasons change, the irrigation frequency may change. This will be evaluated by checking soil moisture following water application.
7.4.1.1 For example: you may learn irrigation should be applied twice a week during the fall, except in cool or rainy weather. Irrigation may need to be applied every two days during hot dry summer periods.
7.5 Irrigation shall be continued for the first three years after planting.
7.5.1 Avoiding drying out the rootball and adjacent soil is critcal for tree growth and establishment.

8.0 Protect the Trunk

8.1 Avoid damage from mowers and string trimmers to the tender bark of the young tree.
8.2 Maintain a clear area free of vegetation around the trunk in the berm or basin area.
8.3 Keep the set depth of mulch (2 to 4 inches) coverage of the area around the tree.
8.4 Retain temporary low branches along the trunk to shade and feed the trunk.

9.0 Pruning Newly Planted Trees

9.1 Broken and dead branches shall be pruned.
9.2 A central leader shall be identified and retained if present. If co-dominant leaders are present, they shall be pruned to be shorter than the central leader by 20%.
9.3 All low temporary branches on the lower trunk shall be retained, and if needed shortened for clearance.

Detail for #1, #5 and #15 container planting stock

10. **FUTURE CARE**
10.1 During subsequent years, the berm should be enlarged or removed to in order to provide water to the increasing root growth. The watering area should target new root growth and projected root growth.
10.2 Pruning should retain a dominant central leader; and retain low temporary branches until trunk bark hardens or remove before branch diameter becomes too large.

Appendix C

Nursery Stock and Tree Planting

Nursery Stock purchase
Trees purchased for the subject project shall be the Genus, species, and cultivar specified in the purchase documents. Trees shall be grown to be free of bound root systems caused by winding roots or kinked roots from a previous smaller container. As trees are moved to larger containers, circling roots shall be either pruned to a point where they can grow straight, straightened in the new container, or removed. Kinked roots shall be pruned to a point where they will grow straight outward or downward.

The trunk and branches shall be of a structure where a central leader is defined, or the central leader can be easily selected. The competing leaders have a smaller diameter, and can be pruned shorter.

Appendix D

Tree Protection

The edge of the tree canopy outside of the construction area shall be fenced off with construction fencing, either temporary orange fence or chain link fence. The fence shall be placed as far from the trees as possible, targeting outside the dripline. If the fence cannot be placed outside of the dripline, the project arborist shall determine if the distance is acceptable or some other soil protection is necessary. A certified arborist must approve the placement of the tree fence. The fence will be marked with weather appropriate signage clearly stating the area as "Protected! Do not enter! Tree preservation zone." Sign(s) will be placed on every face or direction of fence line.

No storage of supplies or materials, parking, or other construction activity shall occur within the fenced area. If a construction activity is required within the construction area, specific specifications and mitigation shall be written to cover the work, and the fencing may be entered during the necessary construction activity, then the fencing shall be replaced after the activity is completed for the day.

The construction protection shall remain in place until the project is completed, including landscape activities. Landscape activities shall have specifications that protect the trees during the landscape activities.

Any bare soil around protected trees should be covered with a 4-inch layer of mulch consisting of ground-up tree parts.

If the protected trees appear to show signs of yellowing leaves, dead leaves, or other abnormal appearance, contact the project arborist for inspection and mitigation.

Long Term Landscape Maintenance Plan and Specifications

General
Trees shall be pruned to establish a central leader, to provide the best structure by managing size relationships between parent and subordinate trunk and branches, and to encourage growth into a large shade canopy. These trees shall not be

topped or rounded over. Trees may have competing leaders headed back to promote the strong central leader necessary to eliminate co-dominant stems and weak branching.

