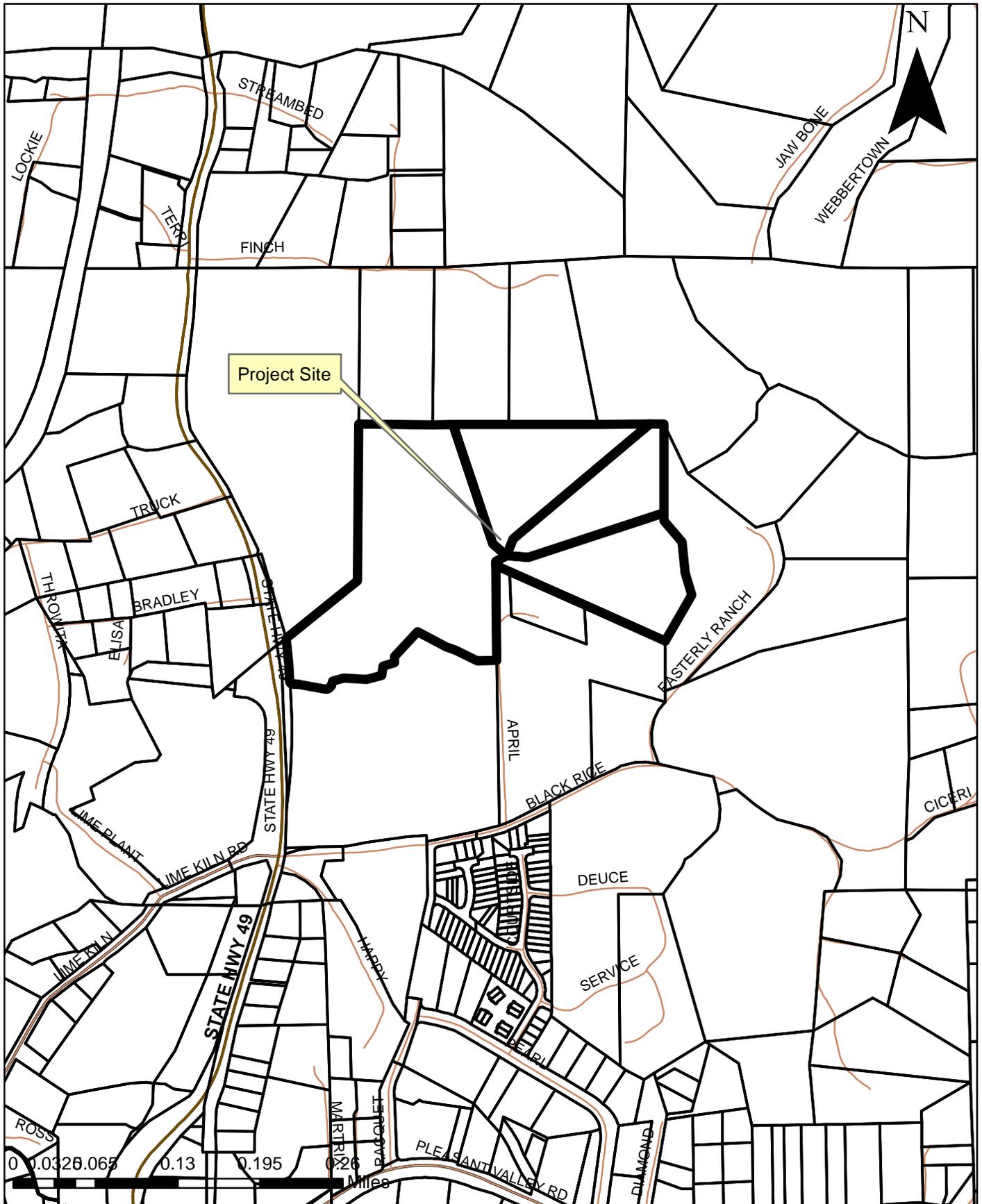


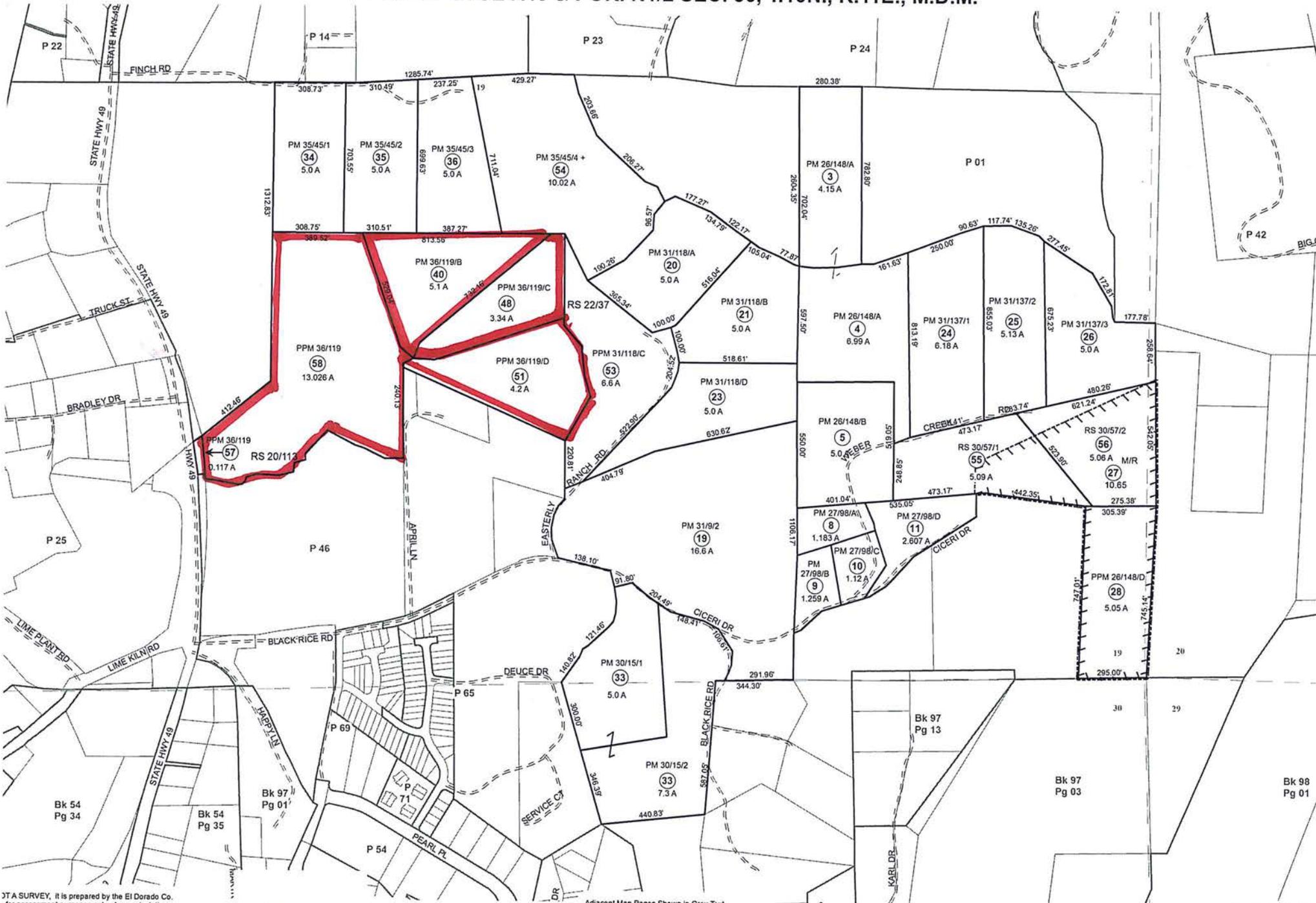
Piedmont Oak Estates Tentative Subdivision Map

File Nos. A15-0001/Z12-0010/PD12-0002/TM12-1510



ATTACHMENT 1: Location Map

POR. S 1/2 SEC.19 & POR. N1/2 SEC. 30, T.10N., R.11E., M.D.M.



THIS SURVEY, if it is prepared by the El Dorado Co. for assessment purposes only. Area calculations are not guaranteed. Users should verify items and acreage.

Acreages Are Estimates

Adjacent Map Pages Shown in Grey Text
 Assessor's Block Numbers Shown in Ellipses
 Assessor's Parcel Numbers Shown in Circles

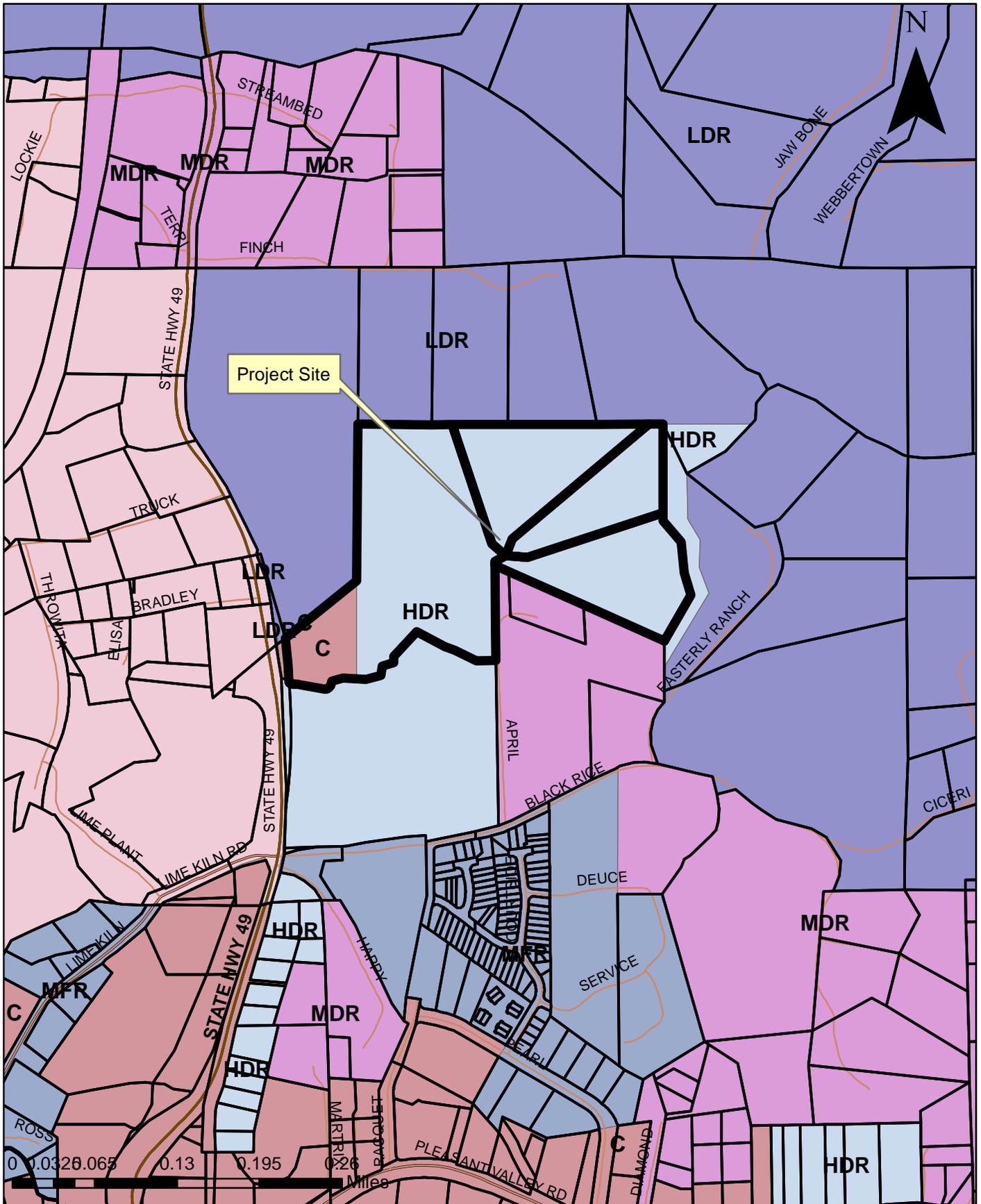
Rev. MAY 5, 2016

Assessor's Map
 County of El

ATTACHMENT 2

Piedmont Oak Estates Tentative Subdivision Map

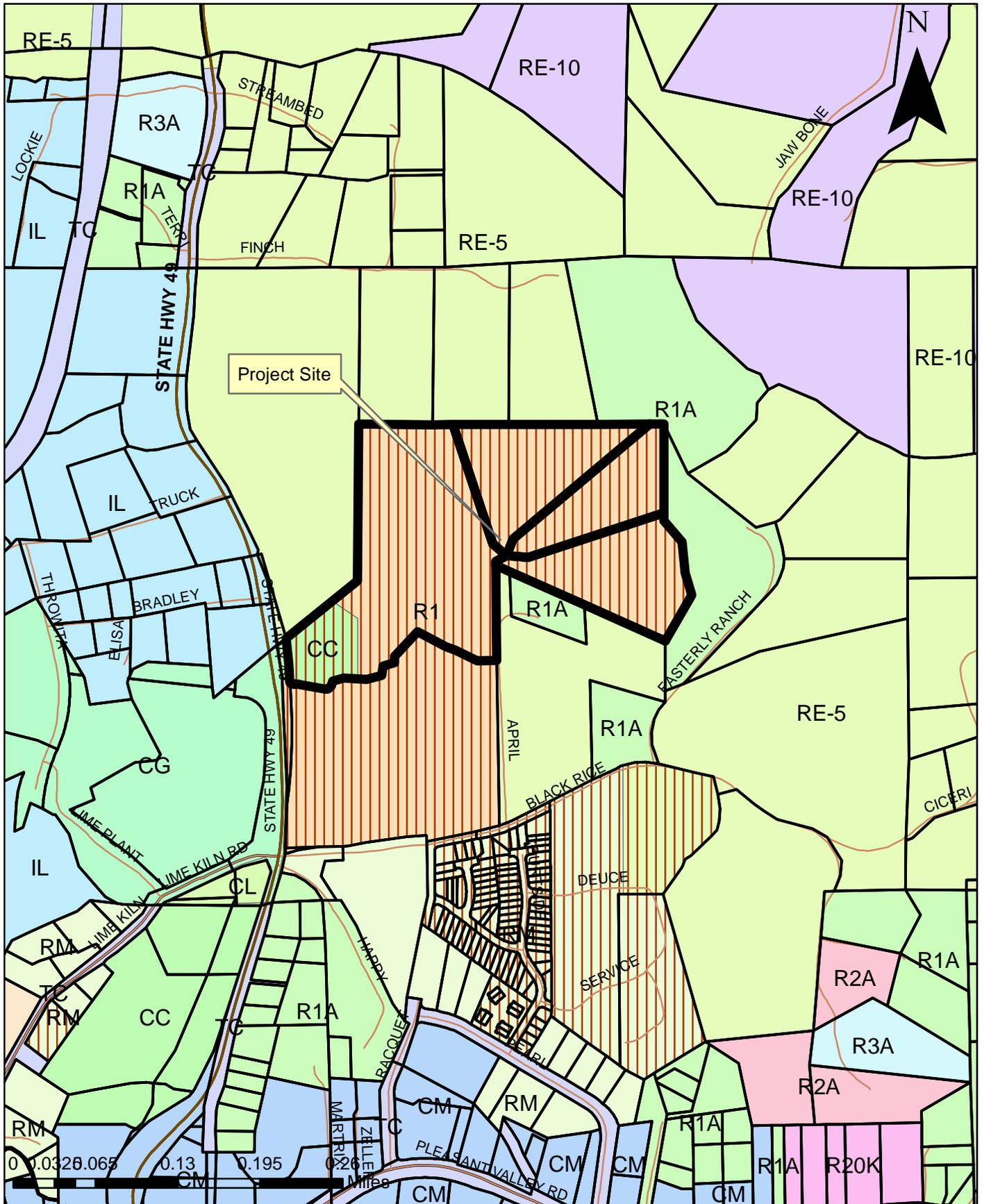
File Nos. A15-0001/Z12-0010/PD12-0002/TM12-1510



Attachment 3: General Plan Land Use Map

Piedmont Oak Estates Tentative Subdivision Map

File Nos. A15-0001/Z12-0010/PD12-0002/TM12-1510



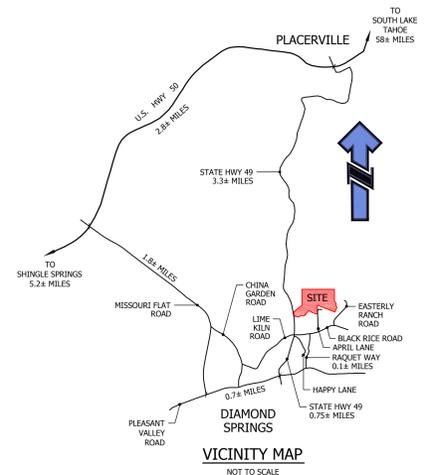
Attachment 4: Zoning Map



ZONING & LAND USE EXHIBIT

PIEDMONT OAK ESTATES

COUNTY OF EL DORADO, STATE OF CALIFORNIA



OWNERS OF RECORD:
 JIM DAVIES AND TERRI CHANG
 CONTACT: JIM DAVIES
 854 DIABLO ROAD
 DANVILLE, CA 94526
 TEL: 925-820-9444 FAX: 925-820-7917

SECTION, TOWNSHIP & RANGE:
 SECTIONS 19 & 30, T.10 N., R.11 E., M.D.M. (BEING PORTIONS OF PM 25-46, PM 32-6, PM 36-119 & RS 20-113)

ASSESSOR'S PARCEL NUMBERS:
 051-550-40, 47, 48 & 51

PRESENT/PROPOSED ZONING:
 051-550-40: R1-PD/R1-PD, OS-PD
 051-550-47: CC-PD, R1-PD/CC-PD, R1-PD, OS-PD
 051-550-48: R1-PD/R1-PD, OS-PD
 051-550-51: R1-PD/R1-PD, OP-PD

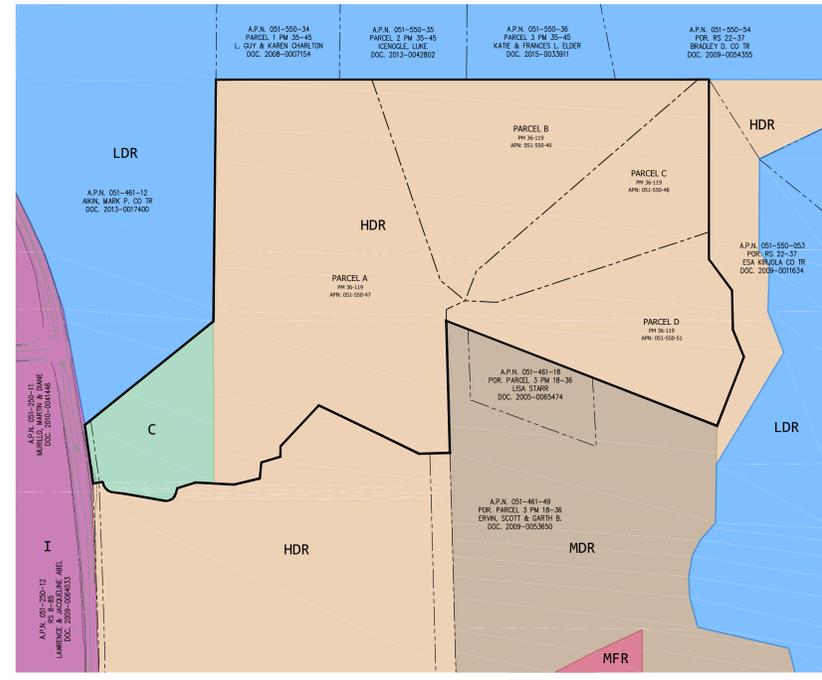
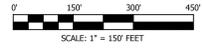
TOTAL AREA:
 25.86± ACRES

TOTAL NUMBER OF PARCELS:
 43 - CUSTOM RESIDENTIAL LOTS
 64 - CLUSTERED RESIDENTIAL LOTS
 1 - COMMERCIAL LOT
 5 - OPEN SPACE LOTS
 12 - ACCESS LOTS
 1 - ROAD LOT
 1 - LIFT STATION LOT
 127 - TOTAL

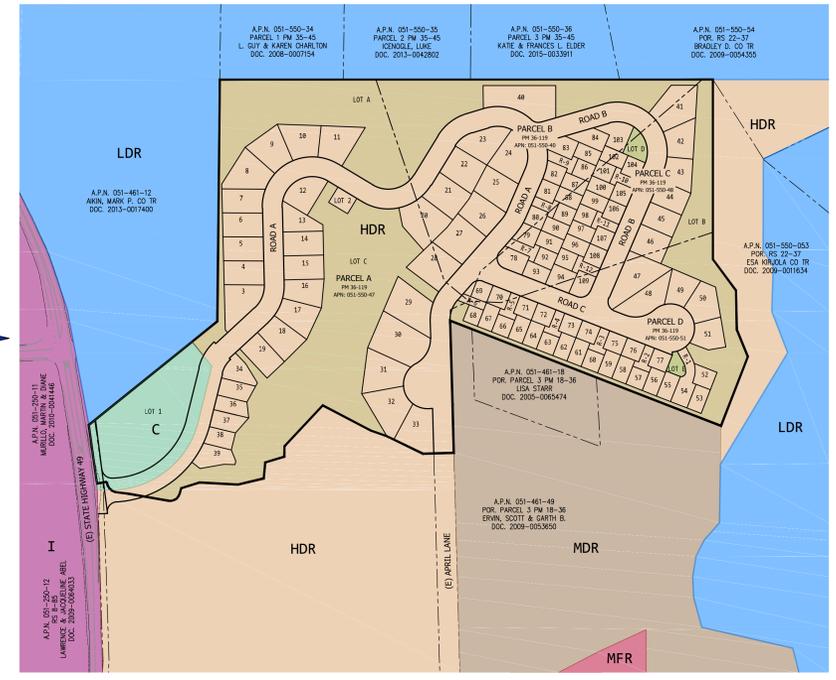
PROPOSED LAND USAGE TOTALS:
 CUSTOM RESIDENTIAL LOTS - 315,825 SF = 28.04%
 CLUSTERED RESIDENTIAL LOTS - 160,890 SF = 14.28%
 COMMERCIAL LOT - 49,624 SF = 4.41%
 OPEN SPACE LOTS - 357,582 SF = 31.74%
 ACCESS LOTS - 22,680 SF = 2.01%
 ROAD LOT - 217,374 SF = 19.3%
 LIFT STATION LOT - 2,475 SF = 0.22%
 EXISTING PARCELS (4) - 1,126,450± SF = 100%

LAND USE DESIGNATIONS:
 HDR - HIGH DENSITY RESIDENTIAL
 LDR - LOW DENSITY RESIDENTIAL
 MFR - MULTI-FAMILY RESIDENTIAL
 C - COMMERCIAL
 I - INDUSTRIAL

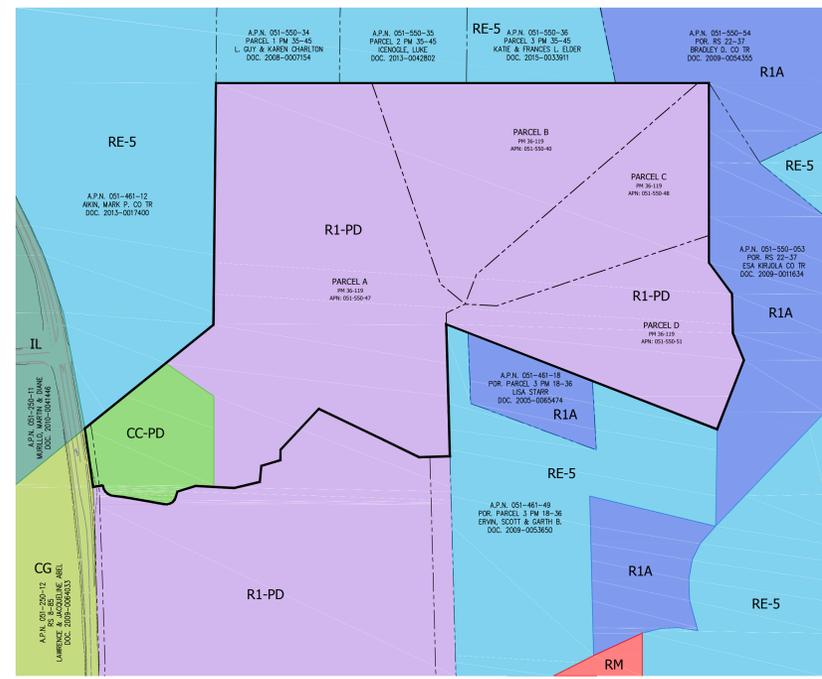
ZONING DESIGNATIONS:
 R1 - RESIDENTIAL, SINGLE UNIT
 R1A - RESIDENTIAL, ONE ACRE
 RE-5 - RESIDENTIAL, FIVE ACRE
 CC - COMMERCIAL, COMMUNITY
 CG - COMMERCIAL, GENERAL
 IL - INDUSTRIAL, LOW
 RM - RESIDENTIAL, MULTI-UNIT
 PD - PLANNED DEVELOPMENT
 OS - OPEN SPACE



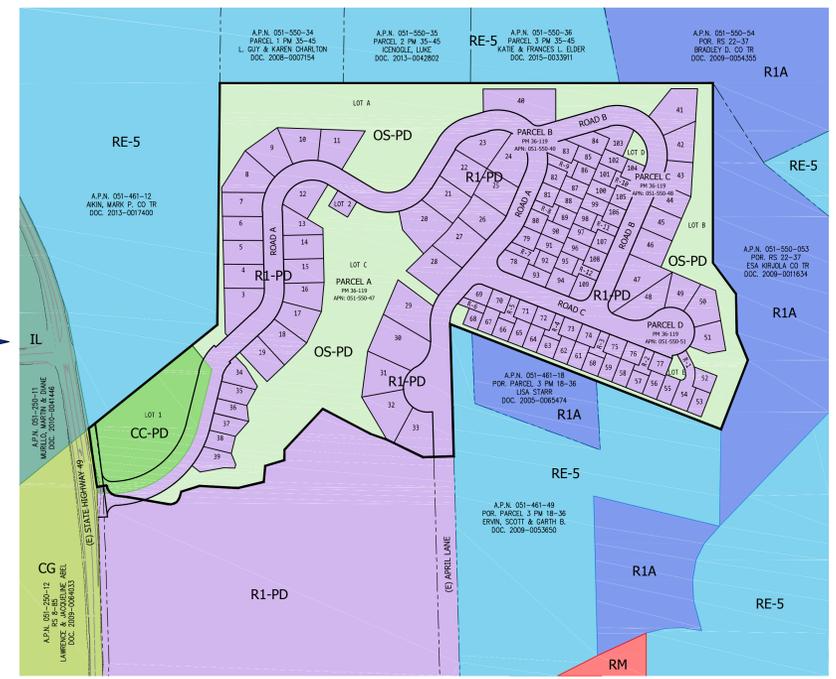
EXISTING GENERAL PLAN LAND USE DESIGNATIONS



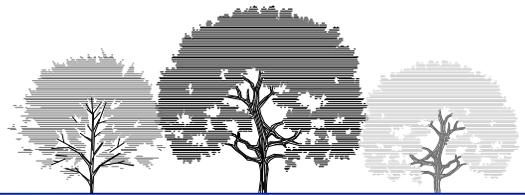
PROPOSED GENERAL PLAN LAND USE DESIGNATIONS



EXISTING ZONING DESIGNATIONS

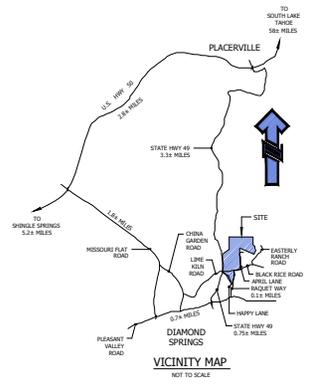


PROPOSED ZONING DESIGNATIONS



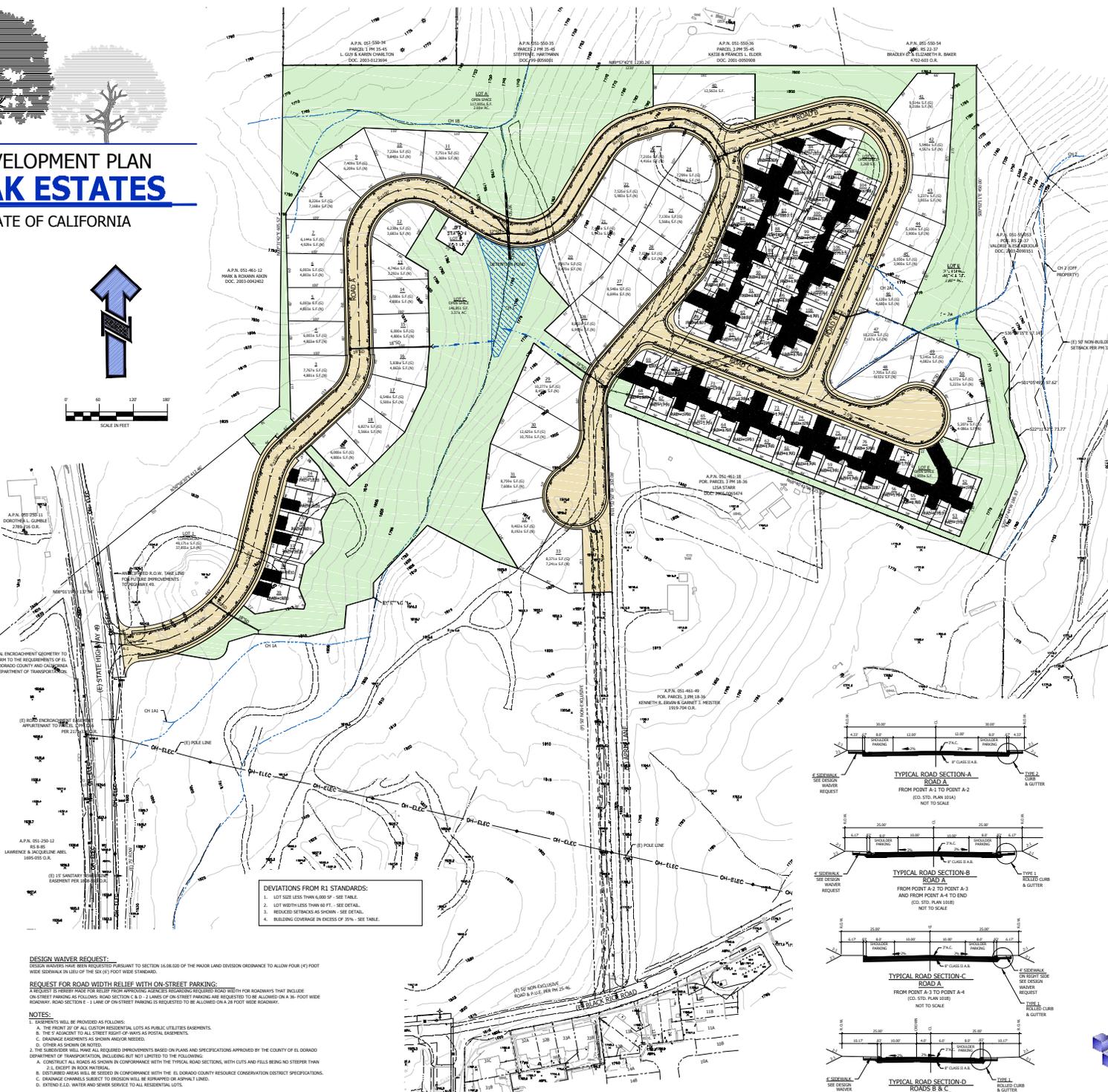
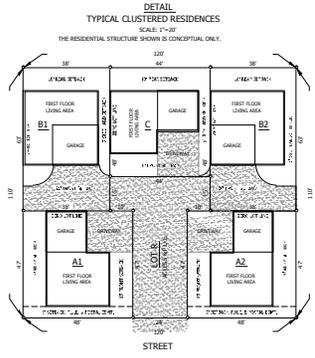
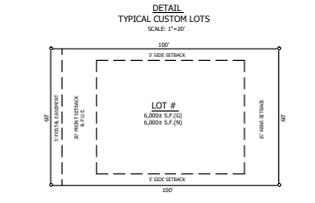
TENTATIVE MAP & DEVELOPMENT PLAN PIEDMONT OAK ESTATES

COUNTY OF EL DORADO, STATE OF CALIFORNIA



TYPICAL LOT DATA

LOT	LOT SIZE	STORIES	LIVING SPACE	BUILDING COVERAGE	IMPROVED SURFACE
A1	2,254 SF	2	1,588 SF	999 SF/45%	1,536 SF/68%
A2	2,254 SF	2	1,618 SF	999 SF/45%	1,536 SF/68%
B1	2,384 SF	2	1,618 SF	1,088 SF/45%	1,730 SF/72%
B2	2,384 SF	2	1,618 SF	1,088 SF/45%	1,730 SF/72%
C	2,112 SF	2	1,200 SF	782 SF/37%	1,272 SF/60%
D	2,784 SF	2	1,500 SF	982 SF/35%	1,784 SF/64%
TOTAL	13,200 SF	-	5,082 SF/38%	3,236 SF/25%	5,236 SF/40%



FINAL ENCROACHMENT GEOMETRY TO CONFORM TO THE REQUIREMENTS OF EL DORADO COUNTY AND CALIFORNIA DEPARTMENT OF TRANSPORTATION:

A.P.N. 051-001-11
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-12
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-13
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-14
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-15
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-16
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-17
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-18
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-19
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-20
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-21
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-22
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-23
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-24
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-25
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-26
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-27
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-28
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-29
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-30
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-31
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-32
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2003-004042

A.P.N. 051-001-33
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2789 JG C.D.

A.P.N. 051-001-34
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2003-004042

A.P.N. 051-001-35
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-36
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2003-004042

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2789 JG C.D.

A.P.N. 051-001-38
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2003-004042

A.P.N. 051-001-39
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-40
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-41
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-42
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2003-004042

A.P.N. 051-001-43
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-44
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2003-004042

A.P.N. 051-001-45
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-46
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-47
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-48
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2003-004042

A.P.N. 051-001-49
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-50
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2003-004042

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DORVILLE L. GIBSON
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A.P.N. 051-001-60
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2789 JG C.D.

A.P.N. 051-001-62
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2789 JG C.D.

A.P.N. 051-001-64
MARK B. BROWN AND JEN
2003-004042

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A.P.N. 051-001-70
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DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-72
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-73
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-74
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-75
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-76
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-77
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-78
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-79
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-80
MARK B. BROWN AND JEN
2003-004042

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DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-82
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-83
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-84
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-85
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-86
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-87
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-88
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-89
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-90
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-91
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-92
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-93
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-94
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-95
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-96
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-97
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-98
MARK B. BROWN AND JEN
2003-004042

A.P.N. 051-001-99
DORVILLE L. GIBSON
2789 JG C.D.

A.P.N. 051-001-100
MARK B. BROWN AND JEN
2003-004042

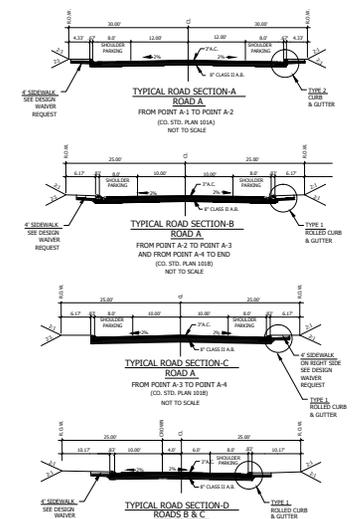
- DEVIATIONS FROM RL STANDARDS:**
1. LOT SIZE LESS THAN 800 SF - SEE TABLE.
 2. LOT WIDTH LESS THAN 40 FT. - SEE DETAIL.
 3. REDUCED SETBACKS AS SHOWN - SEE DETAIL.
 4. BUILDING COVERAGE IN EXCESS OF 30% - SEE TABLE.

DESIGN WAIVER REQUEST:
DESIGN WAIVER REQUEST IS BEING REQUESTED PURSUANT TO SECTION 14.06.02 OF THE MAJOR LAND DIVISION ORDINANCE TO ALLOW FOUR (4) FOOT WIDE SIDEWALK IN LIEU OF THE SIX (6) FOOT WIDE STANDARD.

REQUEST FOR ROAD WIDTH RELIEF WITH ON-STREET PARKING:
A REQUEST IS BEING MADE FOR RELIEF FROM APPROVED PUBLIC REQUIREMENTS FOR ROADWAYS THAT INCLUDE ON-STREET PARKING AS FOLLOWS: ROAD SECTION C & D - 2 LINES OF ON-STREET PARKING ARE REQUESTED TO BE ALLOWED ON A 36' FOOT WIDE ROADWAY. ROAD SECTION E - 1 LINE OF ON-STREET PARKING IS REQUESTED TO BE ALLOWED ON A 36' FOOT WIDE ROADWAY.

NOTES:

1. EASEMENTS WILL BE PROVIDED AS FOLLOWS:
 - A. THE FRONT SET OF ALL CUSTOM RESIDENTIAL LOTS AS PUBLIC UTILITIES EASEMENTS.
 - B. THE 5' EASEMENT TO ALL STREET RIGHT OF WAYS AS POSTAL EASEMENTS.
 - C. CHANGING EASEMENTS AS SHOWN AND/OR NEEDED.
 - D. OTHER AS SHOWN OR NOTED.
2. THE SUBDIVISION WILL MAKE ALL REQUIRED IMPROVEMENTS BASED ON PLANS AND SPECIFICATIONS APPROVED BY THE COUNTY OF EL DORADO DEPARTMENT OF TRANSPORTATION, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - A. CONTRACT ALL ROAD AS SHOWN IN CONFORMANCE WITH THE TYPICAL ROAD SECTIONS, WITH CUTS AND FILLS BEING NO STEEPER THAN 2:1, EXCEPT IN ROCK MATERIAL.
 - B. DISTURBED AREAS SHALL BE REVEGETATED IN CONFORMANCE WITH THE EL DORADO COUNTY RESOURCE CONSERVATION DISTRICT SPECIFICATIONS.
 - C. CHANNEL CHANNELS SUBJECT TO EROSION WILL BE REINFORCED OR APPLIED LINED.
 - D. SETBACK E.L.S. WATER AND SEWER SERVICE TO ALL RESIDENTIAL LOTS.



OWNERS OF RECORD:
JIM DAVIES AND TERRY CHANG
CONTACT: JIM DAVIES
854 ISLAND ROAD
DANVILLE, CA 95919
TEL: 925-835-9444 FAX: 925-835-7917

NAME OF APPLICANT:
JIM DAVIES AND TERRY CHANG
CONTACT: JIM DAVIES
854 ISLAND ROAD
DANVILLE, CA 95919
TEL: 925-835-9444 FAX: 925-835-7917

MAP ORIGINALLY PREPARED BY:
STONING TRAC, INC.
CONTACT: PETER THORNE
PO BOX 304
SHINGLE SPRING, CA 95662
TEL: 925-927-2318 FAX: 925-925-4222
E-MAIL: pthorne@stgtrac.com

MAP REVISED MARCH 2016 BY:
LEBECK YOUNG ENGINEERING, INC.
CONTACT: MARILYN THORNTON-LEBECK
3430 BROWN LANE # 2
CAMDEN PARK, CA 95682
TEL: 530-877-4800
E-MAIL: mthornton@lyeng.com

NOTE: MARCH 2016 REVISIONS ADDRESS LIFTING ONLY. NO CHANGES TO UTILITIES OR GRADING & DRAINAGE.

SCALE:
1"=60'

CONTOUR INTERVAL:
ONE FOOT (3')

SOURCE OF TOPOGRAPHY:
AERIAL SURVEY

SECTION, TOWNSHIP & RANGE:
SECTIONS 19 & 20, T. 19 N., R. 11 E., N. 30 W. (BEING PORTIONS OF P.M. 24-14-16, P.M. 24-14-17, P.M. 24-14-18 & 24-14-19)

ASSESSOR'S PARCEL NUMBERS:
051-001-01 TO 051-100

PRESENT PROPOSED ZONING:
051-001-01 TO 051-010: RL-1
051-001-11 TO 051-020: RL-1
051-001-21 TO 051-030: RL-1
051-001-31 TO 051-040: RL-1
051-001-41 TO 051-050: RL-1
051-001-51 TO 051-060: RL-1
051-001-61 TO 051-070: RL-1
051-001-71 TO 051-080: RL-1
051-001-81 TO 051-090: RL-1
051-001-91 TO 051-100: RL-1

TOTAL AREA:
25.992 ACRES

TOTAL NUMBER OF PARCELS:
44 CUSTOM RESIDENTIAL LOTS
64 CLUSTERED RESIDENTIAL LOTS
1 COMMERCIAL LOTS
5 OPEN SPACE LOTS
12 ACCESS LOTS
1 ROAD LOT
1 LIFT STATION LOT
127 TOTAL

MINIMUM PARCEL AREA:
2,000 SF

WATER SUPPLY:
EL DORADO REGION DISTRICT
EL DORADO IRRIGATION DISTRICT

SEWAGE DISPOSAL:
EL DORADO IRRIGATION DISTRICT

PROPOSED STRUCTURAL FIRE PROTECTION:
CALIFORNIA STRUCTURAL CODEBOOK I.F.C.

DATE:
APRIL 14, 2016
REVISED: SEPTEMBER 2, 2012
REVISED: FEBRUARY 2013
REVISED: MARCH 2016

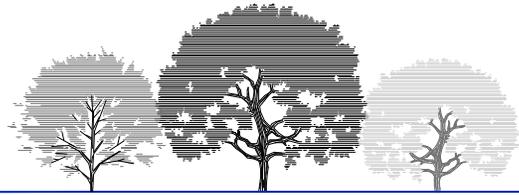
PLANNING COMMISSION:
APPROVAL/RECAL DATE:

BOARD OF SUPERVISORS:
APPROVAL/RECAL DATE:

LEGEND:

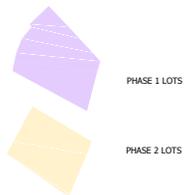
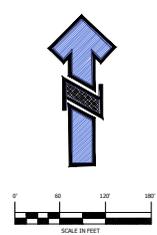
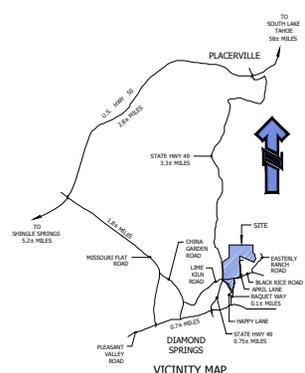
- P.U.L.: PUBLIC UTILITIES EASEMENT
- CHP: CHANNEL NUMBER (SEE REPORT BY SHONKOR ENVIRONMENTAL CONSULTANTS)
- DETENTION POND
- OPEN SPACE
- PAVED AREAS

LEBECK YOUNG ENGINEERING, INC.
3430 BROWN LANE, BLDG. #2
CAMDEN PARK, CA 95682
PH: (530) 877-4800 FAX: (530) 877-4820

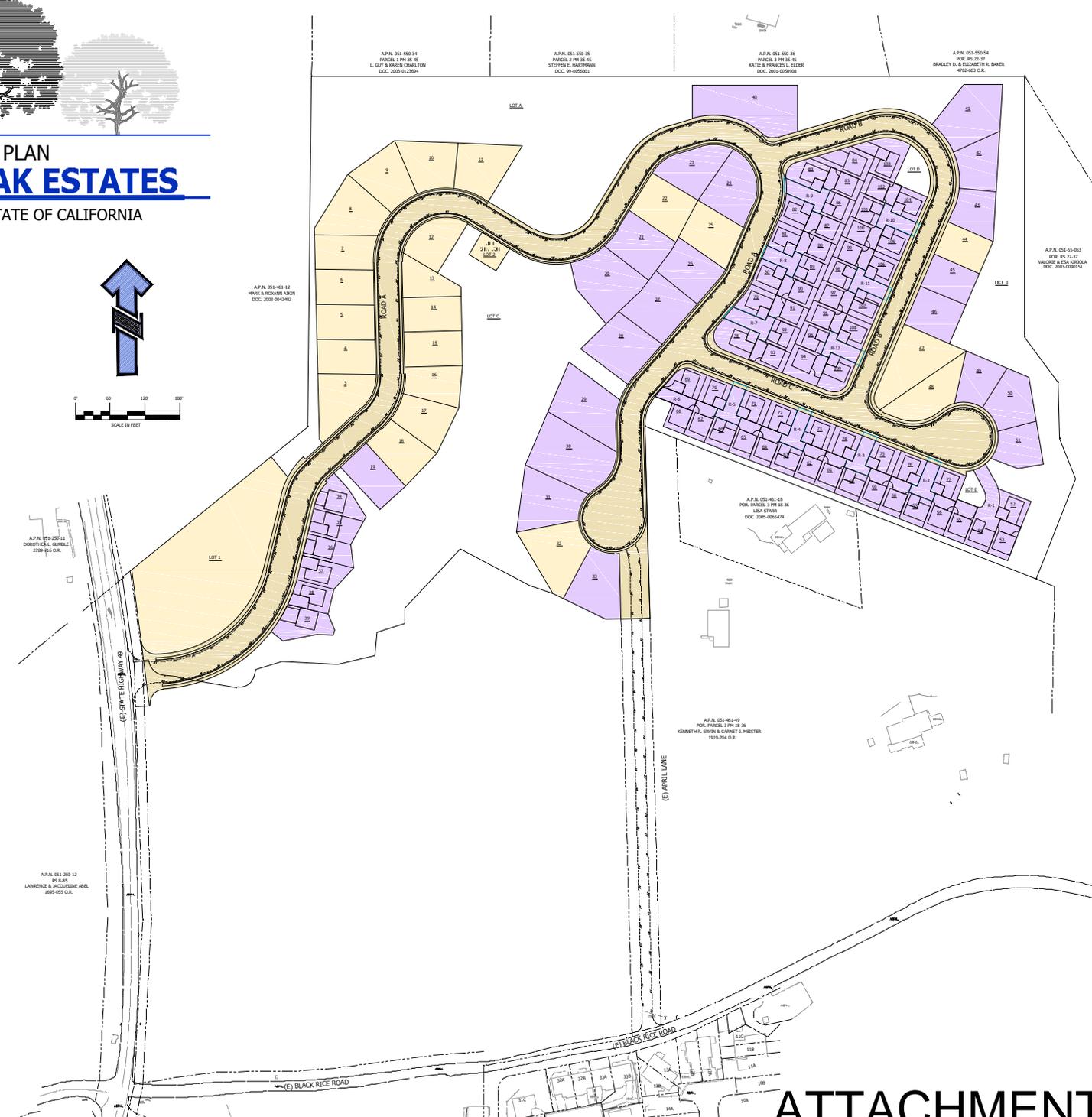


PHASING PLAN PIEDMONT OAK ESTATES

COUNTY OF EL DORADO, STATE OF CALIFORNIA



ALL ROADS ARE TO BE COMPLETED DURING PHASE 1



OWNERS OF RECORD:
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854 ISLAND ROAD
DANFORTH, CA 95828
TEL: 925-835-9444 FAX: 925-835-7917

NAME OF APPLICANT:
JIM DAVIES AND TEREI CHANG
CONTACT: JIM DAVIES
854 ISLAND ROAD
DANFORTH, CA 95828
TEL: 925-835-9444 FAX: 925-835-7917

MAP ORIGINALLY PREPARED BY:
STONINGA TRULI, INC.
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E-MAIL: pthorne@stonga.com

MAP REVISED MARCH 2016 BY:
LEBECK YOUNG ENGINEERING, INC.
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3430 ROBIN LANE # 2
CAMERON PARK, CA 95682
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E-MAIL: mthorne@lyeinc.com

NOTE: MARCH 2016 REVISIONS ADDRESS LIFTING ONLY. NO CHANGES TO UTILITIES OR GRADING & DRAINAGE.

SCALE:
1" = 60'

CONTOUR INTERVAL:
ONE FOOT (3')

SOURCE OF TOPOGRAPHY:
AERIAL SURVEY

SECTION, TOWNSHIP & RANGE:
SECTIONS 19 & 20, T. 39N., R. 11E., M. 20E. (BEING PORTIONS OF P.M. 24-14, P.M. 24-15, P.M. 24-16 & 24-17)

ASSESSOR'S PARCEL NUMBERS:
051-500-06, 07, 08, 09, 10

PRESENT/PROPOSED ZONING:
051-500-06: RL1-R1-1D
051-500-07: RL1-RP-DR1-R1-1D, C/PD
051-500-08: RL1-R1-1D
051-500-09: RL1-R1-1D

TOTAL AREA:
25.892 ACRES

TOTAL NUMBER OF PARCELS:
41 CUSTOM RESIDENTIAL LOTS
64 CLUSTER RESIDENTIAL LOTS
1 COMMERCIAL LOTS
5 OPEN SPACE LOTS
12 ACCESS LOTS
1 BOARD LOT
1 LIFT STATION LOT
127 TOTAL

MINIMUM PARCEL AREA:
2,300 S.F.

WATER SUPPLY:
01 BORNER IRRIGATION DISTRICT

SEWAGE DISPOSAL:
01 BORNER IRRIGATION DISTRICT

PROPOSED STRUCTURAL FIRE PROTECTION:
CAMERON SPRINGS CONTRACT 17.2.

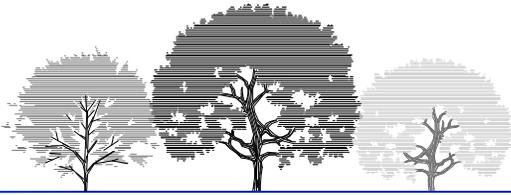
DATE:
APRIL 28, 2020
REVISED: SEPTEMBER 7, 2012
REVISED: FEBRUARY 2013
REVISED: MARCH 2016

PLANNING COMMISSION:
APPROVAL/RECAL DATE:

BOARD OF SUPERVISORS:
APPROVAL/RECAL DATE:



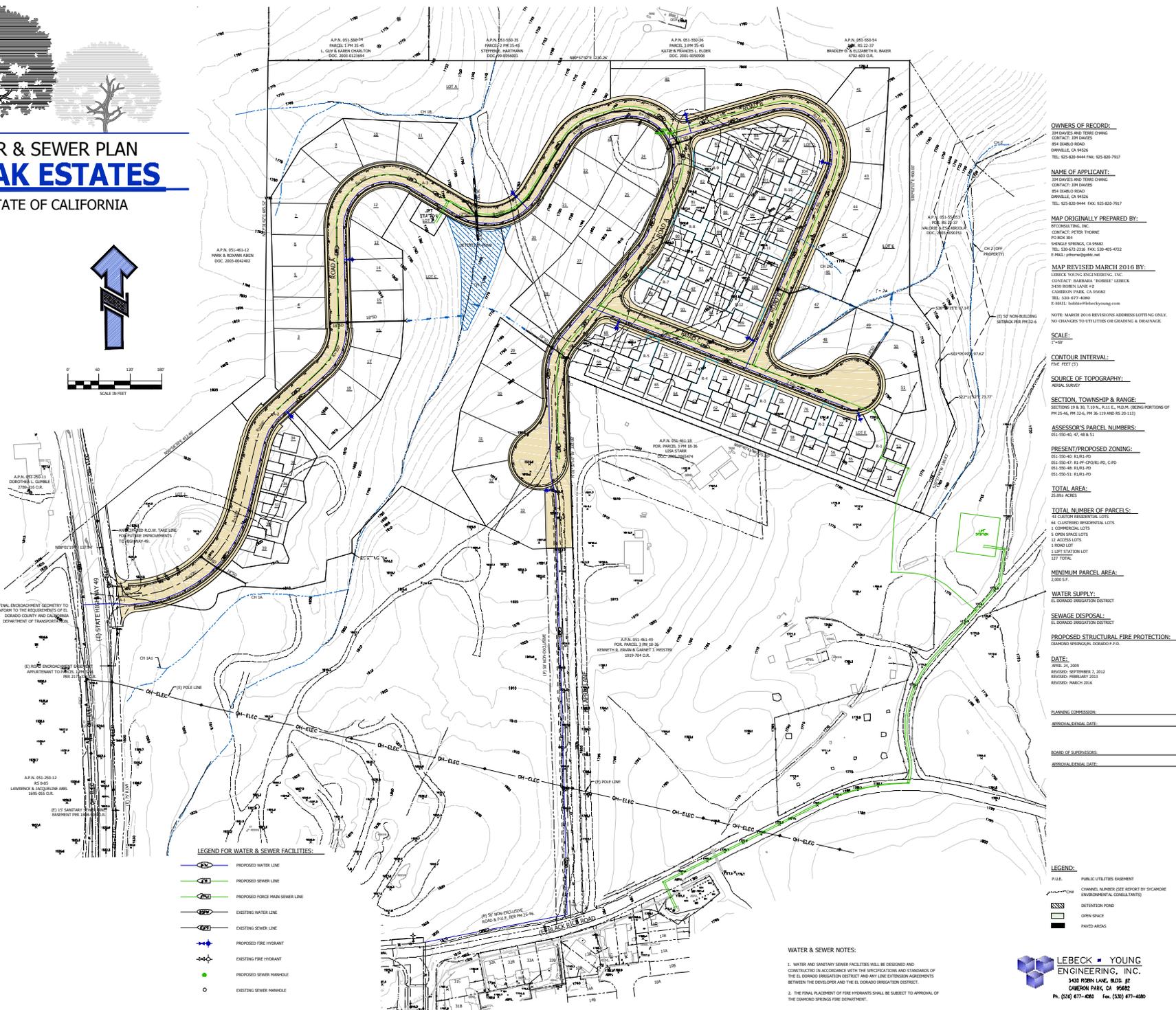
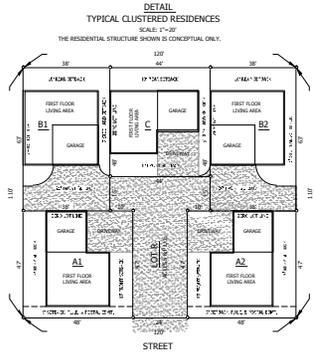
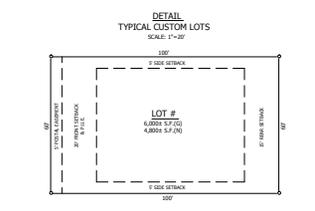
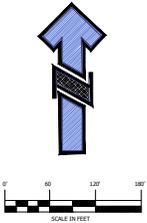
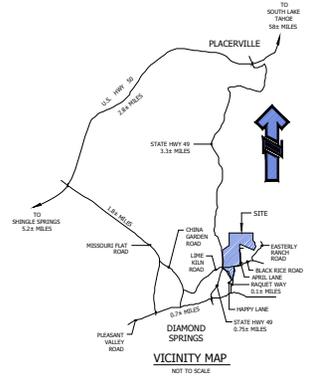
ATTACHMENT 8



PRELIMINARY WATER & SEWER PLAN

PIEDMONT OAK ESTATES

COUNTY OF EL DORADO, STATE OF CALIFORNIA



- LEGEND FOR WATER & SEWER FACILITIES:**
- PROPOSED WATER LINE
 - PROPOSED SEWER LINE
 - PROPOSED FORCE MAIN SEWER LINE
 - EXISTING WATER LINE
 - EXISTING SEWER LINE
 - PROPOSED FIRE HYDRANT
 - EXISTING FIRE HYDRANT
 - PROPOSED SEWER MANHOLE
 - EXISTING SEWER MANHOLE

WATER & SEWER NOTES:

1. WATER AND SANITARY SEWER FACILITIES WILL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS AND STANDARDS OF THE EL DORADO IRRIGATION DISTRICT AND ANY LINE EXTENSION AGREEMENTS BETWEEN THE DEVELOPER AND THE EL DORADO IRRIGATION DISTRICT.
2. THE FINAL PLACEMENT OF FIRE HYDRANTS SHALL BE SUBJECT TO APPROVAL OF THE DIAMOND SPRINGS FIRE DEPARTMENT.