Design Intent
The trees planted around the perimeter and alongside the sidewalk or street are intended to replicate natural areas and to screen the project and adjacent properties. The native oaks shall be more tightly spaced at planting and thinned over time to promote the growth of the final or climax trees on the site. The thinning for spacing shall be performed as the trees get larger and their crowns begin to overlap. When the desired tree crowns are being impacted by an adjacent tree, the adjacent tree should either be pruned or removed, to provide the optimum screening while enhancing the desired tree growth. Pruning shall retain a dominant central leader and for decurrent tree structures, remove competing leaders, and maintain the appropriate size relationships between parent and subordinate trunk and branches.

Pruning Small Trees
Branches are to be pruned by either reduction, thinning, or raising cuts to achieve the appropriate clearance over the area. The smallest diameter branches should be removed, working from the branch tips towards the center, removing none to minimal interior foliage inside the final outward branch cut. Trees shall be cleaned to remove dead branches, weakly attached branches, and branches where significant damage has occurred by rubbing, animals, insects, or critical disease. All pruning cuts shall be made in accordance with American National Standards Institute (ANSI) A300 Part 1 Pruning Standards and International Society of Arboriculture (ISA) Best Management Practices for Pruning.

On trees up to six inches in diameter, all dead branches greater than one-half inch diameter shall be removed. All weakly attached branches and potential co-dominant branches shall either be reduced by at least 20% or be removed, as most appropriate for the long term structure of the tree. The weakest or most damaged branch of a pair or group of rubbing branches shall be shortened to avoid rubbing, or removed. All temporary branches along the trunk should be retained and shortened to obtain necessary clearance. When either temporary branches exceed one-inch diameter, or the trunk forms mature bark, the temporary branches should be removed.

Stakes shall be installed as necessary to support a straight growing tree, and reduce crooked growth caused by high wind. The trunk shall be supported at the lowest point to keep the crown supported straight, and the portions of the stake above the tie point cut off to avoid rubbing branches. After the tree becomes firmly rooted, and the stake is no longer necessary to support the tree, the stakes shall be removed.

Clearance pruning shall be carefully performed until the permanent branches are identified. Up to 25% of the total foliage on any tree should be the maximum removed during any planned pruning cycle. Follow-up pruning for structure or clearance on young trees can be performed at any time if pruning small amounts of foliage (up to 10%) and retaining the central leader and branch size relationships.

Pruning Large Trees
Branches are to be pruned by either reduction, thinning, or raising cuts to achieve the appropriate clearance over the area. The smallest diameter branches should be removed, working from the branch tips towards the center, removing none to minimal interior foliage inside the final outward branch cut. Trees shall be cleaned to remove dead branches, weakly attached branches, and branches where significant damage has occurred by rubbing, animals, insects, or critical disease. All pruning cuts shall be made in accordance with American National Standards Institute (ANSI) A300 Part 1 Pruning Standards and International Society of Arboriculture (ISA) Best Management Practices for Pruning.

On trees larger than six inches in diameter, all dead branches greater than one-inch diameter shall be removed. Long heavy branches that are either growing flat or bending down shall have approximately 15% of the end weight reduced, accomplished by a combination of pruning the downward growing branches, shortening long tips, and thinning end weights. If any structural issues are observed by the climber working in the tree, they shall notify the property manager immediately to discuss the tree's needs.

Depending on the location and site needs, clearance should be performed by pruning the smallest branches inward from the branch tips until the permanent branches are in place. Clearance minimums should be set, for example: 7.5' over sidewalks, 10 feet over driveways and parking spaces, and 14.5 feet over truck traffic streets. Clearance pruning shall be carefully performed until the permanent branches are identified. Up to 20% of the total foliage on any tree should be the maximum removed during any planned pruning cycle.

Any special site issues for utility clearance or conflicts with other objects shall be managed by early pruning to direct growth away from the target lines, overhead lights, flags, or buildings.

Thinning of Dense Planting

Many landscape plantings and natural landscape areas are over-planted by installing a greater number of plants at closer spacing than optimum for the full-sized plants. Over time, plants will grow into each other, the crowns will conflict, and the spacing will need to be corrected. Correct spacing is obtained by removing the least desirable plants to meet the final spacing target, within reasonable tolerances.