OWNERS OF RECORD:
JIM DAVES AND THERI CHANG
CONTACT: JIM DAVES
854 IDEAL ROAD
DANVILLE, CA 95919
TEL: 925-835-9444 FAX: 925-835-7917

NAME OF APPLICANT:
JIM DAVES AND THERI CHANG
CONTACT: JIM DAVES
854 IDEAL ROAD
DANVILLE, CA 95919
TEL: 925-835-9444 FAX: 925-835-7917

MAP ORIGINALLY PREPARED BY:
SICONGSIA TRINE, INC.
CONTACT: PETER THORNE
PO BOX 304
SHINGLE SPRING, CA 95662
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E-MAIL: peterthorne@sticong.com

MAP REVISED MARCH 2016 BY:
LEBECK YOUNG ENGINEERING, INC.
CONTACT: HARRISON THORNE, LICENSED
3430 BURNING LANE # 2
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E-MAIL: hthorne@lyeng.com

NOTE: MARCH 2016 REVISIONS ADDRESS LIFTING ONLY. NO CHANGES TO UTILITIES OR GRADING & DRAINAGE.

SCALE:
1"=60'

CONTOUR INTERVAL:
ONE FOOT (3')

SOURCE OF TOPOGRAPHY:
AERIAL SURVEY

SECTION, TOWNSHIP & RANGE:
SECTIONS 19 & 20, T.15N., R.11E., N.30M. (BEING PORTIONS OF PM 24-26, PM 24-28, & PM 28-30, S.13 & S.14)

ASSESSOR'S PARCEL NUMBERS:
051-000-00-00-0-1

PRESENT PROPOSED ZONING:
051-000-00-00-0-1
051-000-47-01-00-00-0-0-0
051-000-00-00-0-0-0-0-0
051-000-51-00-0-0-0-0-0

TOTAL AREA:
25.892 ACRES

TOTAL NUMBER OF PARCELS:
44 CUSTOM RESIDENTIAL LOTS
64 CLUSTERED RESIDENTIAL LOTS
1 COMMERCIAL LOTS
5 OPEN SPACE LOTS
12 ACCESS LOTS
1 BOUND LOT
1 LEFT STATION LOT
127 TOTAL

MINIMUM PARCEL AREA:
2,000 S.F.

WATER SUPPLY:
EL DORADO IRRIGATION DISTRICT

SEWAGE DISPOSAL:
EL DORADO IRRIGATION DISTRICT

PROPOSED STRUCTURAL FIRE PROTECTION:
COMMERCIAL STRUCTURES: CONFORM TO I.C.C.

DATE:
APRIL 20, 2009
REVISED: SEPTEMBER 2, 2012
REVISED: FEBRUARY 2013
REVISED: MARCH 2016

PLANNING COMMISSION:
APPROVAL/RECAL DATE:

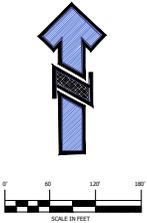
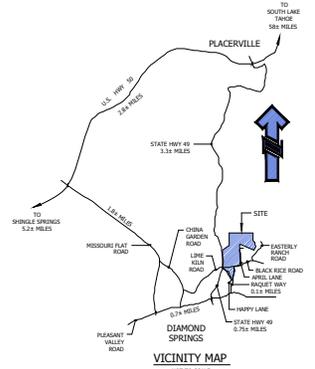
BOARD OF SUPERVISORS:
APPROVAL/RECAL DATE:

LEGEND:
P.U.L.E. PUBLIC UTILITIES EXISTENCE
C.H.A.N.N.E.L NUMBER ONE REPORT BY SICONGSIA ENVIRONMENTAL CONSULTANTS
DETENTION POND
OPEN SPACE
PAVED AREAS

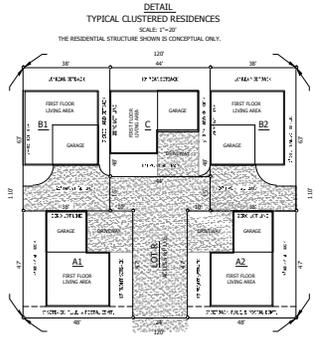


PRELIMINARY GRADING & DRAINAGE PLAN PIEDMONT OAK ESTATES

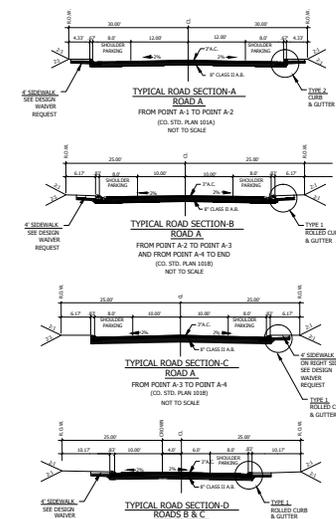
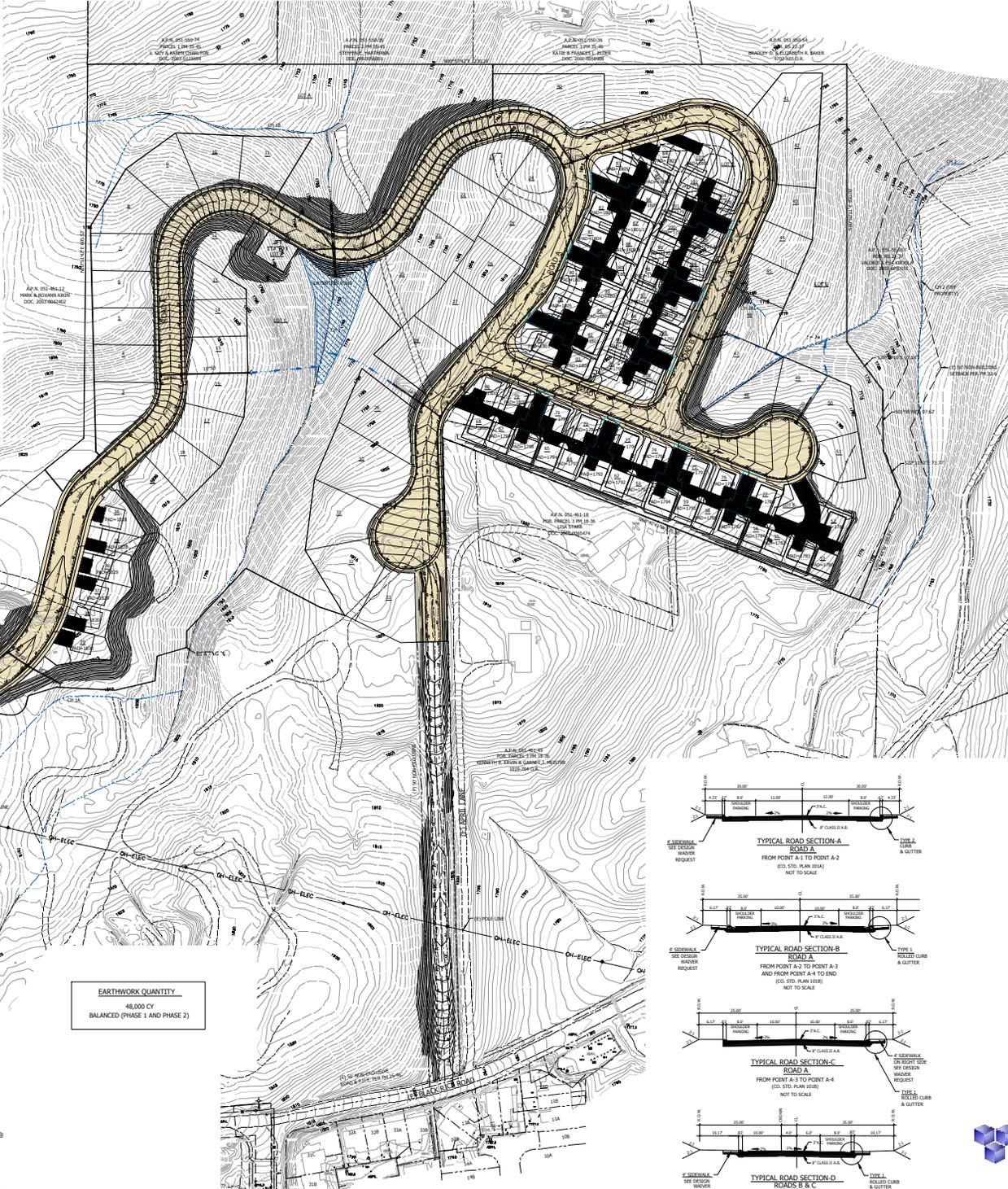
COUNTY OF EL DORADO, STATE OF CALIFORNIA



- GRADING NOTES:**
1. MATERIALS, CONSTRUCTION QUALITY AND METHODS FOR THIS PROJECT WILL BE SUBJECT TO THE COUNTY OF EL DORADO DESIGN AND IMPROVEMENT STANDARDS MANUAL AND THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS.
 2. CLEARING AND GRUBBING WILL CONFORM TO THE PROVISIONS OF SECTION 16, "CLEARING AND GRUBBING" OF THE STANDARD SPECIFICATIONS. ROOTS, STUMPS, TREES, ROCKS OR OTHER DESTRUCTIBLE SUBSTANCES WILL BE DEPOSITED LAWFULLY OFF-SITE.
 3. ALL WORK WILL BE ACCORDING TO THE SATISFACTION OF THE COUNTY OF EL DORADO DEPARTMENT OF TRANSPORTATION.
 4. RIGHTS TO ENTER AND CONSTRUCT WILL BE OBTAINED PRIOR TO CONSTRUCTING ANY OFF-SITE WORK SHOWN IN THE APPROVED PLANS.
 5. PROVISIONS FOR PROTECTION AND PRESERVATION OF OAK TREES AND METALDES WILL BE PROVIDED IN ACCORDANCE WITH COUNTY OF EL DORADO RESOLUTION NO. 22941. ONLY DESIGNATED TREES WILL BE REMOVED. PROTECTIVE FENCING WILL BE INSTALLED AT THE DRIP LINE OF ALL OTHER TREES WITHIN 50' OF ANY GRADING.
 6. DURING CONSTRUCTION DUST WILL BE CONTROLLED BASED ON AN APPROVED POSITIVE DUST CONTROL PLAN.
 7. IF UNUSUAL AMOUNTS OF STONE OR BONE OR ATTRACTS ARE UNCOVERED DURING CONSTRUCTION, ALL WORK WILL BE STOPPED UNTIL 300' OF THE PROJECT. APPROPRIATE STUDIES ARE MADE AND WITH APPROVAL APPROPRIATE INVESTIGATION REQUESTS ARE FULLY IMPLEMENTED.
 8. INSURANCE COVERAGE WILL BE PROVIDED FOR IN ACCORDANCE WITH THE NATIONAL POLLUTANT DISCHARGE EXCLUSION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES, ORDER NO. 2009-0049 NPDES NO. CA005052.



EARTHWORK QUANTITY
48,000 CY
BALANCED (PHASE 1 AND PHASE 2)



OWNERS OF RECORD:
JIM DAVIES AND TERRY CHANG
CONTACT: JIM DAVIES
854 IDEALO ROAD
DANVILLE, CA 95618
TEL: 925-826-9444 FAX: 925-826-7917

NAME OF APPLICANT:
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CONTACT: JIM DAVIES
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DANVILLE, CA 95618
TEL: 925-826-9444 FAX: 925-826-7917

MAP ORIGINALLY PREPARED BY:
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SHINGO SPRINGS, CA 95682
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E-MAIL: pthorne@stg.net

MAP REVISED MARCH 2016 BY:
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CONTACT: BARBARA THORNE-LEBECK
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E-MAIL: barbara@lyeng.com

NOTE: MARCH 2016 REVISIONS ADDRESS LIFTING ONLY. NO CHANGES TO UTILITIES OR GRADING & DRAINAGE.

SCALE:
1"=40'

CONTOUR INTERVAL:
ONE FOOT (1')

SOURCE OF TOPOGRAPHY:
AERIAL SURVEY

SECTION, TOWNSHIP & RANGE:
SECTIONS 19 & 20, T. 19N., R. 11E., N. 1/4, S. 1/4, N. 1/4, S. 1/4, N. 1/4, S. 1/4

ASSESSOR'S PARCEL NUMBERS:
051-500-40; 051-500-41; 051-500-42; 051-500-43; 051-500-44; 051-500-45; 051-500-46; 051-500-47; 051-500-48; 051-500-49; 051-500-50; 051-500-51; 051-500-52; 051-500-53; 051-500-54; 051-500-55; 051-500-56; 051-500-57; 051-500-58; 051-500-59; 051-500-60; 051-500-61; 051-500-62; 051-500-63; 051-500-64; 051-500-65; 051-500-66; 051-500-67; 051-500-68; 051-500-69; 051-500-70; 051-500-71; 051-500-72; 051-500-73; 051-500-74; 051-500-75; 051-500-76; 051-500-77; 051-500-78; 051-500-79; 051-500-80; 051-500-81; 051-500-82; 051-500-83; 051-500-84; 051-500-85; 051-500-86; 051-500-87; 051-500-88; 051-500-89; 051-500-90; 051-500-91; 051-500-92; 051-500-93; 051-500-94; 051-500-95; 051-500-96; 051-500-97; 051-500-98; 051-500-99; 051-500-100

TOTAL AREA:
25.882 ACRES

TOTAL NUMBER OF PARCELS:
41 CUSTOM RESIDENTIAL LOTS
64 CLUSTERED RESIDENTIAL LOTS
13 COMMERCIAL LOTS
2 OPEN SPACE LOTS
12 ACCESS LOTS
1 ROAD LOT
1 LIFT STATION LOT
177 TURTLE

MINIMUM PARCEL AREA:
2,000 S.F.

WATER SUPPLY:
CE DORADO IRRIGATION DISTRICT

SEWAGE DISPOSAL:
CE DORADO IRRIGATION DISTRICT

PROPOSED STRUCTURAL FIRE PROTECTION:
CALIFORNIA SPRINKLER CODE 7.2.

DATE:
APRIL 16, 2010
REVISED: SEPTEMBER 2, 2012
REVISED: FEBRUARY 2015
REVISED: MARCH 2016

PLANNING COMMISSION:
APPROVAL/REVAL DATE:

BOARD OF SUPERVISORS:
APPROVAL/REVAL DATE:

LEGEND:
PAVE PUBLIC UTILITIES EXHIBENT
CHANNEL NUMBER USE REPORT BY SICHANDE ENVIRONMENTAL CONSULTANTS
RETENTION POND
OPEN SPACE
PAVED AREAS





Rommel Pabalinas <rommel.pabalinas@edcgov.us>

Piedmont Oak Estates

1 message

Jeffery Little <Jeffery.Little@sycamoreenv.com>
To: Rommel Pabalinas <rommel.pabalinas@edcgov.us>
Cc: "j854davies@att.net" <j854davies@att.net>

Thu, Sep 29, 2016 at 11:49 AM

Mel,

Per your request, we looked at the AQ/GHG analysis prepared previously to determine whether updates are needed based upon the current site plan.

The November 4th and 9th 2015 AQ letters evaluated:

- 63 clustered residential lots
- 41 custom residential lots
- 2 commercial lots

The current design, revised in March 2016 includes:

- 64 clustered residential lots
- 43 custom residential lots
- 1 commercial lot
- (also a 1 new sewer lift station lot)

The shift of one lot from commercial to residential does not result in changes to the AQ/GHG analysis.

Cordially,

Jeffery Little

Vice President

Sycamore Environmental Consultants, Inc.

6355 Riverside Blvd., Suite C

Sacramento, CA 95831

916/ 427-0703 main

ATTACHMENT 11

15-1470 2F 10 of 245

26 July 2016

Mr. Jim Davies
854 Diablo Road
Danville, CA 94526

Phone: (925) 984-1222

Subject: Biological Update for the Piedmont Oak Project, El Dorado County, CA.

Dear Mr. Davies:

The Project biological reports and oak canopy impact analysis were updated in February 2013. Since that time small changes have been made to the Project design. The purpose of this letter is to update the February 2013 biological and oak canopy results based on the revised tentative map and planned development exhibits prepared by Lebeck Young Engineering, Inc dated March 2016.

Methods:

- A new California Natural Diversity Database (CNDDDB) and California Native Plant Society (CNPS) query was conducted for the Placerville quad and the eight surrounding quads. A new letter from the U.S. Fish and Wildlife Service (USFWS) was obtained with a list of federal-listed species that could be affected by projects in the area. The results of the updated database queries are in Attachment A. The updated database queries were reviewed for additions since the 2013 biological update.
- Updated project design was provided by Lebeck Young Engineering, Inc. The updated design was used to update the oak canopy impact map and biological impacts map in Attachment B.
- The channel boundaries on the project site were verified by the U.S. Army Corps of Engineers on 24 April 2013 (Attachment C). There are no wetlands at the site. The biological impacts map in Attachment B has been updated to include the Corps-verified channel boundaries.

ATTACHMENTS 12 AND 13

Results – Current Conditions & Impacts:

An updated Biological Resources Map is in Attachment B. Biological community boundaries are the same as in 2013. Small changes in project design since 2013 have resulted in small changes to the Phase 1 and Phase 2 impacts in the table of biological communities below. None of the impacts are significantly different than the 2013 results.

Table of Biological Communities

Biological Community	State Rarity Rank ¹	Acreage	Phase 1 Impacts	Phase 2 Impacts
Mixed Oak Forest	S4	13.96	3.803	4.908
Ponderosa Pine Forest	S4	8.56	6.95	0.537
Annual Brome Grassland	--	2.99	2.204	0.076
White Leaf Manzanita Chaparral	S4	1.23	0.89	--
Tree-of-Heaven Woodland	--	0.57	0.49	--
Ephemeral Channels	--	0.08	0.008	0.008
Total:		27.39	14.35	5.53

¹ State ranks of S1, S2, or S3 are generally considered rare or imperiled. Communities dominated by nonnative species are not ranked. The list of recognized vegetation associations and their rarity rankings in CDFW (2010) was reviewed, and the communities in the project area would not have an S3 or lower ranking at the association level.

Impacts to mixed oak forest are regulated and mitigated by El Dorado County General Plan Policy 7.4.4.4 and the associated Interim Interpretive Guidelines (amended 12 October 2007). Attachment B contains an updated oak canopy impact map for Phase 1. There were two primary changes that affected the oak canopy map. One is the addition of a lift station in Phase 1, near the road crossing of a channel, that removes existing oak canopy. To offsite the additional canopy loss from the lift station, six residential parcels (lots 34–39) near Highway 49 were moved into Phase 2, in order to preserve oak canopy in Phase 1. The result is that the amount of oak canopy removed, 1.15 acres, is slightly less than the 2013 project design. Phase 1 of the Project complies with the County oak canopy retention standards and General Plan Policy 7.4.4.4. Phase 1 retains 86% of existing oak canopy. The projects oak canopy retention standard is 85%. The 2013 proposed oak canopy replacement areas remain valid under the current design. An updated oak canopy replacement map is in Attachment B.

Phase 1 and 2 together would retain 55.4% of existing oak canopy. With the inclusion of Phase 2 the project does not meet the County’s retention standards in General Plan Policy 7.4.4.4. The following table identifies oak canopy removed by phase.

Table of Oak Canopy

Phase	Oak Canopy Removed (acres)	Oak Canopy Retained (acres)	Oak Canopy Retained (%)
Existing Canopy (Baseline)	--	8.21 acres	100%
Phase 1	1.15 acres	7.06 acres	86%
Phase 1 and 2	3.66 acres	4.55 acres	55.4%

The Corps verified the map of channels at the site in April 2013 (Attachment C). The Corps determined that channel 2a is 42 feet shorter than was shown on previous project maps. The Corps verified that there are no wetlands on the project site. The revised table of wetlands and waters below incorporates the Corps-verified channel dimensions. Both phases of the Project may fill up to 0.016 acre (430 linear feet) of ephemeral channels. The fill could be avoided with the use of bottomless culverts. Fill of the channels would require permitting under Sections 404 and 401 of the federal Clean Water Act. The project would require permitting under section 1600 of state Fish and Game Code due to work near the channels. The existing federal and/or state permitting processes require mitigation for the loss or degradation of channels, including replacement or restoration based on the extent of impact.

Table of Waters

Feature	Hydrology	Length (ft)/ Avg. Width (ft)	Total Acreage	Phase 1 Impacts	Phase 2 Impacts
Channel 1	Ephemeral	977 ft / 2.5 ft	0.056	123 ft / 0.007 ac	--
Channel 1b	Ephemeral	537 ft / 1.0 ft	0.012	--	74 ft / 0.002 ac
Channel 2	Ephemeral	301 ft / 1.5 ft	0.010	--	165 ft / 0.006 ac
Channel 2a	Ephemeral	68 ft / 0.5 ft	0.001	68 ft / 0.001 ac	--
Total:		1,883 ft / --	0.079	191 ft / 0.008 ac	239 ft / 0.008 ac

Special-status species considered are those listed (or candidate or proposed) under the federal or state endangered species acts, under the California Native Plant Protection Act, as a California species of special concern or fully protected by CDFW, or that are ranked 1 or 2 on the California Native Plant Society's Inventory of Rare and Endangered Plants of California (CNPS 2016). Several special-status species have been added to the lists included in Attachment A since the 2013 report. A brief evaluation of each of these special-status species is below.

- Van Zuuk's morning-glory (*Calystegia vanzuukiae*): Van Zuuk's morning-glory is a perennial rhizomatous herb found in gabbro or serpentine soils in chaparral or cismontane woodland from about 1,600 ft. to 3,900 feet (CNPS 2016). The project site does not provide potential habitat due to a lack of suitable soils.

- Sierra arching sedge (*Carex cyrtostachya*): Sierra arching sedge is a perennial herb found in mesic lower montane coniferous forest, meadows and seeps, marshes and swamps, and riparian forest margins from about 2,000 to 4,460 feet. The project site does not provide potential habitat due to a lack of wetlands and sufficiently large channels with summertime moisture.
- Chaparral sedge (*Carex xerophila*): Chaparral sedge is a newly described perennial cespitose herb known from serpentine or gabbro soils. It occurs in uplands in full sun to partial shade, in open forest or chaparral, from about 1,475 to 2,525 ft (Zika *et al.* 2014). The project site does not provide potential habitat due to a lack of suitable soils.
- Starved daisy (*Erigeron miser*): Starved daisy is a perennial herb found on rocky substrates in upper montane coniferous forest from about 6,000 to 8,600 feet (CNPS 2016). The project site is too low in elevation to provide suitable habitat.

A floristic botanical survey was conducted in 2009 and no special-status plants were found. The 2009 botanical survey met the requirements of CDFW (2009), although the protocol was released several months after the survey.

The project site provides potential nesting habitat for birds listed under the federal Migratory Bird Treaty Act (MBTA) and CA Fish and Game Code §3503 and §3503.5. Fish and Game Code §3503 protects the nest or eggs of any bird and §3503.5 protects birds-of-prey (orders Falconiformes and Strigiformes). Construction activities could impact nesting birds listed by the MBTA and CA Fish and Game Code. The project site is not in a County designated Important Biological Corridor (IBC) or Ecological Preserves overlay (El Dorado County 2004). The project site is in County Rare Plant Mitigation Area 2, which is defined as the El Dorado Irrigation District Service Area (El Dorado County Code Chapter 130.71).

Results – Proposed Avoidance and Minimization:

The measure below is proposed for birds listed under the MBTA and CA Fish and Game Code.

Mitigation Measure 1:

- If construction begins outside the 1 February to 31 August breeding season, there will be no need to conduct a preconstruction survey for active nests.
- If construction begins between 1 February and 31 August then a qualified biologist shall conduct a preconstruction survey for active nests. The survey will include a 250 foot radius from the work area for nesting birds-of-prey and a 50 foot radius from the work area for other nesting MBTA birds. The survey will be conducted from publicly accessible areas within two weeks prior to construction. If no active nest of a bird-of-prey or MBTA bird is found, then no further action is necessary.
- If an active nest of a bird-of-prey or MBTA bird is found, then the biologist shall recommend a buffer suitable to protect the nest until fledging. The County shall approve the final buffer. The size and shape of suitable buffers depends on the species of bird, the location of the nest relative to the Project, Project activities during the time the nest is active, and other Project specific conditions.
- No construction activity shall be allowed in the buffer until the biologist determines that the nest

is no longer active, or unless monitoring determines that a smaller buffer will protect the active nest. The buffer may be reduced, with the County's concurrence, if the biologist monitors the construction activities and determines that no disturbance to the active nest is occurring.

Impacts to channels on the project site are regulated under the permitting programs of CDFW (1600 Lake and Streambed Alteration Agreements), the Regional Water Quality Control Board (Waste Discharge Requirements and Section 401 Certification), and the U.S. Army Corps of Engineers (Clean Water Act Section 404). These permitting programs as a whole consider physical impacts to the bed, banks, and riparian area of channels, as well as potential impacts to water quality, and require mitigation. The state and federal permitting programs reduce potential impacts to the ephemeral channels.

We appreciate the opportunity of assisting you with this project. If you have any questions, please contact me.

Cordially,



Chuck Hughes, M.S.
Senior Biologist

Attachment A. Database Queries
Attachment B. Biological Impacts Map
Phase I Oak Canopy Impact Map
Phase I Oak Canopy Replacement Map
Attachment C. Corps Verification Letter

Literature Cited:

- California Department of Fish and Wildlife (CDFW, formerly DFG). 24 November 2009. Protocols for surveying and evaluating impacts to special status native plant populations and natural communities.
- California Department of Fish and Wildlife (CDFW, formerly DFG). September 2010. Vegetation classification and mapping program: Natural Communities – List. Biogeographic Data Branch, Sacramento, CA.
- California Native Plant Society (CNPS). Accessed July 2016. Inventory of rare and endangered plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. <<http://www.rareplants.cnps.org/>>
- El Dorado County. Adopted 19 July 2004. El Dorado County general plan, a plan for managed growth and open roads; a plan for quality neighborhoods and traffic relief. El Dorado County Planning Department, Placerville, CA.
- El Dorado County. January 2004, Certified 19 July 2004. El Dorado County general plan, final environmental impact report (EIR). Resolution No. 234-2004, State Clearinghouse No. 2001082030. Prepared by EDAW.
- El Dorado County. Amended 10 May 2007. Interim interpretive guidelines for El Dorado County general plan policy 7.4.4.4 (option A). El Dorado County, CA.
- Zika, P. F., L. P. Janeway, and B. L. Wilson. 2014. *Carex xerophila* (Cyperaceae), a new sedge from the chaparral of Northern California. Madrono 61:3(299-307).

Attachment A

Database Queries



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office

FEDERAL BUILDING, 2800 COTTAGE WAY, ROOM W-2605

SACRAMENTO, CA 95825

PHONE: (916)414-6600 FAX: (916)414-6713

Consultation Code: 08ESMF00-2016-SLI-1827

July 14, 2016

Event Code: 08ESMF00-2016-E-03977

Project Name: Piedmont Oak Estates

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2)

of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: Piedmont Oak Estates

Official Species List

Provided by:

Sacramento Fish and Wildlife Office
FEDERAL BUILDING
2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
(916) 414-6600

Consultation Code: 08ESMF00-2016-SLI-1827

Event Code: 08ESMF00-2016-E-03977

Project Type: DEVELOPMENT

Project Name: Piedmont Oak Estates

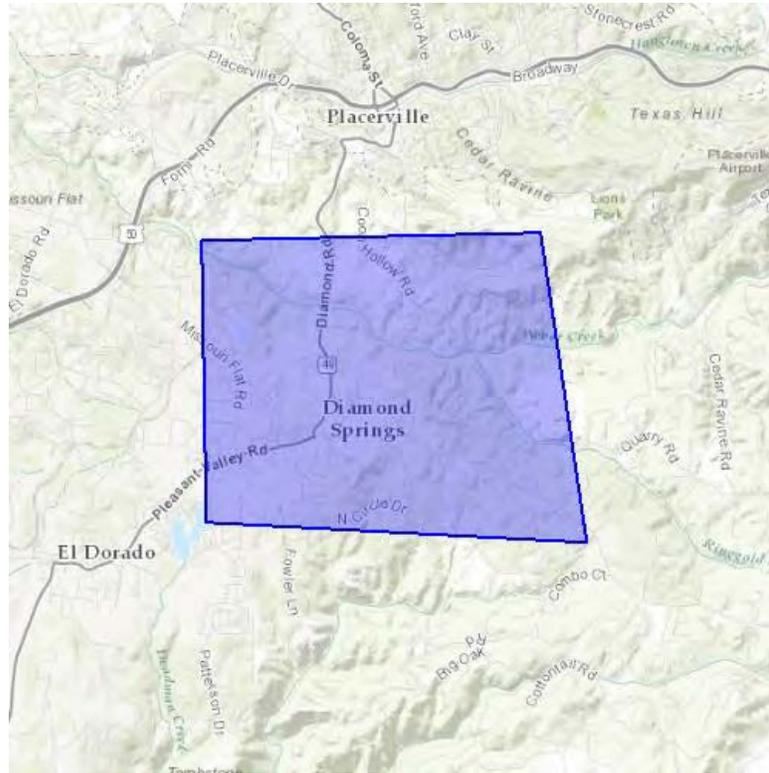
Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: Piedmont Oak Estates

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-120.82798004150389 38.71471512069058, -120.78420639038086 38.715384828496404, -120.7781982421875 38.68416977848471, -120.82729339599608 38.68617974136571, -120.82798004150389 38.71471512069058)))

Project Counties: El Dorado, CA



United States Department of Interior
Fish and Wildlife Service

Project name: Piedmont Oak Estates

Endangered Species Act Species List

There are a total of 4 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	Status	Has Critical Habitat	Condition(s)
California red-legged frog (<i>Rana draytonii</i>) Population: Entire	Threatened	Final designated	
Fishes			
Delta smelt (<i>Hypomesus transpacificus</i>) Population: Entire	Threatened	Final designated	
steelhead (<i>Oncorhynchus (=salmo) mykiss</i>) Population: Northern California DPS	Threatened	Final designated	
Flowering Plants			
Layne's butterweed (<i>Senecio layneae</i>)	Threatened		



United States Department of Interior
Fish and Wildlife Service

Project name: Piedmont Oak Estates

Critical habitats that lie within your project area

There are no critical habitats within your project area.



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Query Criteria: Quad IS (Aukum (3812056) OR Camino (3812066) OR Coloma (3812078) OR Fiddletown (3812057) OR Garden Valley (3812077) OR Latrobe (3812058) OR Placerville (3812067) OR Shingle Springs (3812068) OR Slate Mtn. (3812076))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter gentilis</i> northern goshawk	ABNKC12060	None	None	G5	S3	SSC
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	None	G2G3	S1S2	SSC
<i>Allium jepsonii</i> Jepson's onion	PMLIL022V0	None	None	G2	S2	1B.2
<i>Arctostaphylos nissenana</i> Nissenan manzanita	PDERI040V0	None	None	G1	S1	1B.2
<i>Ardea alba</i> great egret	ABNGA04040	None	None	G5	S4	
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	None	G2G3	S1	
<i>Calochortus clavatus var. avius</i> Pleasant Valley mariposa-lily	PMLIL0D095	None	None	G4T2	S2	1B.2
<i>Calystegia stebbinsii</i> Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1	1B.1
<i>Calystegia vanzuukiae</i> Van Zuuk's morning-glory	PDCON040Q0	None	None	G2Q	S2	1B.3
<i>Carex cyrtostachya</i> Sierra arching sedge	PMCYP03M00	None	None	G2	S2	1B.2
<i>Ceanothus roderickii</i> Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G1	S1	1B.2
<i>Central Valley Drainage Hardhead/Squawfish Stream</i> Central Valley Drainage Hardhead/Squawfish Stream	CARA2443CA	None	None	GNR	SNR	
<i>Central Valley Drainage Resident Rainbow Trout Stream</i> Central Valley Drainage Resident Rainbow Trout Stream	CARA2421CA	None	None	GNR	SNR	
<i>Chlorogalum grandiflorum</i> Red Hills soaproot	PMLIL0G020	None	None	G2	S2	1B.2
<i>Clarkia biloba ssp. brandegeeeae</i> Brandegee's clarkia	PDONA05053	None	None	G4G5T4	S4	4.2
<i>Cosumnoperla hypocreana</i> Cosumnes stripetail	IIPLE23020	None	None	G2	S2	
<i>Crocianthemum suffrutescens</i> Bisbee Peak rush-rose	PDCIS020F0	None	None	G2Q	S2	3.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Fremontodendron decumbens</i> Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1	1B.2
<i>Galium californicum ssp. sierrae</i> El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1	1B.2
<i>Horkelia parryi</i> Parry's horkelia	PDR0S0W0C0	None	None	G2	S2	1B.2
<i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010	None	None	G5	S3S4	
<i>Myotis yumanensis</i> Yuma myotis	AMACC01020	None	None	G5	S4	
<i>Packera layneae</i> Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
<i>Pekania pennanti</i> fisher - West Coast DPS	AMAJF01021	Proposed Threatened	Candidate Threatened	G5T2T3Q	S2S3	SSC
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	None	G3	S3	SSC
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<i>Sacramento-San Joaquin Foothill/Valley Ephemeral Stream</i> Sacramento-San Joaquin Foothill/Valley Ephemeral Stream	CARA2130CA	None	None	GNR	SNR	
<i>Strix nebulosa</i> great gray owl	ABNSB12040	None	Endangered	G5	S1	
<i>Viburnum ellipticum</i> oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3
<i>Wyethia reticulata</i> El Dorado County mule ears	PDAST9X0D0	None	None	G2	S2	1B.2

Record Count: 34

CNPS *California Native Plant Society* Rare and Endangered Plant Inventory

Plant List

27 matches found. [Click on scientific name for details](#)

Search Criteria

Found in 9 Quads around 38120F7

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Allium jepsonii	Jepson's onion	Alliaceae	perennial bulbiferous herb	1B.2	S2	G2
Allium sanbornii var. congdonii	Congdon's onion	Alliaceae	perennial bulbiferous herb	4.3	S3	G3T3
Arctostaphylos mewukka ssp. truei	True's manzanita	Ericaceae	perennial evergreen shrub	4.2	S3	G4?T3
Arctostaphylos nissenana	Nissenan manzanita	Ericaceae	perennial evergreen shrub	1B.2	S1	G1
Bolandra californica	Sierra bolandra	Saxifragaceae	perennial herb	4.3	S4	G4
Calochortus clavatus var. avius	Pleasant Valley mariposa lily	Liliaceae	perennial bulbiferous herb	1B.2	S2	G4T2
Calystegia stebbinsii	Stebbins' morning-glory	Convolvulaceae	perennial rhizomatous herb	1B.1	S1	G1
Calystegia vanzuukiae	Van Zook's morning-glory	Convolvulaceae	perennial rhizomatous herb	1B.3	S2	G2Q
Carex xerophila	chaparral sedge	Cyperaceae	perennial herb	1B.2	S2S3	G2G3
Ceanothus fresnensis	Fresno ceanothus	Rhamnaceae	perennial evergreen shrub	4.3	S4	G4
Ceanothus roderickii	Pine Hill ceanothus	Rhamnaceae	perennial evergreen shrub	1B.1	S1	G1
Chlorogalum grandiflorum	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	1B.2	S2	G2
Clarkia biloba ssp. brandegeae	Brandegee's clarkia	Onagraceae	annual herb	4.2	S4	G4G5T4
Clarkia virgata	Sierra clarkia	Onagraceae	annual herb	4.3	S3	G3
Claytonia parviflora ssp. grandiflora	streambank spring beauty	Montiaceae	annual herb	4.2	S3	G5T3
Crocanthemum suffrutescens	Bisbee Peak rush-rose	Cistaceae	perennial evergreen shrub	3.2	S2	G2Q
Delphinium hansenii ssp. ewanianum	Ewan's larkspur	Ranunculaceae	perennial herb	4.2	S3	G4T3
Erigeron miser	starved daisy	Asteraceae	perennial herb	1B.3	S3?	G3?
Fremontodendron decumbens	Pine Hill flannelbush	Malvaceae	perennial evergreen shrub	1B.2	S1	G1

<u>Galium californicum ssp. sierrae</u>	El Dorado bedstraw	Rubiaceae	perennial herb	1B.2	S1	G5T1
<u>Horkelia parryi</u>	Parry's horkelia	Rosaceae	perennial herb	1B.2	S2	G2
<u>Lilium humboldtii ssp. humboldtii</u>	Humboldt lily	Liliaceae	perennial bulbiferous herb	4.2	S3	G4T3
<u>Navarretia prolifera ssp. lutea</u>	yellow bur navarretia	Polemoniaceae	annual herb	4.3	S3	G4T3
<u>Packera layneae</u>	Layne's ragwort	Asteraceae	perennial herb	1B.2	S2	G2
<u>Trichostema rubisepalum</u>	Hernandez bluecurls	Lamiaceae	annual herb	4.3	S4	G4
<u>Viburnum ellipticum</u>	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	2B.3	S3?	G4G5
<u>Wyethia reticulata</u>	El Dorado County mule ears	Asteraceae	perennial herb	1B.2	S2	G2

Suggested Citation

CNPS, Rare Plant Program. 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website <http://www.rareplants.cnps.org> [accessed 14 July 2016].

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Contributors

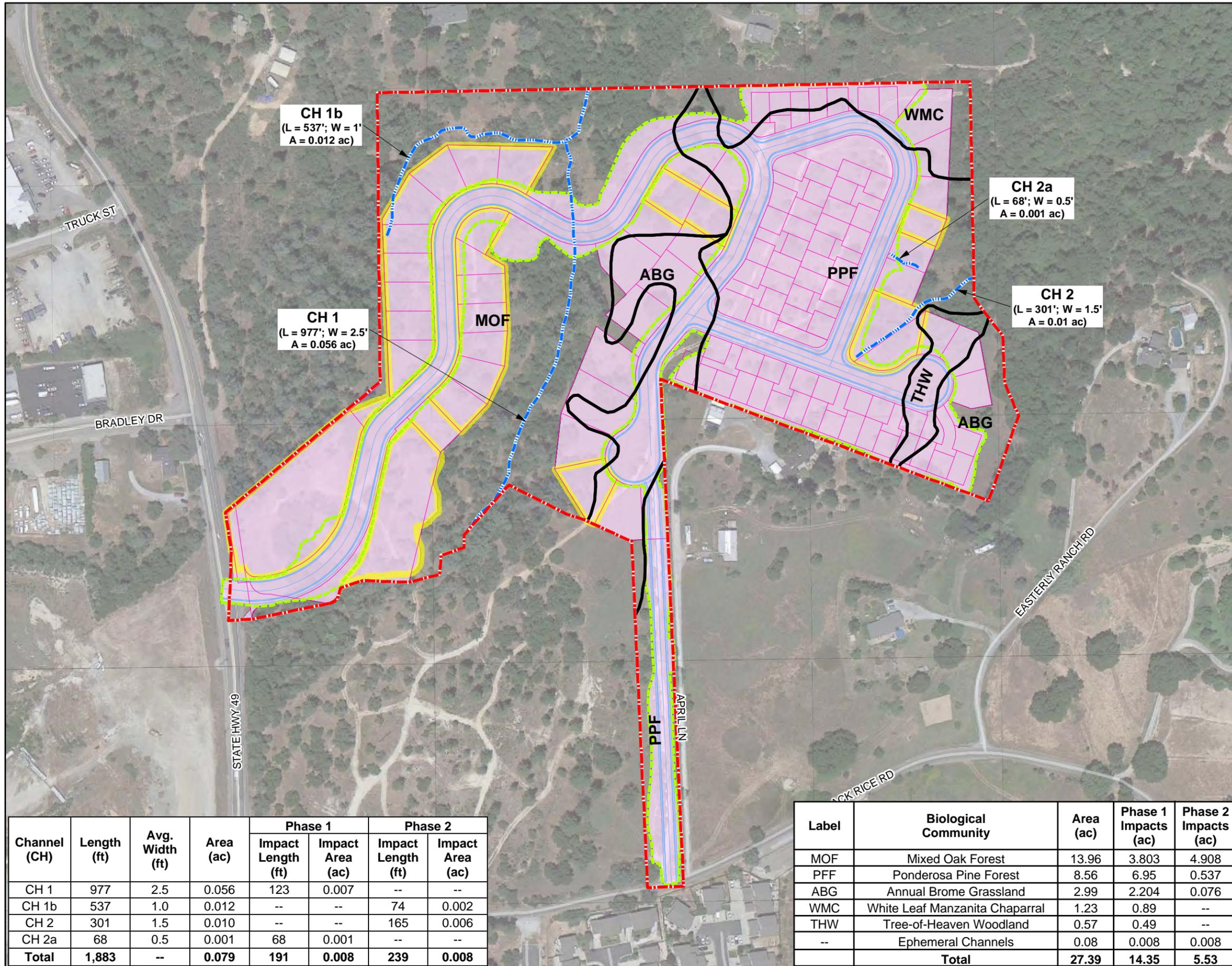
[The Calflora Database](#)

[The California Lichen Society](#)

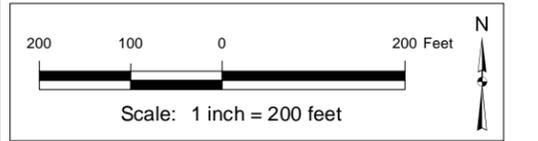
Attachment B

Biological Impacts Map
Phase 1 Oak Canopy Impact Map
Phase 1 Oak Canopy Replacement Map

Biological Impacts Map



- Project Study Area (PSA; 27.39 ac)
- Biological Community Boundary
- Channel (CH)
- Lot Lines
- Proposed Paved Roads
- Phase II Lots
- Grading Footprint (March 2016)



Channel (CH)	Length (ft)	Avg. Width (ft)	Area (ac)	Phase 1		Phase 2	
				Impact Length (ft)	Impact Area (ac)	Impact Length (ft)	Impact Area (ac)
CH 1	977	2.5	0.056	123	0.007	--	--
CH 1b	537	1.0	0.012	--	--	74	0.002
CH 2	301	1.5	0.010	--	--	165	0.006
CH 2a	68	0.5	0.001	68	0.001	--	--
Total	1,883	--	0.079	191	0.008	239	0.008

Label	Biological Community	Area (ac)	Phase 1 Impacts (ac)	Phase 2 Impacts (ac)
MOF	Mixed Oak Forest	13.96	3.803	4.908
PPF	Ponderosa Pine Forest	8.56	6.95	0.537
ABG	Annual Brome Grassland	2.99	2.204	0.076
WMC	White Leaf Manzanita Chaparral	1.23	0.89	--
THW	Tree-of-Heaven Woodland	0.57	0.49	--
--	Ephemeral Channels	0.08	0.008	0.008
Total		27.39	14.35	5.53

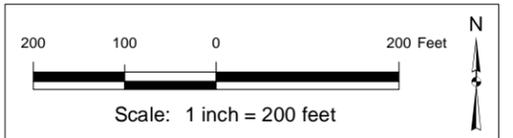


Aerial Photograph: 11 June 2012
 Google Earth Imagery
 Piedmont Oak Estates
 Tentative Map and Project
 Development Plan (Sept. 2012)
 TSM-1.dwg by BTConsulting, Inc.

Piedmont Oak Estates
El Dorado County, CA
21 July 2016

Attachment B.
Phase I Oak Canopy Impact

-  Project Study Area (PSA; 27.39 ac)
-  Existing Oak Canopy (8.21 ac)
-  Phase I Oak Canopy Removed (1.15 ac)
-  Lot Lines
-  Proposed Paved Roads
-  Phase II Boundary
-  Project Footprint
-  Grading Footprint (March 2016)

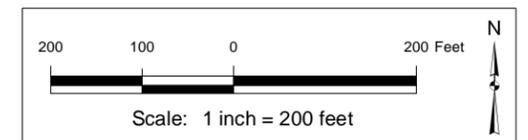


Aerial Photograph: 11 June 2012
Google Earth Imagery
Piedmont Oak Estates
Tentative Map and Project
Development Plan (Sept. 2012)
M-Base.dwg by Peter K. Thorne (15 Jan. 2013)
Grading Footprint: 2016-06-29 Piedmont Oak Estates
TM # EX's.dwg by Lebeck Young Engineering (March 2016)

Piedmont Oak Estates
El Dorado County, CA
26 July 2016

Attachment C.
Phase I Oak Canopy Replacement

-  Project Study Area (PSA; 27.39 ac)
-  Existing Oak Canopy (8.21 ac)
-  Phase I Oak Canopy Removed (1.15 ac)
-  Non-oak Canopy
-  Phase I Oak Canopy Replacement (1.20 ac)
-  30ft Fire Safety Buffer
-  Lot Lines
-  Proposed Paved Roads
-  Project Footprint
-  Compact Lot Structure
-  Premium Lot Setback



Aerial Photograph: 11 June 2012
Google Earth Imagery
Piedmont Oak Estates
Tentative Map and Project
Development Plan (Sept. 2012)
M-Base.dwg by Peter K. Thorne (15 Jan. 2013)
Grading Footprint: 2016-06-29 Piedmont Oak Estates
TM & EX's.dwg by Lebeck Young Engineering (March 2016)

Attachment C

Corps Verification Letter



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

April 24, 2013



Regulatory Division SPK-2009-00928

Mr. Jim Davies
Piedmont Oak Estates, LLC
854 Diablo Road
Danville, California 94526-2760

Dear Mr. Davies:

We are responding to your April 9, 2013, request for a preliminary jurisdictional determination (JD), in accordance with our Regulatory Guidance Letter (RGL) 08-02, for the Piedmont Oak Estates site. The approximately 27.39-acre site is located near Weber Creek, Section 19, Township 10 North, Range 11 East, Mount Diablo Meridian, Latitude 38.7025313162938°, Longitude -120.808560315998°, Town of Diamond Spring, El Dorado County, California.

Based on available information, we concur with the amount and location of wetlands and/or other water bodies on the site as depicted on the enclosed 16 April, 2013, *Piedmont Oak Estates, El Dorado County, CA*, prepared by Sycamore Environmental Consultants, Inc (enclosure 1). The approximately 0.0709 acre of other water bodies present within the survey area are potential waters of the United States regulated under Section 404 of the Clean Water Act.

A copy of our RGL 08-02 Preliminary Jurisdictional Determination Form for this site is enclosed (enclosure 2). Please sign and return a copy of the completed form to this office. Once we receive a copy of the form with your signature we can accept and process a Pre-Construction Notification or permit application for your proposed project.

You should not start any work in potentially jurisdictional waters of the United States unless you have Department of the Army permit authorization for the activity. You may request an approved JD for this site at any time prior to starting work within waters. In certain circumstances, as described in RGL 08-02, an approved JD may later be necessary.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This preliminary determination has been conducted to identify the potential limits of wetlands and other water bodies which may be subject to Corps of Engineers' jurisdiction for the particular site identified in this request. A Notification of Appeal Process and Request for

Appeal Form is enclosed to notify you of your options with this determination (enclosure 3). This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2009-00928 in any correspondence concerning this project. If you have any questions, please contact Mr. Peck Ha at our California North Branch Office, Regulatory Division, Sacramento District, U.S. Army Corps of Engineers, 1325 J Street, Room 1350, Sacramento, California 95814-2922, email Peck.Ha@usace.army.mil, or telephone 916-557-6617. For more information regarding our program, please visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,



Nancy Arcady Haley
Chief, California North Branch

Enclosures

Copy Furnished with enclosures:

Ms. Lillian Macleod, El Dorado County Planning Department, 2850 Fairlane Court, Placerville, California 95667

Copies Furnished without enclosures:

Mr. Chuck Hughes, Sycamore Environmental Consultants, Inc., 6355 Riverside Boulevard, Suite C, Sacramento, California 95831

Ms. Elizabeth Lee, California Regional Water Quality Control Board, Central Valley Region, 11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114

Ms. Tina Bartlett, California Department of Fish and Game, Region 2, 1701 Nimbus Drive, Rancho Cordova, California 95670-4599

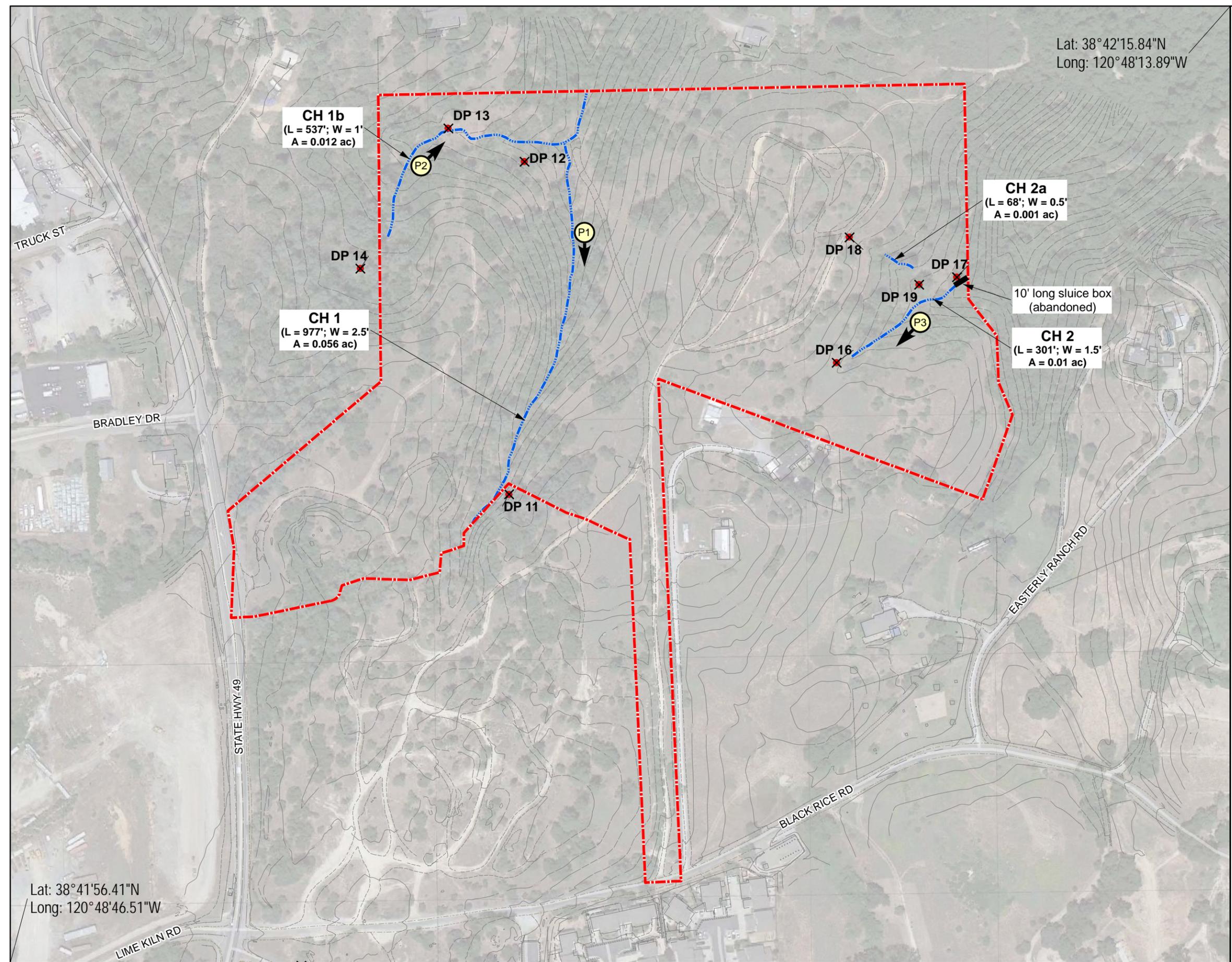
U.S. Fish and Wildlife Service, Endangered Species Division, 2800 Cottage Way, Suite W2605, Sacramento, California 95825-3901

Mr. Jason Brush, Environmental Protection Agency, WRT-8, 75 Hawthorne Street, San Francisco, California 94105-3922

Lat: 38°42'15.84"N
 Long: 120°48'13.89"W

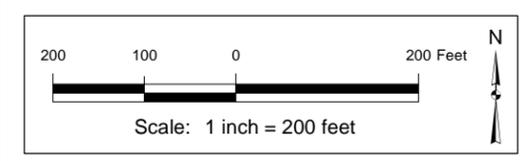
Piedmont Oak Estates
 El Dorado County, CA
 16 April 2013

Jurisdictional Delineation Map



- Project Study Area (PSA; 27.39 ac)
- Datapoint Location and Number (DP)
- Channel
- Photopoint Location and Direction

Channel (CH)	Length (ft)	Avg. Width (ft)	Area (ac)
CH 1	977	2.5	0.056
CH 1b	537	1.0	0.012
CH 2	301	1.5	0.010
CH 2a	68	0.5	0.001
Total	1,883	--	0.079



Date	Submittal	Delineators	Agency/ Co.
9 Apr 07	Original	ACF	Sycamore
4 Apr 13	Update PSA	CCH	Sycamore
16 Apr 13	After Corps Field Review	CCH	Sycamore



Aerial Photograph: 11 June 2012
 Google Earth Imagery
 Piedmont Oak Estates
 Tentative Map and Project
 Development Plan (Sept. 2012)
 T-Base.dwg & TSM-1.dwg by BTConsulting, Inc.