If conflicting plants are all healthy, it won't matter which plants are removed to achieve the spacing distances. Spaced thinning should be performed before the foliar crowns are intertwined or overlapping. The thinning may be performed over two or three cycles as the trees grow over time, depending on the density and desired final spacing.

The trees initially will be planted on approximate 10 foot centers, with the long term spacing to be approximately 20 foot centers. The healthiest and best specimens should be retained on site. As trees are thinned, they may be transplanted or removed, as best suits the remaining trees on the site.

Appendix E

Avoiding Tree Damage During Construction

Edited from the ISA's tree protection guidelines

As cities and suburbs expand, wooded lands are being developed into commercial and residential sites. Homes are constructed in the midst of trees to take advantage of the aesthetic and environmental value of the wooded lots. Wooded properties can be worth as much as 20 percent more than those without trees, and people value the opportunity to live among trees.

Unfortunately, the processes involved with construction can be deadly to nearby trees. Unless the damage is extreme, the trees may not die immediately but could decline over several years. With this delay in symptom development, you may not associate the loss of the tree with the construction.

It is possible to preserve trees on building sites if the right measures are taken. The most important step is to hire a professional arborist during the planning stage. An arborist can help you decide which trees can be saved and can work with the builder to protect the trees throughout each construction phase.

How Trees Are Damaged During Construction

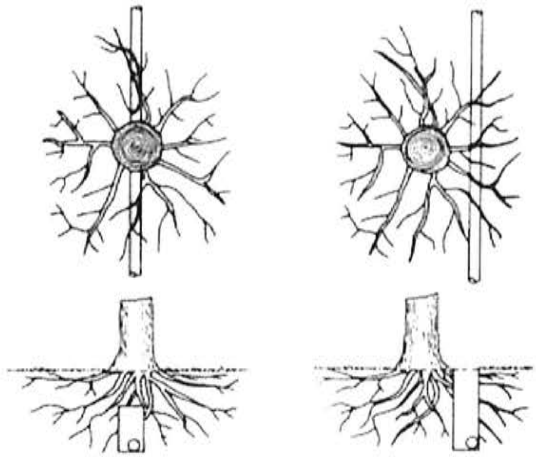
Physical Injury to Trunk and Crown. Construction equipment can injure the aboveground portion of a tree by breaking branches, tearing the bark, and wounding the trunk. These injuries are permanent and, if extensive, can be fatal.

Cutting of Roots. The digging and trenching that are necessary to construct a house and install underground utilities will likely sever a portion of the roots of many trees in the area. It is easy to appreciate the potential for damage if you understand where roots grow. The roots of a tree are found mostly in the upper 6 to 24 inches of the soil. In a mature tree, the roots extend far from the trunk. In fact, roots typically are found growing a distance of one to three times the height of the tree. The

amount of damage a tree can suffer from root loss depends, in part, on how close to the tree the cut is made. Severing one major root can cause the loss of 5 to 20 percent of the root system.

The roots of a tree extend far from the trunk and are found mostly in the upper 6 to 12 inches of soil.

Another problem that may result from root loss caused by digging and trenching is that the potential for the trees to fall over is increased. The roots play a critical role in anchoring a tree. If the major support roots are cut on one side of a tree, the tree may fall or blow over.



Less damage is done to tree roots if utilities are tunneled under a tree (right, top and bottom) rather than across the roots (left, top and bottom).

Less damage is done to tree roots if utilities are tunneled under a tree rather than across the roots.

Soil Compaction. An ideal soil for root growth and development is about 50 percent pore space. These pores—the spaces between soil particles—are filled with water and air. The heavy equipment used in construction compacts the soil and can dramatically reduce the amount of pore space. This compaction not only inhibits root growth and penetration but also decreases oxygen in the soil that is essential to the growth and function of the roots, and water infiltration.