Lat: 38°41'56.41"N
 Long: 120°48'46.51"W



SYCAMORE ENVIRONMENTAL CONSULTANTS, INC.

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6 February 2013

Mr. Jim Davies
854 Diablo Road
Danville, CA 94526

Phone: (925) 984-1222

Subject: Biological and Wetlands Report Updates for the Piedmont Oak Project, El Dorado County, CA.

Dear Mr. Davies:

The purpose of this letter is to update biological and wetland reports previously prepared for the project. The project boundary and design have been revised since the reports were prepared. The following biological reports were previously prepared for the project:

<i>9 April 2007</i>	<i>Biological Resources Evaluation and Preliminary Jurisdictional Delineation Report for Piedmont Oak Estates.</i>
<i>2 July 2009</i>	<i>Botanical Survey Update for Piedmont Oak Estates.</i>

Parcels 051-461-37 and -54 are no longer part of the project, except for an emergency access road on parcel -54. This letter updates the previous maps and acreage estimates for the new design, as well as updating the database searches. The project is divided into two phases. Phase 1 includes the road network, 62 clustered residential parcels, 21 detached single residential parcels, and one commercial lot. Phase 2 includes 21 additional detached single residential parcels, and a second commercial lot.

Methods:

- A new California Natural Diversity Database (CNDDDB) query was conducted for the Placerville quad and the eight surrounding quads. A new letter from the U.S. Fish and Wildlife Service (USFWS) was obtained with a list of federal-listed species that could be affected by projects in the area. A query of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants was conducted. The results of the updated database searches are in Attachment A. The updated database searches were reviewed for changes since the 2007 biological report.
- A reconnaissance field visit was conducted on 6 December 2012 and 10 January 2013. The field visits were conducted to document current site conditions, and in support of updating the maps from the 2007 biological report. The updated maps are in Attachment B.

- Project design, prepared by BTConsulting, Inc., was overlaid on the existing biological resources map to estimate potential impacts.

Results – Current Conditions & Impacts:

An updated Biological Resources Map is in Attachment B. Biological community boundaries have been updated since the 2007 report at the alliance level. Much of the understory vegetation in some parts of the site had been removed prior the 2007 report, and the areas were categorized as “partially cleared land.” Understory vegetation has re-grown since then. Also, the CA Department of Fish and Wildlife has since updated the recognized natural communities list (CDFW 2010) based on Sawyer et al. (2009). The revised Biological Communities Table below incorporates the changes. Tree-of-heaven woodland is not included on the CDFW list (2010), however CDFW acknowledges that description and classification of the State’s vegetation communities is ongoing. Tree-of-heaven is an invasive weed with moderate ecological impacts (Cal-IPC 2006).

Table of Biological Communities

Biological Community	State Rarity Rank ¹	Acreage	Phase 1 Impacts	Phase 2 Impacts
Mixed Oak Forest	S4	13.96	4.78	3.98
Ponderosa Pine Forest	S4	8.56	6.95	0.54
Annual Brome Grassland	--	2.99	1.69	0.59
White Leaf Manzanita Chaparral	S4	1.23	0.89	--
Tree-of-Heaven Woodland	--	0.57	0.49	0.01
Ephemeral Channels	--	0.08	0.008	0.008
Total:		27.39	14.81	5.12

¹ State ranks of S1, S2, or S3 are generally considered rare or imperiled. Communities dominated by nonnative species are not ranked. The list of recognized vegetation associations and their rarity rankings in CDFW (2010) was reviewed, and the communities in the project area would not have an S3 or lower ranking at the association level.

Impacts to mixed oak forest are regulated and mitigated by El Dorado County General Plan Policy 7.4.4.4 and the associated Interim Interpretive Guidelines (amended 12 October 2007). A separate analysis specific to Policy 7.4.4.4 will be prepared. The other biological communities are not considered sensitive at the state or local level. Ponderosa pine, chaparral, and annual grassland are not identified as sensitive habitat in the General Plan EIR (El Dorado County 2004).

The extent of waters and wetlands at the site has not changed since the 2007 report. There are no wetlands on the current project site. The wetlands were on the parcels that are no longer part of the project. The revised table of wetlands and waters below incorporates the changes. The Project may fill up to 0.016 acre (472 linear feet) of ephemeral channels. The fill could be avoided with the use of bottomless culverts. Fill of the channels would require permitting under Sections 404 and 401 of the federal Clean Water Act if the channels meet criteria for Waters of the U.S. Fill of the channels would

require permitting under section 1600 of state Fish and Game Code and the state Porter-Cologne Water Quality Control Act regardless of federal jurisdiction. The existing federal and/or state permitting processes require mitigation for the loss or degradation of channels, including replacement or restoration based on the extent of impact.

Table of Waters

Feature	Hydrology	Length (ft)/ Avg. Width (ft)	Total Acreage	Phase 1 Impacts	Phase 2 Impacts
Channel 1	Ephemeral	977 ft / 2.5 ft	0.056	123 ft / 0.007 ac	--
Channel 1b	Ephemeral	537 ft / 1.0 ft	0.012	--	74 ft / 0.002 ac
Channel 2	Ephemeral	301 ft / 1.5 ft	0.010	--	165 ft / 0.006 ac
Channel 2a	Ephemeral	110 ft / 0.5 ft	0.001	110 ft / 0.001 ac	--
Total:		1,925 ft / --	0.079	233 ft / 0.008 ac	239 ft / 0.008 ac

Special-status species considered are those listed (or candidate or proposed) under the federal or state endangered species acts, under the California Native Plant Protection Act, as a California species of special concern or fully protected by CDFW, or that are on List 1 or 2 of the California Native Plant Society’s Inventory of Rare and Endangered Plants of California (CNPS 2012). Several special-status species have been added to the lists included in Attachment A since the 2007 report. A brief evaluation of each of these special-status species is below.

- *Winter-run Chinook salmon, Sacramento River*: Once found throughout the upper Sacramento River basin, the winter-run chinook salmon is now confined to the mainstem Sacramento River below Keswick Dam (Moyle 2002). The project site does not provide potential habitat.
- *Conservancy fairy shrimp, vernal pool fairy shrimp, Sacramento orcutt grass*: These species are associated with vernal pools in and around the Central Valley (USFWS 1994, CNPS 2012). There are no vernal pools in the project site and there is no potential habitat.
- *Bank swallow*: This bird is restricted to riparian areas with vertical cliffs and banks with fine-textured or sandy soil (Zeiner et al. 1990). The project site does not provide potential habitat.
- *Great gray owl*: This species occurs between 4,500 and 7,500 feet in the Sierra Nevada from the vicinity of Quincy in Plumas Co. south to the Yosemite Region. It breeds in old-growth red fir, mixed conifer, or lodgepole pine habitats, always in the vicinity of wet meadows (Zeiner et al. 1990). The project site does not provide potential habitat.

The 2007 report identified four special-status plants for which potential habitat occurred: Nissenan manzanita, Pleasant Valley mariposa lily, Brandegee’s clarkia, and oval-leaved viburnum. The current project site continues to provide habitat for these species. A floristic botanical survey was conducted in 2009 during the evident and identifiable period of the plants and none were found. Brandegee’s clarkia has since been down-listed from CNPS List 1B to List 4. The 2009 botanical survey met the protocol of the CDFW (2009), although it was released several months after the survey.

The current project site provides potential nesting habitat for birds listed under the federal Migratory Bird Treaty Act (MBTA) and CA Fish and Game Code §3503 and §3503.5. Fish and Game Code §3503 protects the nest or eggs of any bird and §3503.5 protects birds-of-prey (orders Falconiformes and Strigiformes). Construction activities could impact nesting birds listed by the MBTA and CA Fish and Game Code. The project site is not in a County designated Important Biological Corridor (IBC) or Ecological Preserves overlay (El Dorado County 2004). The project site is in County Rare Plant Mitigation Area 2, which is defined as the El Dorado Irrigation District Service Area (El Dorado County Code Chapter 17.71).#

Results – Proposed Avoidance and Minimization:

The measure below is proposed for birds listed under the MBTA and CA Fish and Game Code.

Avoidance and Minimization Measure 1:

- If construction begins outside the 1 February to 31 August breeding season, there will be no need to conduct a preconstruction survey for active nests.
- If construction begins between 1 February and 31 August then a qualified biologist shall conduct a preconstruction survey for active nests. The survey will include a 250 foot radius from the work area for nesting birds-of-prey and a 50 foot radius from the work area for other nesting MBTA birds. The survey will be conducted from publicly accessible areas within two weeks prior to construction. If no active nest of a bird-of-prey or MBTA bird is found, then no further action is necessary.
- If an active nest of a bird-of-prey or MBTA bird is found, then the biologist shall recommend a buffer suitable to protect the nest until fledging. The County shall approve the final buffer. The size and shape of suitable buffers depends on the species of bird, the location of the nest relative to the Project, Project activities during the time the nest is active, and other Project specific conditions.
- No construction activity shall be allowed in the buffer until the biologist determines that the nest is no longer active, or unless monitoring determines that a smaller buffer will protect the active nest. The buffer may be reduced, with the County's concurrence, if the biologist monitors the construction activities and determines that no disturbance to the active nest is occurring.

Impacts to channels on the project site are regulated under the permitting programs of CDFW (1600 Lake and Streambed Alteration Agreements), the Regional Water Quality Control Board (Waste Discharge Requirements and Section 401 Certification), and possibly the U.S. Army Corps of Engineers (Clean Water Act Section 404). These permitting programs as a whole consider physical impacts to the bed, banks, and riparian area of channels, as well as potential impacts to water quality, and require mitigation. The state and federal permitting programs reduce potential impacts to the ephemeral channels.

We appreciate the opportunity of assisting you with this project. If you have any questions, please contact me.

Cordially,



Chuck Hughes, M.S.
Botanist/ Biologist

c: Mr. Peter Thorne, P.E. BTConsulting, Inc.

Attachment A. USFWS Letter & List
CNDDDB Query
CNPS Inventory Query
Attachment B. Project Location Map
Aerial Photograph
Biological Resources Map
Biological Impacts Map

Literature Cited:

- California Department of Fish and Wildlife (CDFW, formerly DFG). 24 November 2009. Protocols for surveying and evaluating impacts to special status native plant populations and natural communities.
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- California Native Plant Society (CNPS). Accessed 10 December 2012. Inventory of rare and endangered plants (online edition, v8-01a). California Native Plant Society, Sacramento, CA. <<http://www.cnps.org/inventory>>
- El Dorado County. Adopted 19 July 2004. El Dorado County general plan, a plan for managed growth and open roads; a plan for quality neighborhoods and traffic relief. El Dorado County Planning Department, Placerville, CA.
- El Dorado County. January 2004, Certified 19 July 2004. El Dorado County general plan, final environmental impact report (EIR). Resolution No. 234-2004, State Clearinghouse No. 2001082030. Prepared by EDAW.
- El Dorado County. Amended 10 May 2007. Interim interpretive guidelines for El Dorado County general plan policy 7.4.4.4 (option A). El Dorado County, CA.
- Moyle, P. B. 2002. Inland Fishes of California. University of California Press, Berkeley and Los Angeles, CA.
- U.S. Fish and Wildlife Service (USFWS). 19 September 1994. Endangered and threatened wildlife and plants; Determination of endangered status for the conservancy fairy shrimp, longhorn fairy shrimp, and the vernal pool tadpole shrimp; and threatened status for the vernal pool fairy shrimp. Federal Register 59:48136.
- Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. 2009. A manual of California vegetation, 2nd ed. California Native Plant Society, Sacramento, CA.
- Zeiner, D., K. Mayer, M. White, and W. Laudenslayer, Jr., eds. 1990. California's wildlife, Volume II, Birds. California Department of Fish and Game, Sacramento, CA.

Attachment A

USFWS Letter & List
CNDDDB Query
CNPS Inventory Query



United States Department of the Interior
FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825



December 10, 2012

Document Number: 121210050303

R. John Little, Ph.D.
Sycamore Environmental Consultants, Inc.
6355 Riverside Blvd., Suite C
Sacramento, CA 95831

Subject: Species List for Piedmont Oak Estates

Dear: Dr. Little

We are sending this official species list in response to your December 10, 2012 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

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

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

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be March 10, 2013.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found [here](#).

Endangered Species Division



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

Document Number: 121210050303

Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

Desmocerus californicus dimorphus
 valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
 delta smelt (T)

Oncorhynchus mykiss
 Central Valley steelhead (T) (NMFS)

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

Amphibians

Rana draytonii
 California red-legged frog (T)

Plants

Senecio layneae
 Layne's butterweed (=ragwort) (T)

Quads Containing Listed, Proposed or Candidate Species:

PLACERVILLE (510A)

County Lists

El Dorado County

Listed Species

Invertebrates

Branchinecta conservatio
 Conservancy fairy shrimp (E)

Branchinecta lynchi
 vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
 valley elderberry longhorn beetle (T)

Lepidurus packardi

vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus

delta smelt (T)

Oncorhynchus (=Salmo) clarki henshawi

Lahontan cutthroat trout (T)

Oncorhynchus mykiss

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense

California tiger salamander, central population (T)

Rana draytonii

California red-legged frog (T)

Critical habitat, California red-legged frog (X)

Reptiles

Thamnophis gigas

giant garter snake (T)

Plants

Calystegia stebbinsii

Stebbins's morning-glory (E)

Ceanothus roderickii

Pine Hill ceanothus (E)

Fremontodendron californicum ssp. decumbens

Pine Hill flannelbush (E)

Galium californicum ssp. sierrae

El Dorado bedstraw (E)

Orcuttia viscida

Critical habitat, Sacramento Orcutt grass (X)
 Sacramento Orcutt grass (E)

Senecio layneae
 Layne's butterweed (=ragwort) (T)

Candidate Species

Amphibians

Bufo canorus
 Yosemite toad (C)

Rana muscosa
 mountain yellow-legged frog (C)

Mammals

Martes pennanti
 fisher (C)

Plants

Rorippa subumbellata
 Tahoe yellow-cress (C)

Key:

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

Important Information About Your Species List

How We Make Species Lists

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

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

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.

- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

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

Surveying

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

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

Your Responsibilities Under the Endangered Species Act

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

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

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

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

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

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

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

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential

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

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

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

Candidate Species

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

Species of Concern

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

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be March 10, 2013.

California Department of Fish and Game
Natural Diversity Database
CNDDDB Summary List for Placerville and 8 Adjacent Quads

Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
1 Accipiter gentilis	northern goshawk	ABNKC12060			G5	S3		SC
2 Agelaius tricolor	tricolored blackbird	ABPBXB0020			G2G3	S2		SC
3 Allium jepsonii	Jepson's onion	PMLIL022V0			G1	S1	1B.2	
4 Arctostaphylos nissenana	Nissenan manzanita	PDERI040V0			G2	S2.2	1B.2	
5 Ardea alba	great egret	ABNGA04040			G5	S4		
6 Calochortus clavatus var. avius	Pleasant Valley mariposa-lily	PMLIL0D095			G4T2	S2	1B.2	
7 Calystegia stebbinsii	Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1	1B.1	
8 Ceanothus roderickii	Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G1	S1	1B.2	
9 Central Valley Drainage Hardhead/Squawfish Stream	Central Valley Drainage Hardhead/Squawfish Stream	CARA2443CA			G?	SNR		
10 Central Valley Drainage Resident Rainbow Trout Stream	Central Valley Drainage Resident Rainbow Trout Stream	CARA2421CA			G?	SNR		
11 Chlorogalum grandiflorum	Red Hills soaproot	PMLIL0G020			G3	S3	1B.2	
12 Clarkia biloba ssp. brandegeeeae	Brandegee's clarkia	PDONA05053			G4G5T4	S4	4.2	
13 Cosumnoperla hypocrena	Cosumnes spring stonefly	IIPLE23020			G1	S1		
14 Emys marmorata	western pond turtle	ARAAD02030			G3G4	S3		SC
15 Fremontodendron decumbens	Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1	1B.2	
16 Galium californicum ssp. sierrae	El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1	1B.2	
17 Helianthemum suffrutescens	Bisbee Peak rush-rose	PDCIS020F0			G2Q	S2.2	3.2	
18 Horkelia parryi	Parry's horkelia	PDROS0W0C0			G2	S2.2	1B.2	
19 Lasionycteris noctivagans	silver-haired bat	AMACC02010			G5	S3S4		
20 Martes pennanti (pacific) DPS	Pacific fisher	AMAJF01021	Candidate		G5	S2S3		SC
21 Myotis yumanensis	Yuma myotis	AMACC01020			G5	S4?		
22 Packera layneae	Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2	
23 Phrynosoma blainvillii	coast horned lizard	ARACF12100			G4G5	S3S4		SC
24 Rana boylei	foothill yellow-legged frog	AAABH01050			G3	S2S3		SC
25 Riparia riparia	bank swallow	ABPAU08010		Threatened	G5	S2S3		
26 Sacramento-San Joaquin Foothill/Valley Ephemeral Stream	Sacramento-San Joaquin Foothill/Valley Ephemeral Stream	CARA2130CA			G?	SNR		
27 Strix nebulosa	great gray owl	ABNSB12040		Endangered	G5	S1		
28 Viburnum ellipticum	oval-leaved viburnum	PDCPR07080			G5	S2.3	2.3	
29 Wyethia reticulata	El Dorado County mule ears	PDAST9X0D0			G2	S2	1B.2	

CNPS *California Native Plant Society* Inventory of Rare and Endangered Plants

Plant List

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

Search Criteria

Found in 9 Quads around 38120F7

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
<u>Allium jepsonii</u>	Jepson's onion	Alliaceae	perennial bulbiferous herb	1B.2	S1	G1
<u>Allium sanbornii var. congdonii</u>	Congdon's onion	Alliaceae	perennial bulbiferous herb	4.3	S3.3	G3T3
<u>Arctostaphylos nissenana</u>	Nissenan manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2.2	G2
<u>Bolandra californica</u>	Sierra bolandra	Saxifragaceae	perennial herb	4.3	S3.3	G3
<u>Calochortus clavatus var. avius</u>	Pleasant Valley mariposa lily	Liliaceae	perennial bulbiferous herb	1B.2	S2	G4T2
<u>Calystegia stebbinsii</u>	Stebbins' morning-glory	Convolvulaceae	perennial rhizomatous herb	1B.1	S1	G1
<u>Ceanothus roderickii</u>	Pine Hill ceanothus	Rhamnaceae	perennial evergreen shrub	1B.2	S1	G1
<u>Chlorogalum grandiflorum</u>	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	1B.2	S3	G3
<u>Clarkia biloba ssp. brandegeae</u>	Brandegee's clarkia	Onagraceae	annual herb	4.2	S4	G4G5T4
<u>Clarkia virgata</u>	Sierra clarkia	Onagraceae	annual herb	4.3	S3.3	G3
<u>Claytonia parviflora ssp. grandiflora</u>	streambank spring beauty	Montiaceae	annual herb	4.2	S3.2	G5T3
<u>Fremontodendron decumbens</u>	Pine Hill flannelbush	Malvaceae	perennial evergreen shrub	1B.2	S1	G1
<u>Galium californicum ssp. sierrae</u>	El Dorado bedstraw	Rubiaceae	perennial herb	1B.2	S1	G5T1
<u>Helianthemum suffrutescens</u>	Bisbee Peak rush-rose	Cistaceae	perennial evergreen shrub	3.2	S2.2	G2Q
<u>Horkelia parryi</u>	Parry's horkelia	Rosaceae	perennial herb	1B.2	S2.2	G2
<u>Lilium humboldtii ssp. humboldtii</u>	Humboldt lily	Liliaceae	perennial bulbiferous herb	4.2	S3.2	G4T3
<u>Navarretia prolifera ssp. lutea</u>	yellow bur navarretia	Polemoniaceae	annual herb	4.3	S3.3	G4T3
<u>Packera layneae</u>	Layne's ragwort	Asteraceae	perennial herb	1B.2	S2	G2
<u>Viburnum ellipticum</u>	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	2.3	S2.3	G5

[Wyethia reticulata](#)El Dorado County
mule ears

Asteraceae

perennial herb

1B.2

S2

G2

Suggested Citation

California Native Plant Society (CNPS). 2012. Inventory of Rare and Endangered Plants (online edition, v8-01a). California Native Plant Society. Sacramento, CA. Accessed on Monday, December 10, 2012.

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Jenkins Family

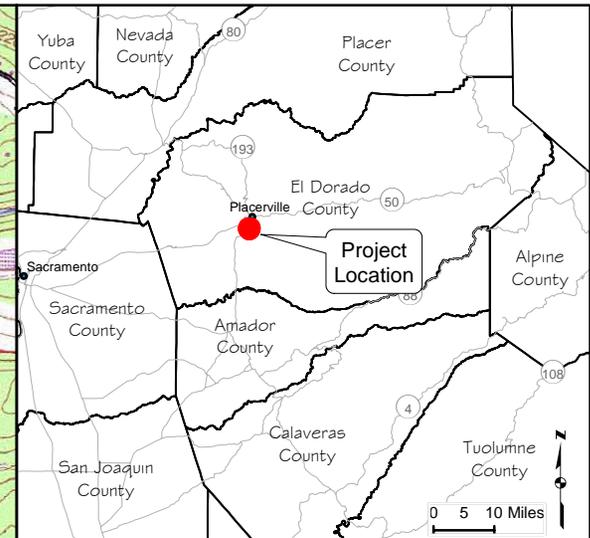
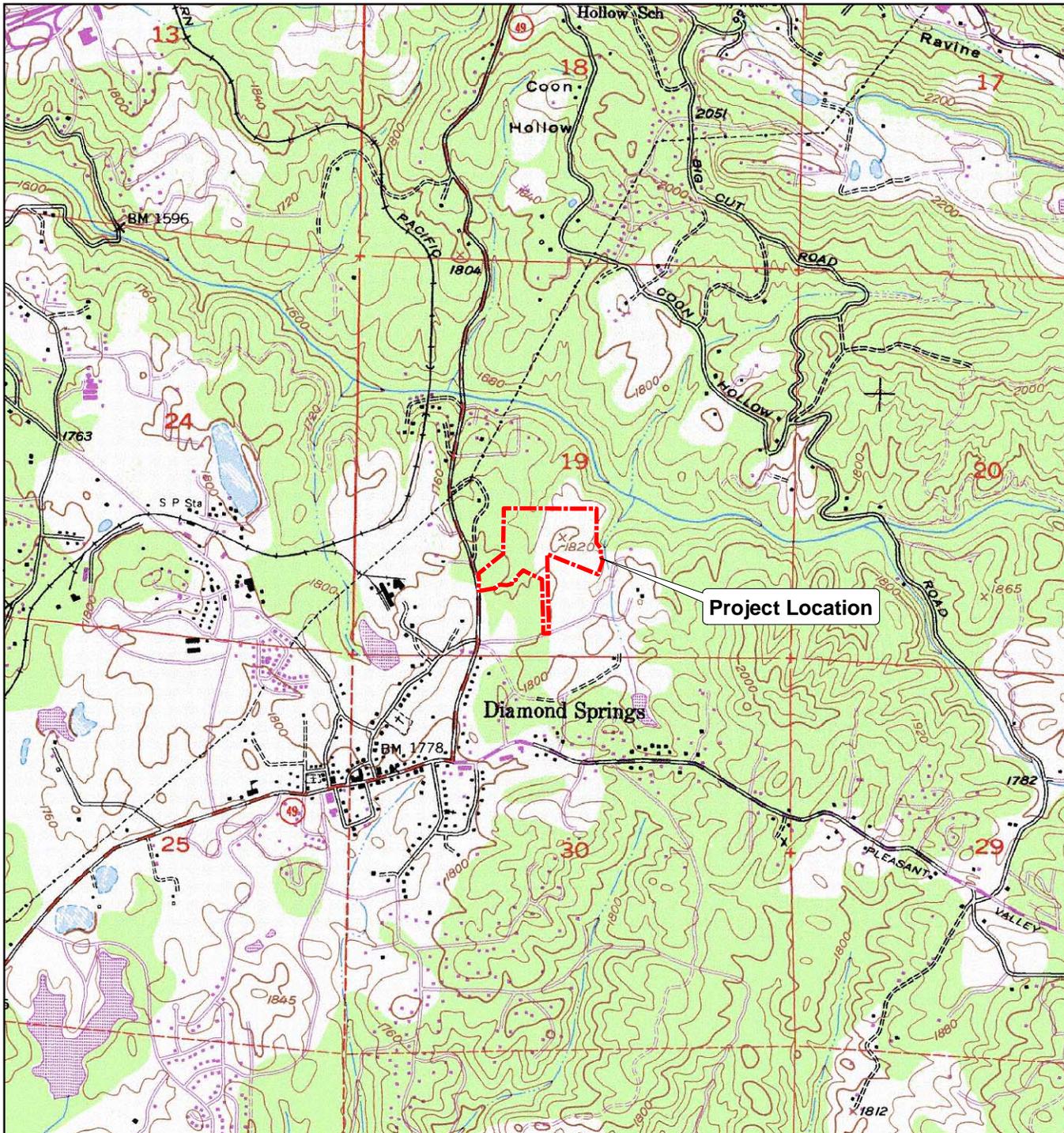
Bilisoly Bequest Grant

[California Natural Diversity Database](#)[The Calflora Database](#)[Studio Simple](#)[TRC](#)

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Attachment B

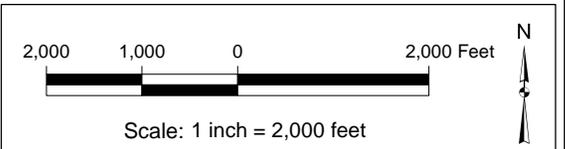
Project Location Map
Aerial Photograph
Biological Resources Map
Biological Impacts Map



Piedmont Oak Estates
 El Dorado County, CA
 6 February 2013

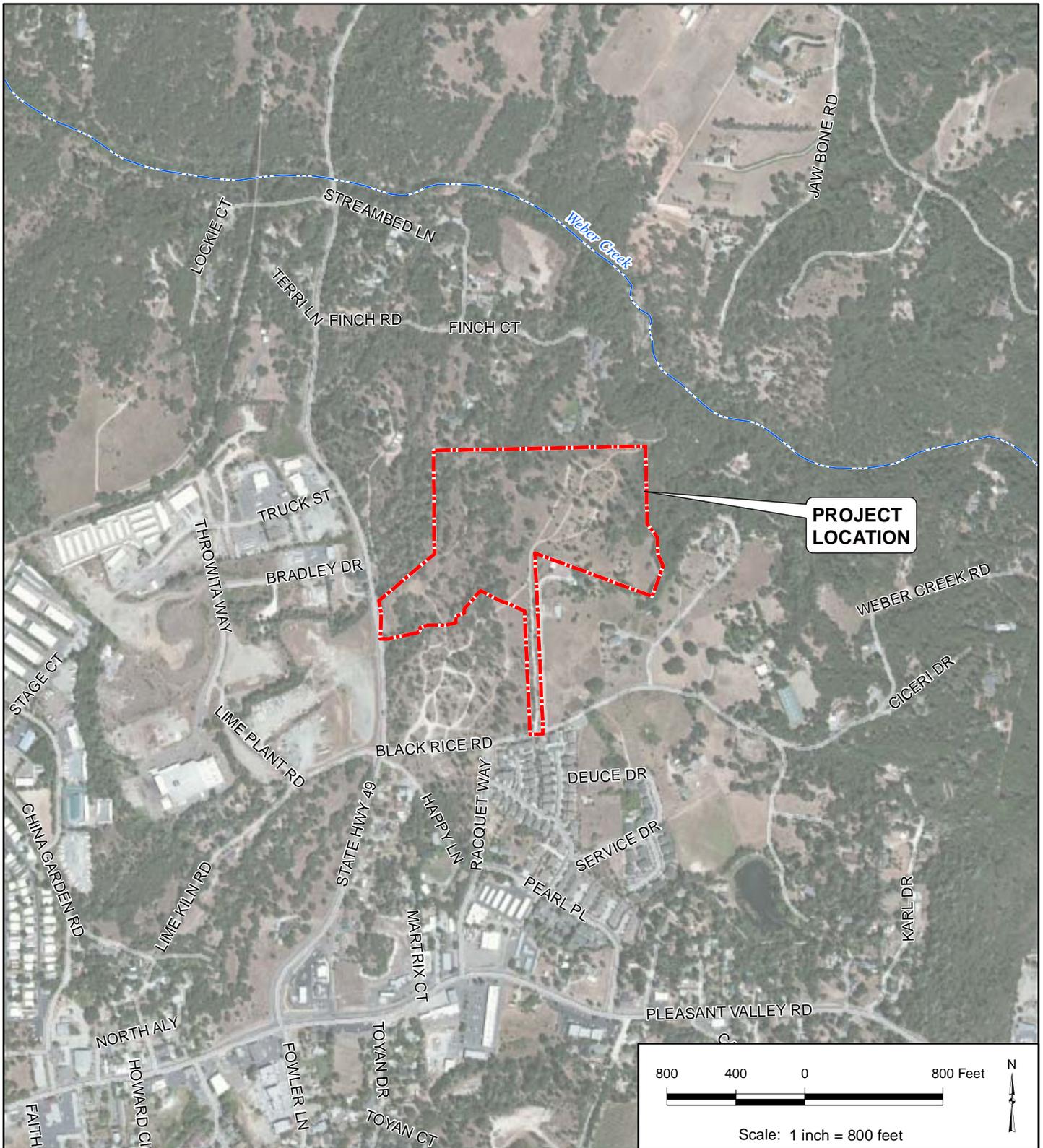
Project Location Map

 Project Location



SYCAMORE
 Environmental
 Consultants, Inc.

Placerville, CA (Revised 1973)
 CASIL California USGS Digital Raster Graphics (DRG),
 7.5 Minute (C) Series, Albers Nad83 Mosaics (MrSID)
 o_nw0101.sid # o_nw0102.sid



Piedmont Oak Estates
 El Dorado County, CA
 6 February 2013

 Project Location

Aerial Photograph



SYCAMORE
 Environmental
 Consultants, Inc.

Aerial Photograph: 20 July 2010
 2010 NAIP Imagery, USDA FSA Imagery
 ArcGIS Imagery Basemap Layer

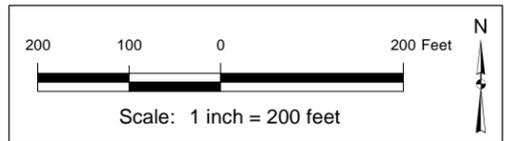
El Dorado County GIS Roads and River layer

Biological Resources Map

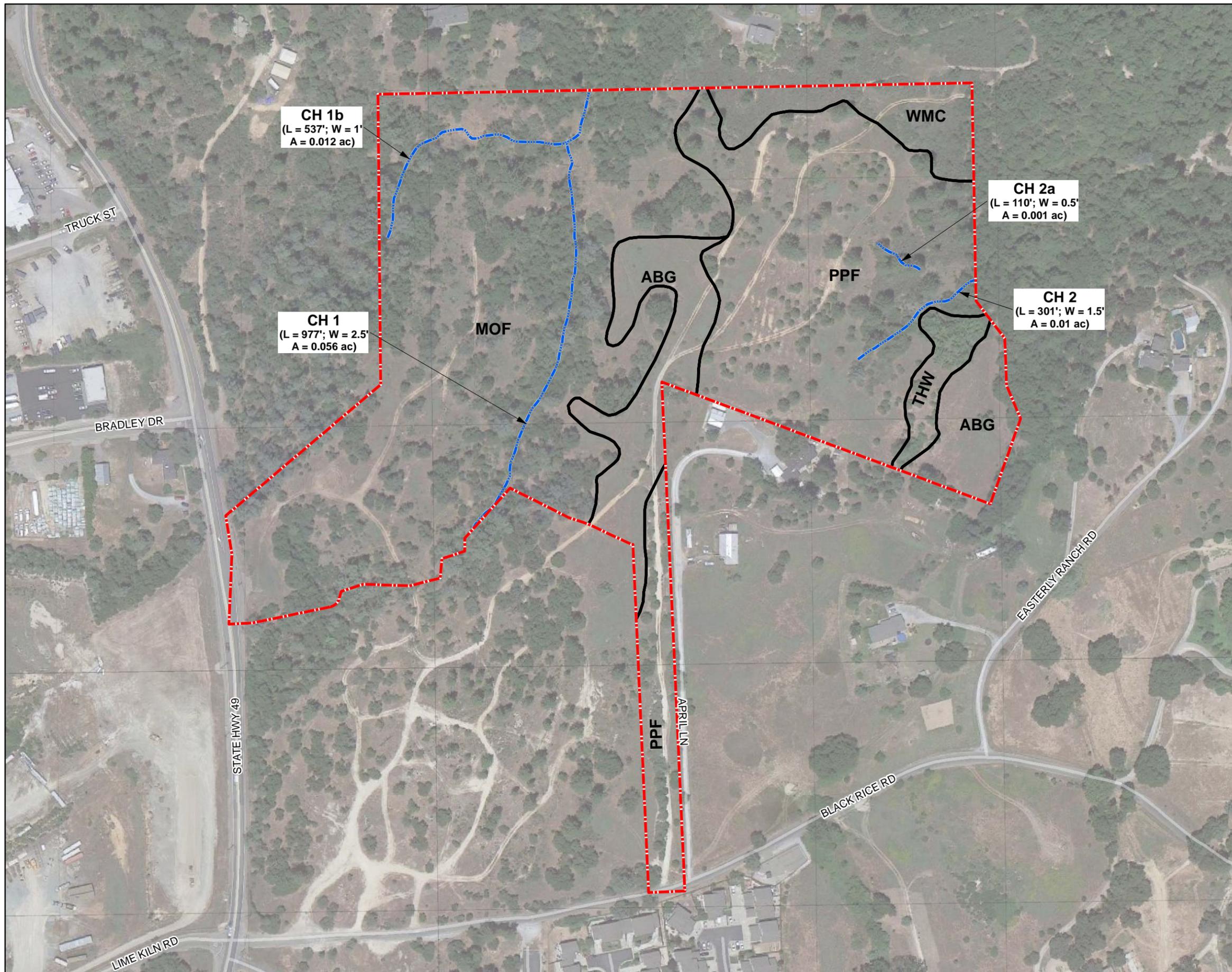
-  Project Study Area (PSA; 27.39 ac)
-  Biological Community Boundary
-  Channel

Label	Biological Community	Area (ac)
MOF	Mixed Oak Forest	13.96
PPF	Ponderosa Pine Forest	8.56
ABG	Annual Brome Grassland	2.99
WMC	White Leaf Manzanita Chaparral	1.23
THW	Tree-of-Heaven Woodland	0.57
--	Ephemeral Channels	0.08
Total		27.39

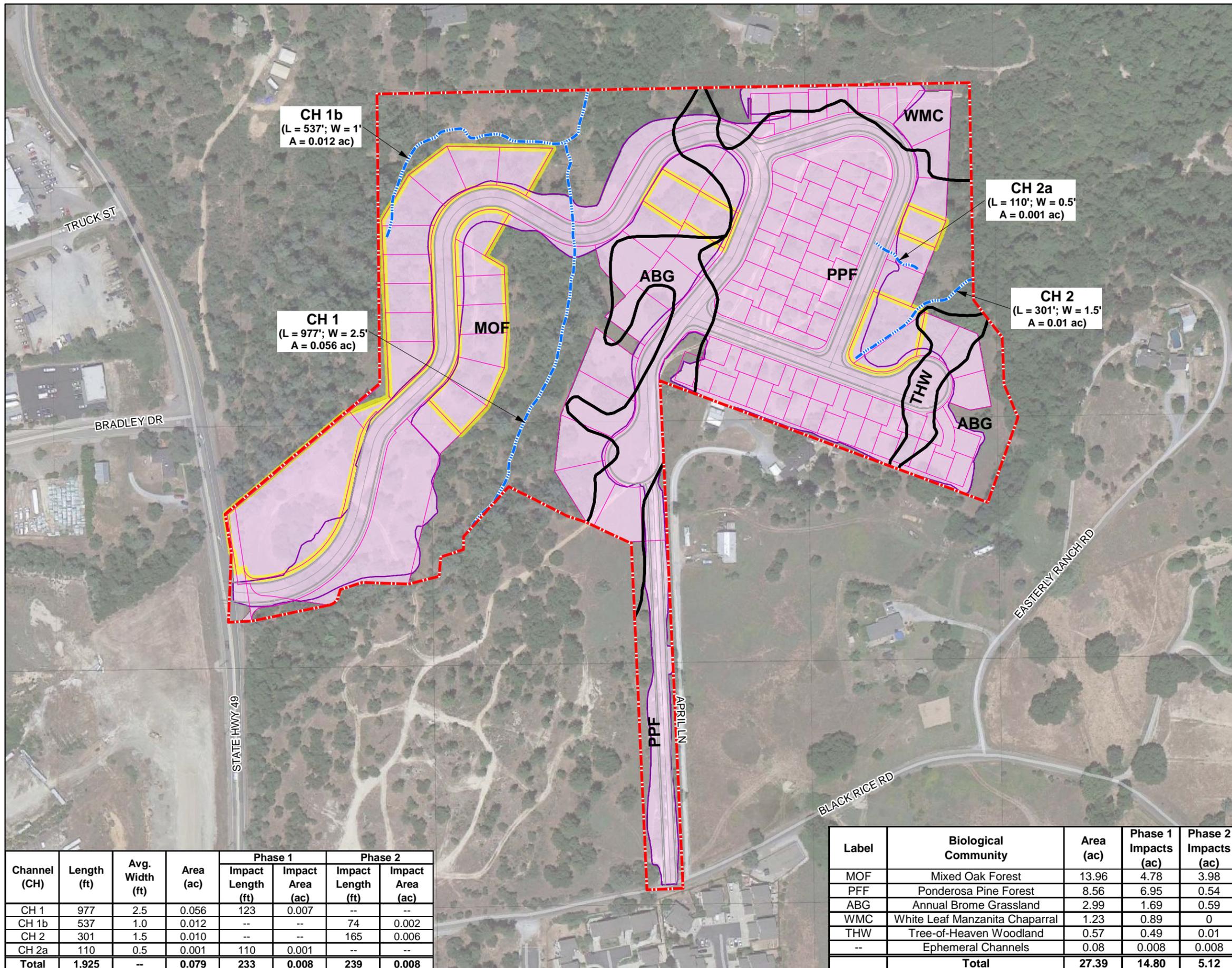
Channel (CH)	Length (ft)	Avg. Width (ft)	Area (ac)
CH 1	977	2.5	0.056
CH 1b	537	1.0	0.012
CH 2	301	1.5	0.010
CH 2a	110	0.5	0.001
Total	1,925	--	0.079



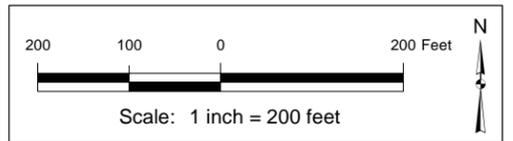
Aerial Photograph: 11 June 2012
 Google Earth Imagery
 Piedmont Oak Estates
 Tentative Map and Project
 Development Plan (Sept. 2012)
 TSM-1.dwg by BTCConsulting, Inc.



Biological Impacts Map



- Project Study Area (PSA; 27.39 ac)
- Biological Community Boundary
- Channel (CH)
- Lot Lines
- Proposed Paved Roads
- Limits of Grading
- Phase II Lots



Channel (CH)	Length (ft)	Avg. Width (ft)	Area (ac)	Phase 1		Phase 2	
				Impact Length (ft)	Impact Area (ac)	Impact Length (ft)	Impact Area (ac)
CH 1	977	2.5	0.056	123	0.007	--	--
CH 1b	537	1.0	0.012	--	--	74	0.002
CH 2	301	1.5	0.010	--	--	165	0.006
CH 2a	110	0.5	0.001	110	0.001	--	--
Total	1,925	--	0.079	233	0.008	239	0.008

Label	Biological Community	Area (ac)	Phase 1 Impacts (ac)	Phase 2 Impacts (ac)
MOF	Mixed Oak Forest	13.96	4.78	3.98
PPF	Ponderosa Pine Forest	8.56	6.95	0.54
ABG	Annual Brome Grassland	2.99	1.69	0.59
WMC	White Leaf Manzanita Chaparral	1.23	0.89	0
THW	Tree-of-Heaven Woodland	0.57	0.49	0.01
--	Ephemeral Channels	0.08	0.008	0.008
Total		27.39	14.80	5.12



Aerial Photograph: 11 June 2012
 Google Earth Imagery
 Piedmont Oak Estates
 Tentative Map and Project
 Development Plan (Sept. 2012)
 TSM-1.dwg by BTConsulting, Inc.



SYCAMORE ENVIRONMENTAL CONSULTANTS, INC.

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916/427-0703

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2 July 2009

Mr. Jim Davies
Piedmont Oak Estates, LLC
854 Diablo Road
Danville, CA 94526-2760

Phone: 925/855-8489

Fax: 925/943-7409

Subject: Botanical Survey Update for Piedmont Oak Estates, El Dorado County, CA

Dear Mr. Davies:

Sycamore Environmental prepared a Biological Resources Evaluation and Preliminary Jurisdictional Delineation Report (BRE) on 9 April 2007 for the Piedmont Oak Estates Project. The BRE identified the Project Study Area (PSA) as potential habitat for four special-status plants. Fieldwork for the BRE was conducted on 9 and 10 September 2006, at which time three of the four special-status plants were not evident and identifiable. This Botanical Survey Update was prepared to document the results of a botanical survey conducted in the PSA during the evident and identifiable period of the special-status plants with the potential to occur in the PSA.

Methods

For the preparation of the BRE, background studies were conducted that included reviewing maps, aerial photographs, lists of special-status species from the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (DFG), and reviewing the soils map of the PSA. General biological surveys were conducted that identified habitat in the PSA and the potential for special-status species occurrence. The results of these background studies are documented in the BRE. The PSA is in County rare plant mitigation area 2. The PSA is not in the recommended preserve boundary for the Pine Hill Plants (USFWS 2002). The BRE concluded potential habitat was present for the special-status plants in Table 1.

The botanical survey was conducted by Chuck Hughes, M.S., on 12 June 2009 and by Michael Bower, (M.S. in prep) and Jessica Easley on 24 June 2009. The survey followed the guidelines set forth by the Department of Fish and Game (DFG 2000) except that impacts and mitigation were not identified because project design was not available. Scientific nomenclature follows Hickman, ed. (1993).

Approximately 13 person-hours were spent in the field during the June 2009 botanical fieldwork. The PSA was searched by walking systematic transects. An additional approximately two hours were spent keying plant specimens collected in the field. Approximately 11.5 person-hours were spent in the field during the September 2006 general biological surveys. All plants found in the

PSA were identified to the taxonomic level necessary to determine legal status. A list of all plant species observed in the PSA is in Attachment A.

Table 1. Special-Status Plant Species with the Potential to Occur in the PSA

Special-Status Plant Species	Common Name	Federal Status ^a	State Status/ CNPS List ^b	Habitat Present? / Species Observed?
<i>Arctostaphylos nissenana</i>	Nissenan manzanita	--	--/ 1B.2	Yes/ No
<i>Calochortus clavatus</i> var. <i>avius</i>	Pleasant Valley mariposa lily	--	--/ 1B.2	Yes/ No
<i>Clarkia biloba</i> ssp. <i>brandegeae</i>	Brandegee's clarkia	--	--/ 1B.2	Yes/ No
<i>Viburnum ellipticum</i>	Oval-leaved viburnum	--	--/ 2.3	Yes/ No

^a **Status:** E = Endangered; T = Threatened; P = Proposed; C = Candidate; R = California Rare; * = Possibly extinct; CH = Critical habitat designated.

^b **CNPS:** 1A = Presumed Extinct in CA; 1B = Rare or Endangered (R/E) in CA and elsewhere; 2 = R/E in CA and more common elsewhere; 3 = Need more information; 4 = Plants of limited distribution; 0.1 = Seriously endangered in CA; 0.2 = Fairly endangered in CA; 0.3 = Not very endangered in CA.

The June 2009 botanical fieldwork was conducted outside the published blooming period of Nissenan manzanita (CNPS 2009); however, Nissenan manzanita is a perennial evergreen shrub that is evident and identifiable year-round based on vegetative characteristics. The June 2009 botanical fieldwork was conducted during the published blooming period of the other special-status plants with the potential to occur in the PSA.

Results

No special-status plant species were observed in the PSA during the general biological surveys or the botanical survey conducted during the evident and identifiable period for the special-status plants with the potential to occur in the PSA.

Please contact me you have any questions.

Cordially,



Chuck Hughes, M.S.
Botanist/ Biologist

c: Mr. Mike Smith, P.E. Thorne & Associates, Inc.

Attachment A. Plant Species Observed

Literature Cited

- California Department of Fish and Game (DFG). May 2000. Guidelines for assessing the effects of proposed projects on rare, threatened, and endangered plants and natural communities. Sacramento, CA. <http://www.dfg.ca.gov/bdb/pdfs/guideplt.pdf>
- California Native Plant Society (CNPS). Accessed May 2009. Inventory of rare and endangered plants (online edition, v7-09b 4-10-09). California Native Plant Society, Sacramento, CA. <<http://www.cnps.org/inventory>>
- Hickman, J., ed. 1993. The Jepson manual: Higher plants of California. University of California Press, Berkeley, CA.
- Sycamore Environmental Consultants, Inc. 9 April 2007. Biological resources evaluation and preliminary jurisdictional delineation report for Piedmont Oak Estates, El Dorado County, CA. Prepared for Piedmont Oak Estates, LLC., Danville, CA.
- U.S. Fish and Wildlife Service (USFWS). 2002. Recovery plan for Gabbro soil plants of the Central Sierra Nevada Foothills. Portland, OR.

ATTACHMENT A.

Plant Species Observed

Piedmont Oak Estates

El Dorado County, CA

Family	Scientific Name	Common Name	Native/ Introduced
FERNS & ALLIES			
Dryopteridaceae	<i>Dryopteris arguta</i>	Wood fern	N
Polypodiaceae	<i>Polypodium calirhiza</i>	Polypody	N
Pteridaceae	<i>Pentagramma triangularis</i>	Goldback fern	N
CONIFERS			
Cupressaceae	<i>Calocedrus decurrens</i>	Incense cedar	N
Pinaceae	<i>Pinus ponderosa</i>	Pacific ponderosa pine	N
	<i>Pinus sabiniana</i>	Gray pine	N
	<i>Pseudotsuga menziesii</i>	Douglas fir	N
DICOTS			
Amaranthaceae	<i>Amaranthus</i> sp.	Pigweed	--
Anacardiaceae	<i>Toxicodendron diversilobum</i>	Western poison oak	N
Apiaceae	<i>Daucus carota</i>	Carrot	I
	<i>Daucus pusillus</i>	--	N
	<i>Lomatium</i> sp.	--	N
	<i>Sanicula bipinnatifida</i>	Purple sanicle	N
	<i>Sanicula crassicaulis</i>	Sanicle	N
	<i>Torilis arvensis</i>	Hedge parsley	I
	Asclepiadaceae	<i>Asclepias fascicularis</i>	Narrow-leaf milkweed
Asteraceae	<i>Achillea millefolium</i>	Yarrow	N
	<i>Agoseris</i> sp.	--	N
	<i>Anaphalis margaritacea</i>	Pearly everlasting	N
	<i>Anthemis cotula</i>	Mayweed	I
	<i>Artemisia douglasiana</i>	Mugwort	N
	<i>Baccharis pilularis</i>	Coyote brush	N
	<i>Calycadenia</i> sp.	--	N
	<i>Carduus pycnocephalus</i>	Italian thistle	I
	<i>Centaurea solstitialis</i>	Yellow star-thistle	I
	<i>Chamomilla suaveolens</i>	Pineapple weed	I
	<i>Chondrilla juncea</i>	Skeleton weed	I
	<i>Cichorium intybus</i>	Chicory	I
	<i>Cirsium vulgare</i>	Bull thistle	I
	<i>Ericameria</i> sp.	Goldenbrush	N
	<i>Eriophyllum lanatum</i> var. <i>croceum</i>	Woolly sunflower	N
	<i>Filago californica</i>	Herba impia	N
	<i>Gnaphalium</i> sp.	Cudweed	--
	<i>Grindelia hirsutula</i> var. <i>davyi</i>	Gumplant	N
	<i>Hemizonia fitchii</i>	Fitch's hemizonia	N
	<i>Holocarpa virgata</i>	--	N
<i>Hypochaeris radicata</i>	Rough cat's-ear	I	
<i>Lactuca serriola</i>	Prickly lettuce	I	
<i>Leontodon taraxacoides</i>	Hawkbit	I	
	<i>Madia</i> sp. (2 species present)	Tarweed	N

Family	Scientific Name	Common Name	Native/ Introduced
	<i>Micropus californicus</i> var. <i>californicus</i>	Slender cottonweed	N
	<i>Psilocarphus tenellus</i> ssp. <i>tenellus</i>	Woolly-heads	N
	<i>Sonchus asper</i> ssp. <i>asper</i>	Prickly sow thistle	I
	<i>Tragopogon</i> sp.	Goat's beard	I
Bignoniaceae	<i>Catalpa</i> sp.	--	I
Brassicaceae	<i>Brassica nigra</i>	Black mustard	I
	<i>Rorippa curvisiliqua</i>	Water cress	N
	<i>Sisymbrium officinale</i>	Hedge mustard	I
Boraginaceae	<i>Plagiobothrys</i> sp.	Popcornflower	N
Caprifoliaceae	<i>Lonicera subspicata</i> var. <i>denudata</i>	Honeysuckle	N
	<i>Lonicera interrupta</i>	Honeysuckle	N
	<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	Snowberry	N
Caryophyllaceae	<i>Cerastium glomeratum</i>	Mouse-ear chickweed	I
	<i>Scleranthus annuus</i>	Knawel	I
	<i>Spergularia</i> sp.	Sand-spurrey	--
	<i>Stellaria media</i>	Common chickweed	I
Convolvulaceae	<i>Calystegia occidentalis</i>	Morning glory	N
Ericaceae	<i>Arctostaphylos viscida</i> ssp. <i>viscida</i>	Manzanita	N
Euphorbiaceae	<i>Eremocarpus setigerus</i>	Dove weed; Turkey mullein	N
Fabaceae	<i>Lathyrus latifolius</i>	Perennial sweet pea	I
	<i>Lotus micranthus</i>	--	N
	<i>Lotus purshianus</i> var. <i>purshianus</i>	--	N
	<i>Lupinus</i> sp.	Lupine	N
	<i>Trifolium dubium</i>	Little hop clover	I
	<i>Trifolium glomeratum</i>	Clover	I
	<i>Trifolium hirtum</i>	Rose clover	I
	<i>Trifolium microcephalum</i>	Clover	N
	<i>Trifolium subterraneum</i>	Subterranean clover	I
	<i>Trifolium willdenovii</i>	Clover	N
	<i>Vicia sativa</i> ssp. <i>sativa</i>	Common vetch	I
	<i>Vicia villosa</i> ssp. <i>villosa</i>	Hairy vetch	I
Fagaceae	<i>Quercus chrysolepis</i>	Maul oak	N
	<i>Quercus douglasii</i>	Blue oak	N
	<i>Quercus kelloggii</i>	California black oak	N
	<i>Quercus lobata</i>	Valley oak	N
	<i>Quercus wislizenii</i> var. <i>wislizenii</i>	Interior live oak	N
Gentianaceae	<i>Centaurium muehlenbergii</i>	Centaury	N
Geraniaceae	<i>Erodium botrys</i>	Filaree	I
	<i>Erodium cicutarium</i>	Filaree	I
	<i>Geranium dissectum</i>	Cranesbill	I
	<i>Geranium molle</i>	Cranesbill	I
Hippocastanaceae	<i>Aesculus californica</i>	California buckeye	N
Hydrophyllaceae	<i>Eriodictyon californicum</i>	Yerba santa	N
Hypericaceae	<i>Hypericum perforatum</i>	Klamathweed	I
Lamiaceae	<i>Lamium amplexicaule</i>	Dead nettle	I
	<i>Mentha</i> sp.	Mint	--
	<i>Monardella villosa</i> ssp. <i>villosa</i>	Coyote-mint	N
	<i>Scutellaria californica</i>	Skullcap	N
	<i>Stachys</i> sp.	Hedge nettle	N
	<i>Trichostema lanceolatum</i>	Vinegar weed	N
Lythraceae	<i>Lythrum hyssopifolium</i>	--	I