Smothering Roots by Adding Soil. Most people are surprised to learn that 90 percent of the fine roots that absorb water and minerals are in the upper 6 to 12 inches of soil. Roots require space, air, and water. Roots grow best where these requirements are met, which is usually near the soil surface. Piling soil over the root system or increasing the grade smothers the roots. It takes only a few inches of added soil to kill a sensitive mature tree.

Exposure to the Elements. Trees in a forest grow as a community, protecting each other from the elements. The trees grow tall, with long, straight trunks and high canopies. Removing neighboring trees or opening the shared canopies of trees during construction exposes the remaining trees to sunlight and wind. The higher levels of sunlight may cause sunscald on the trunks and branches. Also, the remaining trees are more prone to breaking from wind or ice loading.

Getting Advice

Hire a professional arborist in the early planning stage. Many of the trees on your property may be saved if the proper steps are taken. Allow the arborist to meet with you and your building contractor. Your arborist can assess the trees on your property, determine which are healthy and structurally sound, and suggest measures to preserve and protect them.

One of the first decisions is determining which trees are to be preserved and which should be removed. You must consider the species, size, maturity, location, and condition of each tree. The largest, most mature trees are not always the best choices to preserve. Younger, more vigorous trees usually can survive and adapt to the stresses of construction better. Try to maintain diversity of species and ages. Your arborist can advise you about which trees are more sensitive to compaction, grade changes, and root damage.

Planning

Your arborist and builder should work together in planning the construction. The builder may need to be educated regarding the value of the trees on your property and the importance of saving them. Few builders are aware of the way trees' roots grow and what must be done to protect them.

Sometimes small changes in the placement or design of your house can make a great difference in whether a critical tree will survive. An alternative plan may be more friendly to the root system. For example, bridging over the roots may substitute for a conventional walkway. Because trenching near a tree for utility installation can be damaging, tunneling under the root system may be a good option.

Erecting Barriers

Because our ability to repair construction damage to trees is limited, it is vital that trees be protected from injury. The single most important action you can take is to set up construction fences around all of the trees that are to remain. The fences should be placed as far out from the trunks of the trees as possible. As a general guideline, allow 1 foot of space from the trunk for each inch of trunk diameter. The intent is not merely to protect the aboveground portions of the trees but also the root systems. Remember that the root systems extend much farther than the drip lines of the trees.

Instruct construction personnel to keep the fenced area clear of building materials, waste, excess soil, and equipment. No digging, trenching, or other soil disturbance such as driving vehicles and equipment over the soil should be allowed in the fenced area.

Protective fences should be erected as far out from the trunks as possible in order to protect the root system prior to the commencement of any site work, including grading, demolition, and grubbing.

Limiting Access

If at all possible, it is best to allow only one access route on and off the property. All contractors must be instructed where they are permitted to drive and park their vehicles. The construction access drive should be the route for utility wires; underground water, sewer, or storm drain lines; roadways; or the driveway.

Protective fences should be erected as far out from the trunks as possible in order to protect the root systems.

Specify storage areas for equipment, soil, and construction materials. Limit areas for burning (if permitted), cement wash-out pits, and construction work zones. These areas should be away from protected trees.

Specifications

Specifications are to be put in writing. All of the measures intended to protect your trees must be written into the construction specifications. The written specifications should detail exactly what can and cannot be done to and around the trees. Each subcontractor must be made aware of the barriers, limitations, and specified work zones. It is a good idea to post signs as a reminder.

Fines and penalties for violations should be built into the specifications. Not too surprisingly, subcontractors are much more likely to adhere to the tree preservation clauses if their profit is at stake. The severity of the fines should be proportional to the potential damage to the trees and should increase for multiple infractions.

Maintaining Good Communications

It is important to work together as a team. You may share clear objectives with your arborist and your builder, but one subcontractor can destroy your prudent efforts. Construction damage to trees is often irreversible.

Visit the site at least once a day if possible. Your vigilance will pay off as workers learn to take your wishes seriously. Take photos at every stage of construction. If any infraction of the specifications does occur, it will be important to prove liability.