Family	Scientific Name	Common Name	Native/ Introduced
Malvaceae	<i>Sidalcea malviflora</i> ssp. <i>asprella</i>	Checker mallow	N
Onagraceae	<i>Clarkia biloba</i> ssp. <i>biloba</i>	--	N
	<i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i>	Four-spot	N
	<i>Epilobium brachycarpum</i>	Fireweed	N
	<i>Epilobium</i> sp.	Fireweed	--
Papaveraceae	<i>Eschscholzia californica</i>	California poppy	N
Plantaginaceae	<i>Plantago lanceolata</i>	English plantain	I
Polemoniaceae	<i>Allophylum diarticatum</i>	--	N
	<i>Navarretia intertexta</i> ssp. <i>intertexta</i>	--	N
Polygonaceae	<i>Polygonum arenastrum</i>	Common knotweed	I
	<i>Polygonum</i> sp.	Knotweed	--
	<i>Rumex acetosella</i>	Sheep sorrel	I
	<i>Rumex conglomeratus</i>	Dock	I
	<i>Rumex crispus</i>	Curly dock	I
	<i>Rumex pulcher</i>	Fiddle dock	I
Portulacaceae	<i>Claytonia perfoliata</i> ssp. <i>perfoliata</i>	Miner's lettuce	N
Primulaceae	<i>Anagallis arvensis</i>	Scarlet pimpernel	I
Ranunculaceae	<i>Delphinium variegatum</i> ssp. <i>variegatum</i>	Royal larkspur	N
	<i>Ranunculus muricatus</i>	Buttercup	I
Rhamnaceae	<i>Ceanothus cuneatus</i> var. <i>cuneatus</i>	Buck brush	N
	<i>Rhamnus ilicifolia</i>	Holly-leaved redberry	N
	<i>Rhamnus tomentella</i> ssp. <i>tomentella</i>	Hoary coffeeberry	N
Rosaceae	<i>Aphanes occidentalis</i>	--	N
	<i>Heteromeles arbutifolia</i>	Toyon	N
	<i>Potentilla glandulosa</i>	Cinquefoil	N
	<i>Prunus</i> sp.	--	--
	<i>Pyrus communis</i>	Common pear	I
	<i>Rubus discolor</i>	Himalayan blackberry	I
	<i>Sanguisorba minor</i> ssp. <i>muricata</i>	Garden burnet	I
Rubiaceae	<i>Galium aparine</i>	Goose grass	N
	<i>Galium murale</i>	Tiny bedstraw	I
	<i>Galium parisiense</i>	Wall bedstraw	I
	<i>Galium porrigens</i> var. <i>tenue</i>	Climbing bedstraw	N
	<i>Sherardia arvensis</i>	Field madder	I
Salicaceae	<i>Salix</i> sp.	Willow	N
Scrophulariaceae	<i>Collinsia</i> sp.	--	N
	<i>Kickxia elatine</i>	Fluellin	I
	<i>Mimulus guttatus</i>	Yellow monkeyflower	N
	<i>Verbascum blattaria</i>	Moth mullein	I
	<i>Verbascum thapsus</i>	Woolly mullein	I
Simaroubaceae	<i>Ailanthus altissima</i>	Tree of heaven	I
Solanaceae	<i>Solanum</i> sp.	Nightshade	--
Verbenaceae	<i>Verbena litoralis</i>	Verbena	I
Viscaceae	<i>Arceuthobium occidentale</i>	Foothill-pine dwarf mistletoe	N
	<i>Phoradendron villosum</i>	Oak mistletoe	N
Vitaceae	<i>Vitis californica</i>	California wild grape	N

Family	Scientific Name	Common Name	Native/ Introduced
MONOCOTS			
Cyperaceae	<i>Carex sp.</i>	Sedge	N
	<i>Cyperus eragrostis</i>	Nut sedge	N
	<i>Eleocharis macrostachya</i>	Spikerush	N
Iridaceae	<i>Sisyrinchium bellum</i>	Blue-eyed-grass	N
Juncaceae	<i>Juncus balticus</i>	Baltic rush	N
	<i>Juncus bufonius</i>	Toad rush	N
	<i>Juncus occidentalis</i>	Rush	N
	<i>Juncus phaeocephalus</i> var. <i>paniculatus</i>	Rush	N
	<i>Luzula comosa</i>	Hairy wood rush	N
Liliaceae	<i>Brodiaea elegans</i> ssp. <i>elegans</i>	Harvest brodiaea	N
	<i>Calochortus albus</i>	White globe lily	N
	<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	Soap plant	N
	<i>Dichelostemma multiflorum</i>	Wild hyacinth	N
	<i>Dichelostemma volubile</i>	Twining brodiaea	N
Poaceae	<i>Aegilops triuncialis</i>	Barbed goatgrass	I
	<i>Agrostis</i> sp.	Bent grass	--
	<i>Aira caryophyllea</i>	Silver European hairgrass	I
	<i>Avena fatua</i>	Wild oat	I
	<i>Avena sativa</i>	Cultivated oat	I
	<i>Briza minor</i>	Quaking grass	I
	<i>Bromus diandrus</i>	Ripgut grass	I
	<i>Bromus hordeaceus</i>	Soft brome	I
	<i>Bromus laevipes</i>	Brome	N
	<i>Bromus madritensis</i> ssp. <i>rubens</i>	Foxtail chess	I
	<i>Cynodon dactylon</i>	Bermuda grass	I
	<i>Cynosurus echinatus</i>	Hedgehog dogtail	I
	<i>Deschampsia danthonioides</i>	Annual hairgrass	N
	<i>Elymus glaucus</i>	Blue wildrye	N
	<i>Elymus multisetus</i>	Big squirreltail	N
	<i>Gastridium ventricosum</i>	Nit grass	I
	<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley	I
	<i>Lolium multiflorum</i>	Italian ryegrass	I
	<i>Melica torreyana</i>	Melic	N
	<i>Muhlenbergia rigens</i>	Deergrass	N
	<i>Nassella pulchra</i>	Purple needlegrass	N
	<i>Phalaris</i> sp.	--	--
	<i>Poa bulbosa</i>	Bulbous bluegrass	I
	<i>Polypogon monspeliensis</i>	Annual beard grass	I
	<i>Taeniatherum caput-medusae</i>	Medusa head	I
	<i>Vulpia myuros</i> var. <i>myuros</i>	Vulpia	I



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

April 24, 2013



Regulatory Division SPK-2009-00928

Mr. Jim Davies
Piedmont Oak Estates, LLC
854 Diablo Road
Danville, California 94526-2760

Dear Mr. Davies:

We are responding to your April 9, 2013, request for a preliminary jurisdictional determination (JD), in accordance with our Regulatory Guidance Letter (RGL) 08-02, for the Piedmont Oak Estates site. The approximately 27.39-acre site is located near Weber Creek, Section 19, Township 10 North, Range 11 East, Mount Diablo Meridian, Latitude 38.7025313162938°, Longitude -120.808560315998°, Town of Diamond Spring, El Dorado County, California.

Based on available information, we concur with the amount and location of wetlands and/or other water bodies on the site as depicted on the enclosed 16 April, 2013, *Piedmont Oak Estates, El Dorado County, CA*, prepared by Sycamore Environmental Consultants, Inc (enclosure 1). The approximately 0.0709 acre of other water bodies present within the survey area are potential waters of the United States regulated under Section 404 of the Clean Water Act.

A copy of our RGL 08-02 Preliminary Jurisdictional Determination Form for this site is enclosed (enclosure 2). Please sign and return a copy of the completed form to this office. Once we receive a copy of the form with your signature we can accept and process a Pre-Construction Notification or permit application for your proposed project.

You should not start any work in potentially jurisdictional waters of the United States unless you have Department of the Army permit authorization for the activity. You may request an approved JD for this site at any time prior to starting work within waters. In certain circumstances, as described in RGL 08-02, an approved JD may later be necessary.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This preliminary determination has been conducted to identify the potential limits of wetlands and other water bodies which may be subject to Corps of Engineers' jurisdiction for the particular site identified in this request. A Notification of Appeal Process and Request for

Appeal Form is enclosed to notify you of your options with this determination (enclosure 3). This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2009-00928 in any correspondence concerning this project. If you have any questions, please contact Mr. Peck Ha at our California North Branch Office, Regulatory Division, Sacramento District, U.S. Army Corps of Engineers, 1325 J Street, Room 1350, Sacramento, California 95814-2922, email Peck.Ha@usace.army.mil, or telephone 916-557-6617. For more information regarding our program, please visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,



Nancy Arcady Haley
Chief, California North Branch

Enclosures

Copy Furnished with enclosures:

Ms. Lillian Macleod, El Dorado County Planning Department, 2850 Fairlane Court, Placerville, California 95667

Copies Furnished without enclosures:

Mr. Chuck Hughes, Sycamore Environmental Consultants, Inc., 6355 Riverside Boulevard, Suite C, Sacramento, California 95831

Ms. Elizabeth Lee, California Regional Water Quality Control Board, Central Valley Region, 11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114

Ms. Tina Bartlett, California Department of Fish and Game, Region 2, 1701 Nimbus Drive, Rancho Cordova, California 95670-4599

U.S. Fish and Wildlife Service, Endangered Species Division, 2800 Cottage Way, Suite W2605, Sacramento, California 95825-3901

Mr. Jason Brush, Environmental Protection Agency, WRT-8, 75 Hawthorne Street, San Francisco, California 94105-3922

Biological Resources Evaluation
and
Preliminary Jurisdictional Delineation Report
for
Piedmont Oak Estates

EL Dorado County, CA

Prepared by:

Sycamore Environmental Consultants, Inc.

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Prepared for:

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Contact: Mr. Jim Davies

9 April 2007

Biological Resources Evaluation
and
Preliminary Jurisdictional Delineation Report
for
Piedmont Oak Estates

El Dorado County, CA

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I. SUMMARY OF FINDINGS AND CONCLUSIONS

No state- or federal-listed species were observed in the Piedmont Oak Estates project study area (PSA). The PSA does not contain habitat for state- or federal-listed wildlife species. The PSA does not contain habitat for state and or federal-listed plant species.

The PSA contains potential habitat for special-status plant species including Pleasant Valley mariposa lily, Brandegees' clarkia, and oval-leaved viburnum. The PSA is located in El Dorado County rare plant mitigation area 2 (El Dorado Irrigation District Service Area).

Potential wetlands and other waters of the U.S. occur in the PSA. Dredging or fill activities in wetlands and other waters of the U.S. require a section 404 permit from the U.S. Army Corps of Engineers (Corps), a section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB) and a 1602 Streambed Alteration Agreement from the California Department of Fish and Game (DFG).

II. INTRODUCTION

A. Purpose of Report

This report documents biological resources, wetlands, and other waters of the U.S. in the PSA. This report can be used in support of state and federal permit applications and CEQA documents. This report does not evaluate project impacts or identify mitigation measures.

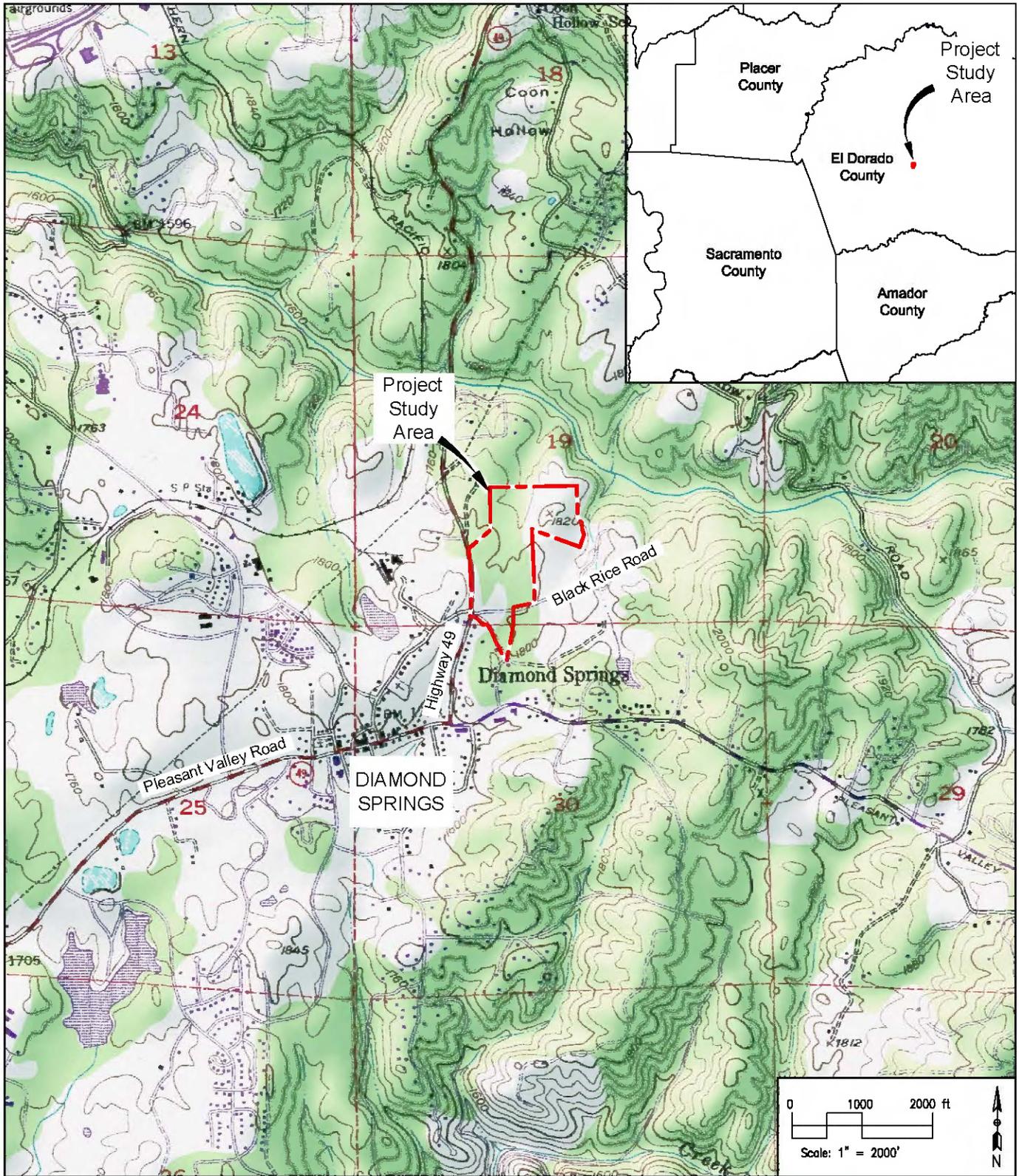
B. Project Location

The 46.36 ac PSA is located east of the intersection of State Highway 49 and Black Rice Road north of the community of Diamond Springs in El Dorado County, CA (Figure 1). The PSA is located on the Placerville USGS topographic quadrangle (T10N, R11E, Sections 19 and 30). The PSA is in the South Fork American River watershed (hydrologic unit code 18020129). The PSA centroid is 38N 42' 05.94" and 120W 48' 34.89" (UTM zone 10, NAD 1983).

The PSA is located in El Dorado County rare plant mitigation area 2. The PSA is located outside the El Dorado County Important Biological Community (IBC) and Ecological Preserve areas (El Dorado County 2004).

To access the PSA from Sacramento, take State Highway 50 east and take Exit 44a towards Diamond Springs. Turn right onto Missouri Flat Road. Turn left at the intersection of Missouri Flat Road and State Highway 49. Veer left at the intersection of State Highway 49 and Pleasant Valley Road. Proceed north on State Highway 49 and turn right onto Black Rice

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Piedmont Oak Estates
 El Dorado County, CA
 9 April 2007

 = Project Study Area (PSA)



Figure 1.
 Location Map

Photograph:
 Placerville, CA
 USGS 7.5' Quadrangle
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 Partners. All rights reserved.

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Road. The PSA is located immediately east of the intersection of State Highway 49 and Black Rice Road on the north and south side of Black Rice Road.

C. Project Applicant and Engineer

Piedmont Oak Estates, LLC
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Danville, CA 94526-2760
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Fax: 925/ 943-7409

Gene E. Thorne & Associates, Inc.
3025 Alhambra Drive
Cameron Park, CA 95682
Contact: Mr. Gene Thorne
Phone: 916/ 985-7745
Fax: 530/ 676-4205

D. Project Description

Project design has not yet been completed.

III. STUDY METHODS

A. Studies Conducted

Studies included conducting field surveys; obtaining and analyzing data from state and federal agencies; and reviewing maps, aerial photographs, and published and unpublished literature. A preliminary jurisdictional delineation was conducted to determine if potential wetlands or other waters of the U.S. occur in the PSA.

B. Literature Search

Information on the biology, distribution, taxonomy, legal status, and other aspects of the special-status species was obtained from documents on file in the library of Sycamore Environmental. Standard references used for the biology and taxonomy of plants included Abrams (1923-1960); California Native Plant Society (2005); California Department of Fish and Game (2003, 2006b, d); Hickman, ed. (1993); Mason (1957); Munz (1959); and Sawyer and Keeler-Wolf (1995). Standard references used for the biology and taxonomy of wildlife included Behler and King (1979); California Department of Fish and Game (2006a, 5c); Ehrlich et al. (1988); Jameson and Peeters (2004); Jennings and Hayes (1994); Mayer and Laudenslayer, eds. (1988); McGinnis (1984); Peterson (1990); Sibley (2003); Stebbins (2003); Udvardy (1977); Verner and Boss (1980); Whitaker (1980); and Zeiner et al. (1988; 1990a, b).

A search of the California Natural Diversity Database (database release date 6 September 2006) was conducted for the Placerville USGS quad and the eight surrounding quads to determine if known records of federal- or state-listed species occur in, or in the vicinity of the PSA (Appendix A).

Sycamore Environmental obtained a list, dated 13 October 2006, from the U.S. Fish and Wildlife Service (USFWS), Sacramento Field Office that identifies special-status species that potentially occur in or could be affected by projects on the Placerville USGS quad (Appendix B)

C. Survey Dates and Personnel

Fieldwork for the jurisdictional delineation and biological survey was conducted by Adam Forbes, M.S. on 9 and 10 September 2006.

D. Survey Methods

Field surveys consisted of walking through the PSA to assess potential habitat for special-status species, sensitive communities, and potential wetlands and other waters of the U.S. Plant and animal species and vegetative communities were identified and recorded. A list of plant and wildlife species observed during the surveys is in Appendix D. Photographs of the PSA are in Appendix E.

E. Jurisdictional Delineation

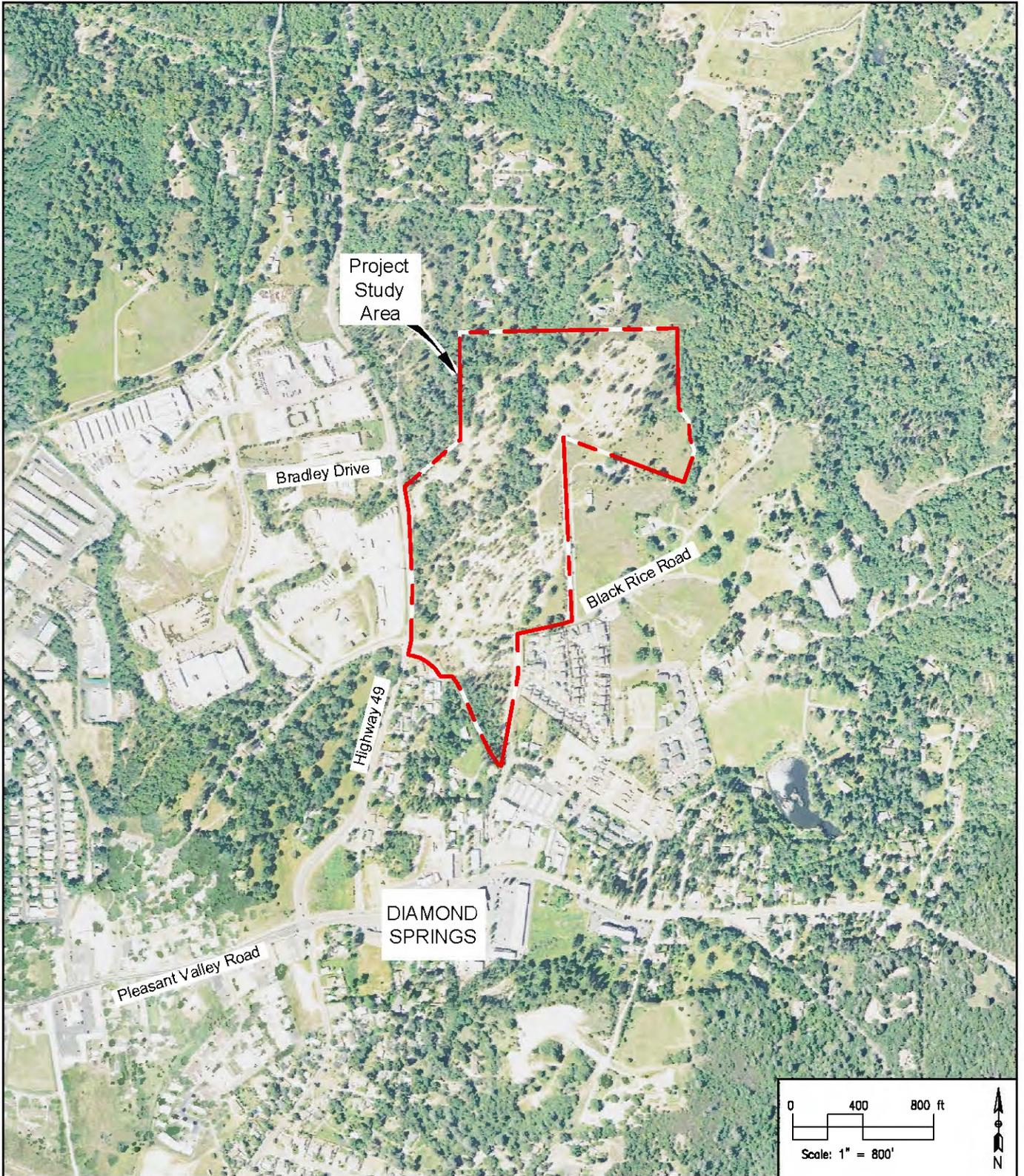
The jurisdictional delineation was conducted in accordance with Corps guidelines (1987). The results are in Section VI of this document.

F. Problems Encountered and Limitations That May Influence Results

Biological surveys of the PSA were conducted outside the documented blooming period of Pleasant Valley mariposa lily (*Calochortus clavatus* var. *avius*), Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*), and oval-leaved viburnum (*Viburnum ellipticum*). These species may not have been detected during the general biological survey of the PSA. No other problems or limitations were encountered that may have influenced the results.

G. Mapping

Biological and potential jurisdictional features observed by Sycamore Environmental were mapped using a Trimble GeoXT™ sub-meter accurate GPS. The 1 May 2006 aerial photo in Figures 2 and 3 was downloaded from the GlobeXplorer® website. The AutoCAD® base map used for Figure 5 was provided by Gene E. Thorne & Associates, Inc. The GPS data were exported to AutoCAD® and placed on the aerial photo (Figure 3) and AutoCAD® base map (Figure 5).



Piedmont Oak Estates
 El Dorado County, CA
 9 April 2007

 = Project Study Area (PSA)



Figure 2.
 Aerial Photograph of the PSA

Photograph:
 1 May 2006
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 Partners. All rights reserved.

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IV. ENVIRONMENTAL SETTING

The PSA is located in the western foothills of the Sierra Nevada north of the community of Diamond Springs in El Dorado County, CA. Elevation in the PSA ranges from 1,735 to 1,835 ft above sea level. Topography in the PSA consists of gentle to moderately steep slopes of varying aspect. Land use adjacent to the PSA consists of residential housing and undeveloped land.

A. Biological Communities and Other Features in the PSA

Biological communities are defined by species composition and relative abundance. Biological communities described below correlate where applicable with the list of California terrestrial natural communities recognized by the California Natural Diversity Database (DFG 2003) and the El Dorado County General Plan EIR (2004). Biological communities and other features are mapped in Figure 3; their acreages are in Table 1.

Table 1. Biological communities and other features in the PSA.

Feature Type	DFG Code ¹	El Dorado County Major Habitat Type ²	Acreage ³ (ac)
Biological Community			
Mixed Oak Woodland	71.000.00	Blue Oak-Foothill Pine	19.16
California Annual Grassland	42.040.00	Annual Grassland	4.43
Manzanita Chaparral	37.300.00	Mixed Chaparral	1.24
Channels	--	--	0.21
Seasonal Wetland	--	--	0.12
Other Features			
Partially Cleared Land	--	--	21.20
Total:			46.36

¹ DFG 2003

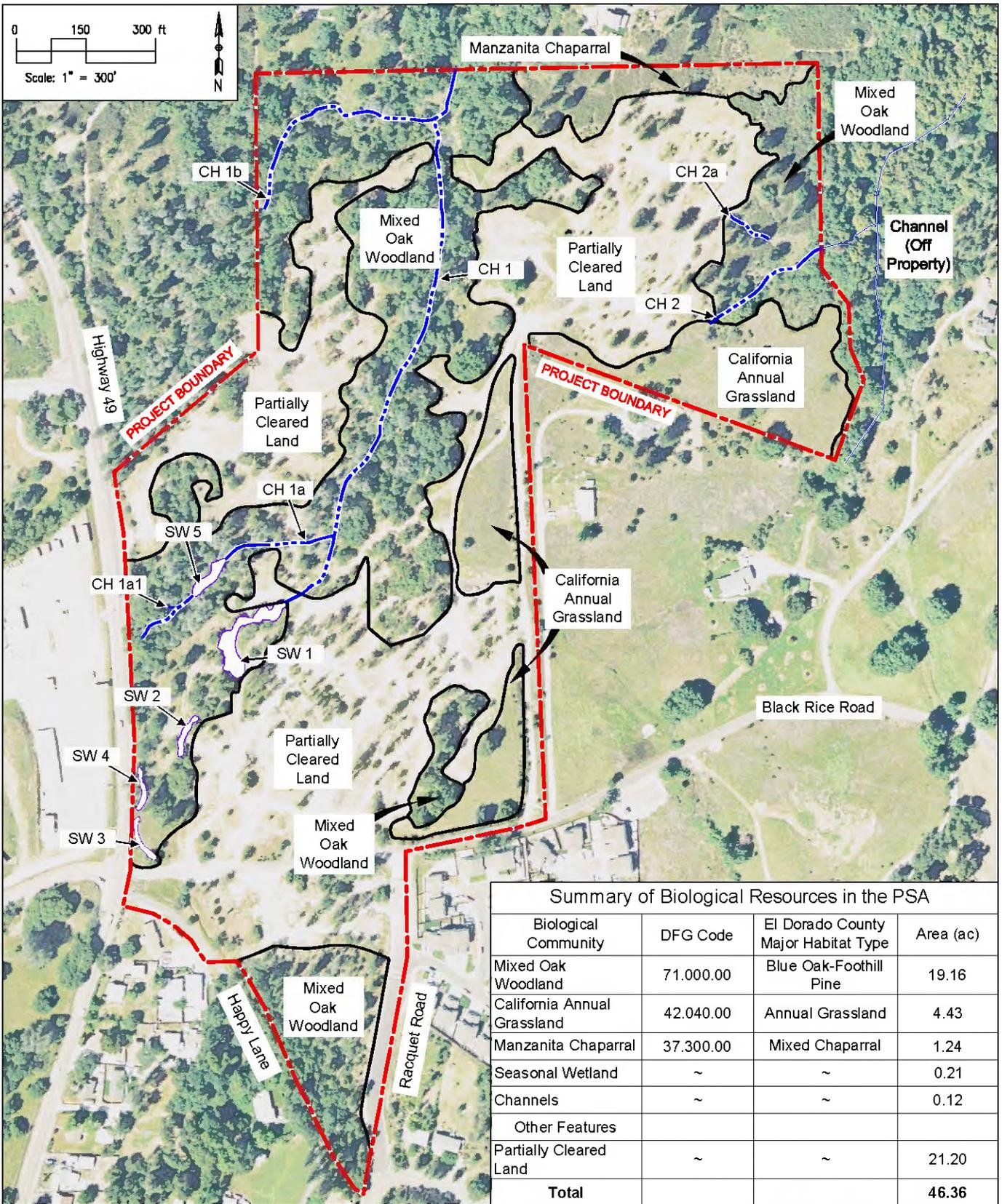
² El Dorado County 2004

³ Acreages were calculated using AutoCAD[®] functions.