Final Stages

It is not unusual to go to great lengths to preserve trees during construction, only to have them injured during landscaping. Installing irrigation systems and roto-tilling planting beds are two ways the root systems of trees can be damaged. Remember also that small increases in grade (as little as 2 to 6 inches) that place additional soil over the roots can be devastating to your trees. ANSI A300 Standards Part 5 states that tree protection shall be in place for the landscape phase of the site development. Landscape tree protection may be different than other construction process tree protection, and a conference with the landscape contractor should be held prior to the commencement of the landscape work. Careful planning and communicating with landscape designers and contractors is just as important as avoiding tree damage during construction.

Post-Construction Tree Maintenance

Your trees may require several years to adjust to the injury and environmental changes that occur during construction. The better construction impacts are avoided, the less construction stress the trees will experience. Stressed trees are more prone to health problems such as disease and insect infestations. Talk to your arborist about continued maintenance for your trees. Continue to monitor your trees, and have them periodically evaluated for declining health or safety hazards.

Despite the best intentions and most stringent tree preservation measures, your trees still might be injured from the construction process. Your arborist can suggest remedial treatments to help reduce stress and improve the growing conditions around your trees. In addition, the International Society of Arboriculture offers a companion to this brochure titled "Treatment of Trees Damaged by Construction".

California Tree and Landscape Consulting, Inc.

GORDON MANN

EDUCATION AND QUALIFICATIONS

1977	Bachelor of Science, Forestry, University of Illinois, Champaign.
1982 - 1985	Horticulture Courses, College of San Mateo, San Mateo.
1984	Certified as an Arborist, WE-0151A, by the International Society of Arboriculture (ISA).
2004	Certified as a Municipal Specialist, WE-0151AM, by the ISA.
2011	Registered Consulting Arborist, #480, by the American Society of Consulting Arborists (ASCA).
2003	Graduate of the ASCA Consulting Academy.
2006	Certified as an Urban Forester, #127, by the California Urban Forests Council (CaUFC).
2011	TRACE Tree Risk Assessment Certified, continued as an ISA Qualified Tree Risk Assessor (T.R.A.Q.).

PROFESSIONAL EXPERIENCE

2016 – Present CALIFORNIA TREE AND LANDSCAPE CONSULTING, INC (CalTLC). President and Consulting Arborist.
Auburn. Mr. Mann provides consultation to private and public clients in health and structure analysis, inventories, management planning for the care of trees, tree appraisal, risk assessment and management, and urban forest management plans.

1986 - Present MANN MADE RESOURCES. Owner and Consulting Arborist. Auburn.
Mr. Mann provides consultation in municipal tree and risk management, public administration, and developing and marketing tree conservation products.

2015 – 2017 CITY OF RANCHO CORDOVA, CA. Contract City Arborist.
Mr. Mann serves as the City's first arborist, developing the tree planting and tree maintenance programs, performing tree inspections, updating ordinances, providing public education, and creating a management plan,

1984 – 2007 CITY OF REDWOOD CITY, CA. City Arborist, Arborist, and Public Works Superintendent.
Mr. Mann developed the Tree Preservation and Sidewalk Repair Program, supervised and managed the tree maintenance program, performed inspections and administered the Tree Preservation Ordinance. Additionally, he oversaw the following Public Works programs: Streets, Sidewalk, Traffic Signals and Streetlights, Parking Meters, Signs and Markings, and Trees.

1982 – 1984 CITY OF SAN MATEO, CA. Tree Maintenance Supervisor.
For the City of San Mateo, Mr. Mann provided supervision and management of the tree maintenance program, and inspection and administration of the Heritage Tree Ordinance.

1977 – 1982 VILLAGE OF BROOKFIELD, IL. Village Forester.
Mr. Mann provided inspection of tree contractors, tree inspections, managed the response to Dutch Elm Disease. He developed an in-house urban forestry program with leadworker, supervision, and management duties to complement the contract program.

1979 - Present INTERNATIONAL SOCIETY OF ARBORICULTURE. Member.
- Board of Directors (2015 - Present)

- True Professional of Arboriculture Award (2011); In recognition of material and substantial contribution to the progress of arboriculture and having given unselfishly to support arboriculture.

1982 - Present WESTERN CHAPTER ISA (WCISA). Member.

- Chairman of the Student Committee (2014 - 2017)
- Member of the Certification Committee (2007 - Present)
- Chairman of the Municipal Committee (2009 - 2014) Award of Merit (2016) In recognition of outstanding meritorious service in advancing the principles, ideals and practices of arboriculture.
- Annual Conference Chair (2012)
- Certification Proctor (2010 – Present)
- President (1992 - 1993)
- Award of Achievement and President's Award (1990)

1985 - Present CALIFORNIA URBAN FORESTS COUNCIL (CaUFC). Member; Board Member (2010 - Present)

1985 - Present SOCIETY OF MUNICIPAL ARBORISTS (SMA). Member. e Legacy Project of the Year (2015) o In recognition of outstanding meritorious service in advancing the principles, ideals and practices of arboriculture.

- Board Member (2005 - 2007)

2001 - Present AMERICAN SOCIETY OF CONSULTING ARBORISTS.
Member. e Board of Directors (2006 - 2013)
• President (2012)

2001 - Present CAL FIRE. Advisory Position.
• Chairman of the California Urban Forestry Advisory Committee (2014 - 2017)

2007 – Present AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI): A300 TREE MAINTENANCE STANDARDS
COMMITTEE. SMA Representative and Alternate.

- Alternative Representative for SMA (2004 - 2007; 2012 - Present)
- Representative for SMA (2007 - 2012)

2007 - Present SACRAMENTO TREE FOUNDATION. Member and Employee.

- Co-chair/member of the Technical Advisory Committee (2012 - Present)
- Urban Forest Services Director (2007 - 2009) e Facilitator of the Regional Ordinance Committee (2007 - 2009)
- 1988 - 1994 TREE CLIMBING COMPETITION.
  - Chairman for Northern California (1988 - 1992)
  - Chairperson for International (1991 - 1994)

PUBLICA TIONS AND LECTURES

Mr. Mann has authored numerous articles in newsletters and magazines such as Western Arborist, Arborist News, City Trees, Tree Care Industry Association, Utility Arborists Association, CityTrees, and Arborists Online, covering a range of topics on Urban Forestry, Tree Care, and Tree Management. He has developed and led the training for several programs with the California Arborist Association. Additionally, Mr. Mann regularly presents at numerous professional association meetings on urban tree management topics.

Assumptions and Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant's prior express written consent.
7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
9. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing or coring. Consultant makes no warranty or guarantee, express or implied that the problems or deficiencies of the plans or property in question may not arise in the future.
10. Loss or alteration of any part of this Agreement invalidates the entire report.

Certificate of Performance

I, Gordon Mann, certify that:

I have personally inspected the trees and site referred to in this report and have stated my findings accurately. The extent of the inspection is stated in the attached report under Assignment;

I have no current or prospective interest in the vegetation, or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved;

The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts;

My analysis, opinions, and conclusions were developed, and this report has been prepared according to commonly accepted arboricultural practices;

No one provided significant professional assistance to me, except as indicated within the report;

My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client, or any other party, nor upon the results of the assignment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of the International Society of Arboriculture (ISA) and an ISA Certified Arborist and Municipal Specialist. I am also a Registered Consulting Arborist member in good standing of the American Society of Consulting Arborists. I have been involved in the practice of arboriculture and the care and study of trees for over 43 years.

Signed:

Gordon Mann
Date: October 12, 2021

PRELIMINARY DRAINAGE MEMO

PARK DRIVE PARCEL MAP

(3630 Park Drive, El Dorado Hills, CA)

P21-0010 KUKHARETS PARCEL MAP
EXHIBIT N - PRELIMINARY DRAINAGE MEMO

INTRODUCTION

The Park Drive Parcel Map (Project) is located on an approximately 2.8 acre site in El Dorado Hills, California. The Project site is bounded by residential properties to the east, an El Dorado Hills Community Services District park site to the south, William Brooks Elementary School to the west, and Park Drive to the north. Redwood Lane separates the Project and school/park sites and connects Park Drive to Arrowhead Drive to the southeast. The existing parcel contains two existing structures with a shared driveway and is proposed to be divided into four total lots with the existing structures remaining on a single lot.

The purpose of this memo is to present a preliminary discussion of site drainage, water quality, and hydro-modification. A final project drainage report completed in conformance with the requirements of the County of El Dorado Drainage Manual and other applicable storm water regulations, including but not limited to evaluation of detailed drainage calculations, determination of drainage flow limits, selection of Low Impact Development (LID) practices, water quality treatment method selections, evaluation of offsite drainage system capacity (as needed), and evaluation of onsite detention/hydromodification design needs (if needed), will be prepared during the project improvement plan phase.

EXISTING CONDITIONS

The Project site currently consists of a mixture of grasses, trees, and developed conditions. There are two existing structures with a shared driveway on the northwest of the parcel. The land slopes from the northeast to the southwest with slopes generally between 10-20% and lower for most of the site, which allows the natural runoff to follow this same general pattern. Runoff is generally accepted onto the site from the east, with the site also accepting discharge from two existing culverts (10" and 12") from the east. These two drainages converge on the site and flow to the southwest, where drainage exits the site at an existing 18" culvert. An existing drainage ditch that flows along the north side of Redwood Lane also enters the site in the southwestern corner.

PREVIOUS STUDY

The Carson Creek Regional Drainage Study (CCRDS) was previously prepared for the project area and included a much larger surrounding study area. The Carson Creek watershed encompassed within the CCRDS generally flows south within tributaries to Carson Creek through El Dorado Hills and encompasses areas on both sides of US 50.

The Park Drive Parcel Map site was included within the drainage sheds analyzed in the CCRDS and the study did not anticipate detention of drainage for the project site.

The final project drainage report at time of improvement plans should consider the proposed Park Drive Parcel Map project in context with prior CCRDS assumptions to the satisfaction of El Dorado County.

WATER QUALITY & HYDROMODICATION

The ultimate development of the site would be expected to create additional impervious area. This area could include new homes, driveways, walkways, patios, etc. A significant portion of the site is expected to remain pervious in a landscaped or natural condition. At final design, consideration should be given to Low Impact Development (LID) opportunities and water quality treatment opportunities as a part of site design.

Site design considerations could include, but are not limited to, the following:

- Minimize impervious areas
- Maintain and use existing drainage courses
- Minimize site clearing and grading
- Runoff storage measures including a variety of detention, retention, and runoff practices
- Landscape design and management practices
- Conservation of natural areas
- Minimize directly connected impervious area

Detention and hydro-modification will be evaluated in a final project drainage report at the time of improvement plan preparation, if required. Two conceptual locations for water quality/detention are identified on the Tentative Parcel Map Preliminary Grading and Drainage Plan, but no sizing of facilities has been evaluated. These locations and sizes are subject to change and would be determined at final improvement plan design, if applicable.

CONCLUSIONS

A final project drainage report completed in conformance with the requirements of the County of El Dorado Drainage Manual and other applicable storm water regulations, including but not limited to evaluation of detailed drainage calculations, determination of drainage flow limits, selection of Low Impact Development (LID) practices, water quality treatment method selections, evaluation of offsite drainage system capacity (as needed), and evaluation of onsite detention/hydro-modification design needs (if needed), will be prepared during the project improvement plan phase.

The final project drainage report at time of improvement plans should consider the proposed Park Drive Parcel Map project in context with prior CCRDS assumptions to the satisfaction of El Dorado County.