1. Mixed Oak Woodland

This biological community occurs in the west central, northwest, northeast, and southern portions of the PSA. Tree species present include interior live oak (*Quercus wislizenii* var. *wislizenii*), blue oak (*Quercus douglasii*), Valley oak (*Quercus lobata*), California black oak (*Quercus kelloggii*), Pacific ponderosa pine (*Pinus ponderosa*), and foothill pine (*Pinus sabiniana*). Canopy cover in this community is generally open. Native shrubs present include coyote brush (*Baccharis pilularis*), buck brush (*Ceanothus cuneatus* var. *cuneatus*), western poison oak (*Toxicodendron diversilobum*), manzanita (*Arctostaphylos* sp.), and toyon (*Heteromeles arbutifolia*). Species present in the herb layer include hedgehog dogtail

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Summary of Biological Resources in the PSA			
Biological Community	DFG Code	El Dorado County Major Habitat Type	Area (ac)
Mixed Oak Woodland	71.000.00	Blue Oak-Foothill Pine	19.16
California Annual Grassland	42.040.00	Annual Grassland	4.43
Manzanita Chaparral	37.300.00	Mixed Chaparral	1.24
Seasonal Wetland	~	~	0.21
Channels	~	~	0.12
Other Features			
Partially Cleared Land	~	~	21.20
Total			46.36

Piedmont Oak Estates
 El Dorado County, CA
 9 April 2007



- = Project Boundary
- = Channel (CH)
- = Seasonal Wetland (SW)

Photograph:
 1 May 2006
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Figure 3.
 Biological Resources Map

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(*Cynosurus echinatus*), blue wildrye (*Elymus glaucus*), *Torilis arvensis*, wall bedstraw (*Galium parisiense*), and silver European hairgrass (*Aira caryophyllea*). Mixed oak woodland is given no special designation by DFG (2003). Oak woodlands under County jurisdiction are subject to California Public Resources Code (PRC) §21083.4.

2. California Annual Grassland

This biological community occurs in the eastern portion of the PSA. Species present include hedgehog dogtail, blue wildrye, wild oat (*Avena fatua*), Italian ryegrass (*Lolium multiflorum*), soft brome (*Bromus hordeaceus*), silver European hairgrass, *Torilis arvensis*, nit grass (*Gastridium ventricosum*), yellow star-thistle (*Centaurea solstitialis*), rose clover (*Trifolium hirtum*), and Klamath weed (*Hypericum perforatum*). Scattered trees and scrub species present in this community included pear (*Pyrus* sp.), coyote brush, tree of heaven (*Ailanthus altissima*), and buck brush. California annual grassland is given no special designation by DFG (2003).

3. Manzanita Chaparral

This community occurs in a small area in the north central portion of the PSA. Manzanita is the dominant shrub species. Other shrub species present include coyote brush and buck brush. The herb layer is poorly developed due to the closed canopy of the shrub layer. Manzanita chaparral is given no special designation by DFG (2003).

4. Channels

Six ephemeral channels occur in the PSA. No riparian corridor is associated with the six ephemeral drainages in the PSA. Species present in and adjacent to the ephemeral channels include western poison oak, interior live oak, and California buckeye (*Aesculus californica*). Channels in the PSA are potential jurisdictional features and are discussed Section VI.H.

5. Seasonal Wetland

Five seasonal wetlands occur in the PSA. Closed depressional wetlands, such as vernal pools, do not occur in the PSA. Seasonal wetlands in the PSA consist of open sloped depressions that drain to the adjacent ephemeral channels. Species present in seasonal wetland habitat include Himalayan blackberry, deer grass (*Muhlenbergia rigens*), curly dock (*Rumex crispus*), toad rush (*Juncus bufonius*), Italian ryegrass, Baltic rush (*Juncus balticus*), *Lythrum hyssopifolium*, quaking grass (*Briza minor*), spikerush (*Eleocharis macrostachya*), and nutsedge (*Cyperus eragrostis*). Seasonal wetlands in the PSA are potential jurisdictional features and are discussed Section VI.H.

6. Partially Cleared Land

Prior to the September 2006 biological surveys approximately 21.20 ac of the PSA had been partially cleared of vegetation. A review of aerial photographs indicates that the prior to the removal vegetation in these areas approximately 50% of the area was composed of mixed oak

woodland. Approximately 40% of the area was likely vegetated with manzanita chaparral and scattered pine trees. The remaining 10% of the area was composed of nonnative grassland. Not all of the vegetation was cleared from the 21.20 ac. Scattered tree and shrub species present include Ponderosa pine, blue oak, interior live oak, coyote brush, and buck brush. Ruderal herbaceous species present include hedgehog dogtail, dove weed (*Eremocarpus setigerus*), vinegar weed (*Trichostema lanceolatum*), and woolly mullein (*Verbascum thapsus*). Multiple unpaved roads occur in the areas where vegetation was removed. Most of these roads appear to have been created during vegetation removal activities.

B. The Existing Level of Disturbance

The PSA is composed of undeveloped land located in a rural residential setting. A total of 21.20 ac of the PSA have been partially cleared of vegetation. Two ditches, likely associated with previous mining activities, occur in the PSA. Piles of spoils associated with previous mining activities occur at various locations in the PSA.

V. BIOLOGICAL RESOURCES IN THE PROJECT STUDY AREA

A. Determination of Special-Status Species in the Project Study Area

File data from CNDDDB records, USFWS, and field surveys were used to determine the species that could occur in the PSA. The CNDDDB/ RareFind summary report for the Placerville quad and the eight adjacent quads is in Appendix A. The USFWS list of special-status species that could occur on the Placerville quad and in El Dorado County is in Appendix B. Field surveys were conducted to determine if habitat for special-status species identified in file data is present in the PSA. Special-status species for which suitable habitat is present are listed in Table 2.

B. Special-Status Species not in the Project Study Area

Special-status species for which suitable habitat is not present, or whose distributional limits preclude the possibility of their occurrence in the PSA, are not discussed further in this report. These species are evaluated in Appendix C.

Table 2. Special-status species for which suitable habitat occurs in the PSA

Special-Status Species	Common Name	Federal Listing Status/ USFWS Codes ^a	State Listing Status/ DFG Code or CNPS List ^b	Source ^c	Habitat Present? / Species Observed?
Amphibian					
<i>Rana aurora draytonii</i>	California red-legged frog	T	CSC	1, 2	No/ No
Birds					
Migratory birds/ Birds of prey/	--	--/ --	--/ --	3	Yes/ Yes
Plants		USFWS	State/ CNPS		
<i>Arctostaphylos nissenana</i>	Nissenan Manzanita	--	--/ 1B.2	2	--
<i>Calochortus clavatus</i> var. <i>avius</i>	Pleasant Valley mariposa lily	--	--/ 1B.2	2	Yes/ No
<i>Clarkia biloba</i> ssp. <i>brandegeae</i>	Brandegee's clarkia	--	--/ 1B.2	2	Yes/ No
<i>Viburnum ellipticum</i>	Oval-leaved viburnum	--	--/ 2.3	2	Yes/ No

^a **Listing Status** Federal status determined from USFWS letter. State status determined from DFG (2006 c, d). Codes used in table are: **E** = Endangered; **T** = Threatened; **P** = Proposed; **C** = Candidate; **R** = California Rare; **CH** = Critical Habitat

^b **Other Codes** Other codes determined from USFWS letter, DFG (2006 a, b), and CNPS (2005). Codes used in table are as follows:
CSC = DFG Species of Special Concern

CNPS List (plants only): **1B** = Rare or Endangered (R/E) in CA and elsewhere; **2** = R/E in CA and more common elsewhere

CNPS List Decimal Extensions: **.1** = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); **.2** = Fairly endangered in California (20-80% occurrences threatened); **.3** = Not very endangered in California (<20% of occurrences threatened or no current threats known).

^c **Sources** **1** = From USFWS letter. **2** = From CNDDDB/ RareFind. **3** = Observed during survey.

C. Evaluation of Special-Status Wildlife Species

1. Amphibians

California red-legged frog (*Rana aurora draytonii*)

HABITAT AND BIOLOGY: CRLF habitat combines both a specific aquatic and riparian component. The adults typically require dense, shrubby, or emergent riparian vegetation closely associated with deep (>2.3 ft) still or slowly moving water. Deep-water pools with dense stands of overhanging willows intermixed with cattails support the highest densities of CRLF. Well-vegetated terrestrial areas within a riparian corridor may provide important sheltering habitat during the winter. Frogs spend considerable time resting and feeding in riparian vegetation when it is present (USFWS 2002a; 2005).

CRLF require water to breed. Female CRLF deposit egg masses on emergent vegetation so that the masses float on the surface of the water. Breeding habitats for CRLF vary from deep still or slow moving water with dense riparian or emergent vegetation to shallow sections of streams that are not covered with riparian vegetation. While frogs successfully breed in streams, high flows and cold temperatures in streams during the spring often make these sites risky environments for eggs and tadpoles. Stock ponds that have vegetative cover and few

nonnative predators may be used by CRLF for breeding. CRLF do not occupy water that exceeds temperatures of 70° F (USFWS 2002a).

During summer, CRLF often disperse upstream or downstream from their breeding habitat to forage or seek aestivation habitat if water is not available. Aestivation habitat is essential for the survival of CRLF within a watershed. During dry periods, CRLF are rarely encountered far from water. Summer habitat could include spaces under boulders or rocks and organic debris, such as downed trees or logs; or industrial debris, such as drains and watering troughs. CRLF use small mammal burrows and moist leaf litter to aestivate during the summer if water is not available. CRLF use large cracks in the bottom of dried ponds as refugia. CRLF are frequently encountered in seeps and springs located in open grasslands. Such bodies may not be suitable for breeding but may function as foraging habitat or refugia for frogs (USFWS 2002a; 2005).

RANGE: CRLF are endemic to CA and Baja California, Mexico. The known elevation range extends from near sea level to elevations of about 5,200 ft (USFWS 2002a). Nearly all sightings have occurred below 3,500 ft (USFWS 2002a). CRLF historically occurred through Pacific slope drainages from the vicinity of Redding (Shasta Co.) inland, west to Point Reyes (Marin Co., CA), and southward to the Santo Domingo River drainage in Baja California, Mexico (Jennings and Hayes 1994). CRLF are now known only from isolated localities in the Sierra Nevada, northern Coast, and northern Transverse Ranges (USFWS 2002a).

KNOWN RECORDS: There are no CNDDDB records for CRLF on the Placerville or 8 surrounding quads. The closest record to the PSA is from 2005 and is located approximately 14.8 mi west-northwest of the PSA on the east side of Folsom Lake, southwest of Iron Mountain on the Clarksville quad. One juvenile CRFL was observed on a footbridge that crosses a small watercourse. USFWS has determined that this is an unsubstantiated record (pers. comm. Pete Trenham, USFWS). The closest known breeding population is located approximately 11.6 mi northeast of the PSA. The record is located at Spivey Pond, on the North Fork of Weber Creek on the Sly Park quad in El Dorado County.

HABITAT PRESENT IN THE PSA: There is no CRLF breeding habitat in the PSA.

DISCUSSION: The PSA is outside the dispersal range of the nearest known breeding population and there is no breeding habitat for CRLF in the PSA.

2. Birds

Birds of prey and other migratory bird nests

HABITAT PRESENT IN THE PSA: Trees and shrubs in the PSA provide potential nesting habitat for birds of prey and migratory birds.

DISCUSSION: No birds of prey or their nests were observed in the PSA. Several migratory birds were observed in or soaring above the PSA. No migratory bird nests were observed in the PSA. Fish and Game Code 3503.5 protects all birds in the orders Falconiformes and Strigiformes (collectively known as birds of prey). Migratory birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes

it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). All migratory bird species are protected by the MBTA.

D. Evaluation of Special-Status Plant Species

Nissenan manzanita (*Arctostaphylos nissenana*)

HABITAT AND BIOLOGY: Evergreen shrub found in rocky closed-cone coniferous forest and chaparral from 1,475 to 3,610 ft in elevation. Blooms February through March (CNPS 2005).

RANGE: Known from El Dorado and Tuolumne cos.

KNOWN RECORDS: There closest CNDDDB record is from 1938 and is located approximately 1.2 mi east-southeast of the PSA on the Placerville quad. The record is located at the head of Martinez Creek approximately 2 mi southeast of Diamond Springs.

HABITAT PRESENT IN THE PSA: The manzanita chaparral community in the PSA provides habitat for this species.

DISCUSSION: This species was not observed in the PSA during the general biological survey. Although the survey was conducted after the blooming period, Nissenan manzanita is a perennial evergreen shrub that is identifiable year-round. Nissenan manzanita does not occur in the PSA.

Pleasant Valley mariposa lily (*Calochortus clavatus* var. *avius*)

HABITAT AND BIOLOGY: This bulbiferous herb occurs in lower montane coniferous forest from 1,000 to 5,900 feet in elevation (CNPS 2005). Blooms May through July (CNPS 2005).

RANGE: Amador, Calaveras, El Dorado, and Mariposa cos (CNPS 2005).

KNOWN RECORDS: There are no CNDDDB records for this species on the Placerville quad. The closest record for this species is 7.2 mi east of the PSA. The record is located on a ridge top between Avinsino Corner and Newton, approximately 2.5 air mi south of Camino on the Camino quad.

HABITAT PRESENT IN THE PSA: Habitat for this species occurs in the portions of the PSA dominated by mixed oak woodland.

DISCUSSION: Pleasant Valley mariposa lily was not observed in the PSA during biological surveys. The general biological survey was conducted at a time of year when this species may not have been identifiable. Although this species was not observed in the PSA during the biological survey, its potential to occur in the PSA cannot be excluded.

Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*)

HABITAT AND BIOLOGY: This annual herb is found in chaparral and cismontane woodland, often in road cuts, from 740 to 3,000 ft in elevation (CNPS 2005). Blooms May through July (CNPS 2005).

RANGE: This species is known from Butte, El Dorado, Nevada, Placer, Sierra, and Yuba cos (CNPS 2005).

KNOWN RECORDS: There is one CNDDDB record for this species on the Placerville quad. The record is from 1943 and is approximately 4 mi northeast of the PSA. The record is located west of the Institute for Forest Genetics on a dry hillside of a wooded ravine.

HABITAT PRESENT IN THE PSA: Habitat for this species occurs in the PSA.

DISCUSSION: Brandegee's clarkia was not observed in the PSA during biological surveys. The general biological survey was conducted at a time of year when this species may not have been identifiable. Although this species was not observed in the PSA during the biological survey, its potential to occur in the PSA cannot be excluded.

Oval-leaved viburnum (*Viburnum ellipticum*)

HABITAT AND BIOLOGY: This deciduous shrub found in chaparral, cismontane woodland, and lower montane coniferous forest from 700 to 4,600 ft elevation (CNPS 2005, Hickman 1993). Blooms May through June (CNPS 2005).

RANGE: Contra Costa, Fresno, El Dorado, Glenn, Humboldt, Mendocino, Napa, Placer, Shasta, and Sonoma cos and north to Oregon and Washington.

KNOWN RECORDS: There is one CNDDDB record for this species on the Placerville quad. The record is from 1901 and the location of the record is listed as "Placerville".

HABITAT PRESENT IN THE PSA: Habitat for this species occurs in the PSA.

DISCUSSION: Oval-leaved viburnum was not observed in the PSA during biological surveys. The general biological survey was conducted at a time of year when this species may not have been identifiable. Although this species was not observed in the PSA during the biological survey, its potential to occur in the PSA can not be excluded.

VI. JURISDICTIONAL DELINEATION

A. Literature Review

Sycamore Environmental reviewed the Placerville USGS quadrangle, the USFWS wetlands online mapper for the Placerville quad (USFWS 13 October 2006), the Soil Survey of El Dorado Area, CA, and aerial photograph map sheets (Soil Conservation Service (SCS) 1974).

B. Delineation Methods

Jurisdictional data were recorded using the Routine On-Site Determination Method (Corps 1987). Six channel data sheets were completed. Five wetland and 22 upland data points were taken. Soil pits were dug to observe the chroma, texture, degree of saturation, and other characteristics. Plant species were identified by Adam Forbes, M.S. Hydrophytic classifications of plants were determined from the U.S. Fish and Wildlife Service national list of plant species that occur in wetlands (USFWS 1988). Data sheets are in Appendix F. Color photos of the PSA are in Appendix E. This jurisdictional delineation is preliminary until verified by the Corps.

This jurisdictional delineation report has been prepared in accordance with the Sacramento District minimum standards (Corps 2001). This report was prepared prior to the implementation of the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (the supplement) (Corps 2006). The supplement is intended to bring the Corps Manual (Corps 1987) up to date with current knowledge and practice in the region and not to change wetland boundaries. Use of the Corps Manual in combination with the supplement is intended to improve the accuracy and efficiency of wetland-delineation procedures in the Arid West Region. Sycamore Environmental has reviewed the delineation data compiled for this report in light of the Interim Arid West Manual. The acreage of potential jurisdictional wetlands in the PSA would not change as a result of the wetland indicator procedures contained in the supplement.

C. Definitions

The U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency regulate the discharge of dredge and fill material into “waters of the United States” under Section 404 of the Clean Water Act (33 U.S.C. 1344). The Corps issues permits for certain dredge and fill activities in waters of the U.S. pursuant to the regulations in 33 CFR 320-330.

The lateral limits of jurisdiction in those waters may be divided into three categories. The categories include the territorial seas, tidal waters, and non-tidal waters (see 33 CFR 328.4 (a), (b), and (c), respectively). The term “waters of the U.S.” is defined at 33 CFR 328.3(a) as:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - iii. Which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under the definition;
5. Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;
6. The territorial seas;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section.

The limits of jurisdiction are identified in 33 CFR 328.4 as:

- a. Territorial Seas. The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles. (See 33 CFR 329.12)
- b. Tidal Waters of the United States. The landward limits of jurisdiction in tidal waters:
 1. Extends to the high tide line, or
 2. When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.
- c. Non-Tidal Waters of the United States. The limits of jurisdiction in non-tidal waters:
 1. In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or

2. When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.
3. When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

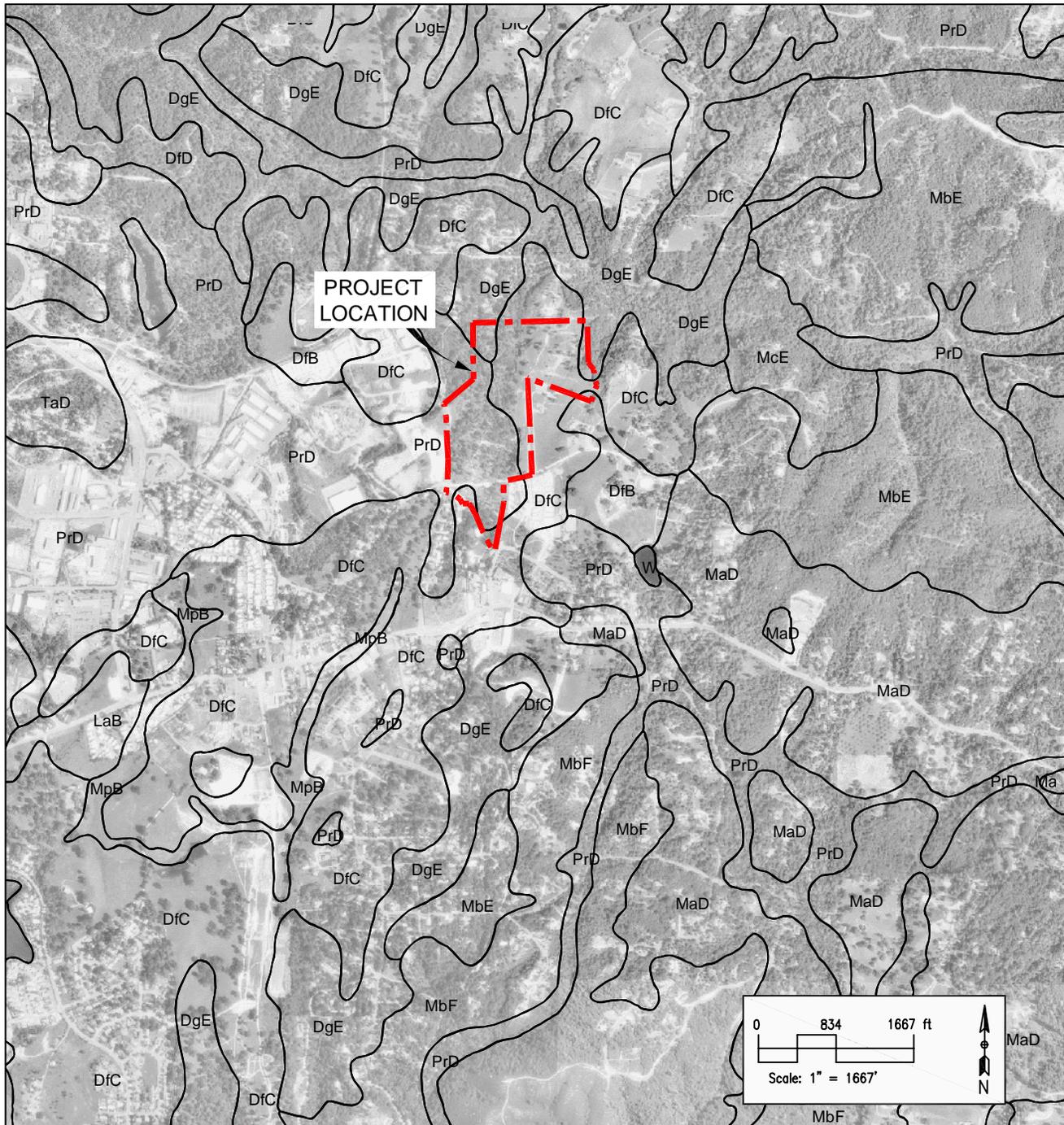
Wetlands, as defined by the Corps for regulatory purposes, are identified using a three-parameter test that considers whether hydrophytic vegetation, hydric soils, and hydrology are present (Corps 1987). Wetlands are “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328.3, 40 CFR 230.3). Wetlands also include less conspicuous wetland types such as vernal pools and other seasonal wetlands.

An ephemeral stream has flowing water only during and for a short duration after, precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow. However, an intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow (66 FR 42099).

D. Soils

Mapped soil units in the PSA were determined using the Soil Survey of El Dorado Area (SCS 1974). Four soil mapping units occur in the PSA: Diamond Springs very fine sandy loam, 3-9% slopes, Diamond Springs very fine sandy loam, 9-15% slopes, Diamond Springs very rocky very fine sandy loam, 3-50% slopes, and placer diggings (Figure 4). Placer diggings located in channels are listed as hydric (NRCS 25 October 2006). The three remaining soil units are not listed as hydric (NRCS 25 October 2006). The soil descriptions provided below are from SCS (1974) with editing.

Diamond Springs very fine sandy loam, 3-9% slopes, Diamond Springs very fine sandy loam, 9-15% slopes, Diamond Springs very rocky very fine sandy loam, 3-50% slopes: The Diamond Springs series consists of well-drained soils underlain by fine-grained acidic igneous rocks at a depth of 24 to 50 inches. A typical profile of Diamond Springs very fine sandy loam, 3-9% slopes has pale-brown (10YR 6/3) very fine sandy loam from 0 to 3 inches, very pale brown (10YR 7/3) loam from 3 to 9 inches, very pale brown (10YR 8/4) light clay loam from 9 to 14 inches, very pale brown (10YR 8/4, 7/4) clay loam from 14 to 20 inches, white (10YR 8/2) clay loam from 28 to 36 inches and well-weathered meta-dacite below 40 inches. Permeability is moderately slow, surface runoff is medium, and the erosion hazard is slight to moderate. Diamond Springs very fine sandy loam, 9-15% slopes similar to the profile described above, except it occurs on slopes ranging from 9 to 15%. Diamond Springs



Piedmont Oak Estates
 El Dorado County, CA
 9 April 2007

Figure 4.
 Soil Map

Soil Types in the PSA:

PrD Placer Diggings

DfC Diamond Springs Very Fine
 Sandy Loam, 9 to 15 percent
 slopes

DgE Diamond Springs Very Rocky
 Very Fine Sandy Loam, 3 to 50
 percent slopes

DfB Diamond Springs Very Fine
 Sandy Loam, 3 to 9 percent
 slopes

 = Project Location



Photograph:
 1 May 1993
 Copyright 2007, GlobeXplorer and Partners.
 All rights reserved.
 Soil Data:
 NRCS Soil Data Mart
 Soil Survey of El Dorado Area, CA 1974
<http://www.soildata.mart.nrcs.usda.gov>

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very rocky very fine sandy loam is similar to the profile described above, except 5-25% of the surface is rock outcrops.

Placer Diggings: This soil type consists of areas of stony, cobbly, and gravelly material, commonly in beds of creeks and other streams, or of areas that have been placer mined and contain enough fine sand or silt to support some grass for grazing. Material included in this land type is derived from a mixture of rocks and commonly is stratified or poorly sorted.

E. Hydrology

A detailed description of the hydrology of potential jurisdictional features is in Section IV.H.

F. National Wetlands Inventory (NWI) Map

No mapped wetlands or waters occur in the PSA.

G. Existing Field Conditions

The average accumulated precipitation for the National Weather Service, Placerville gauge through August is 37.73 inches. Prior to the delineation, the Placerville gauge had received 59.00 inches of precipitation, or 156% of average accumulated precipitation (CDWR 2006).

H. Wetlands and Other Waters of the U.S. in the PSA

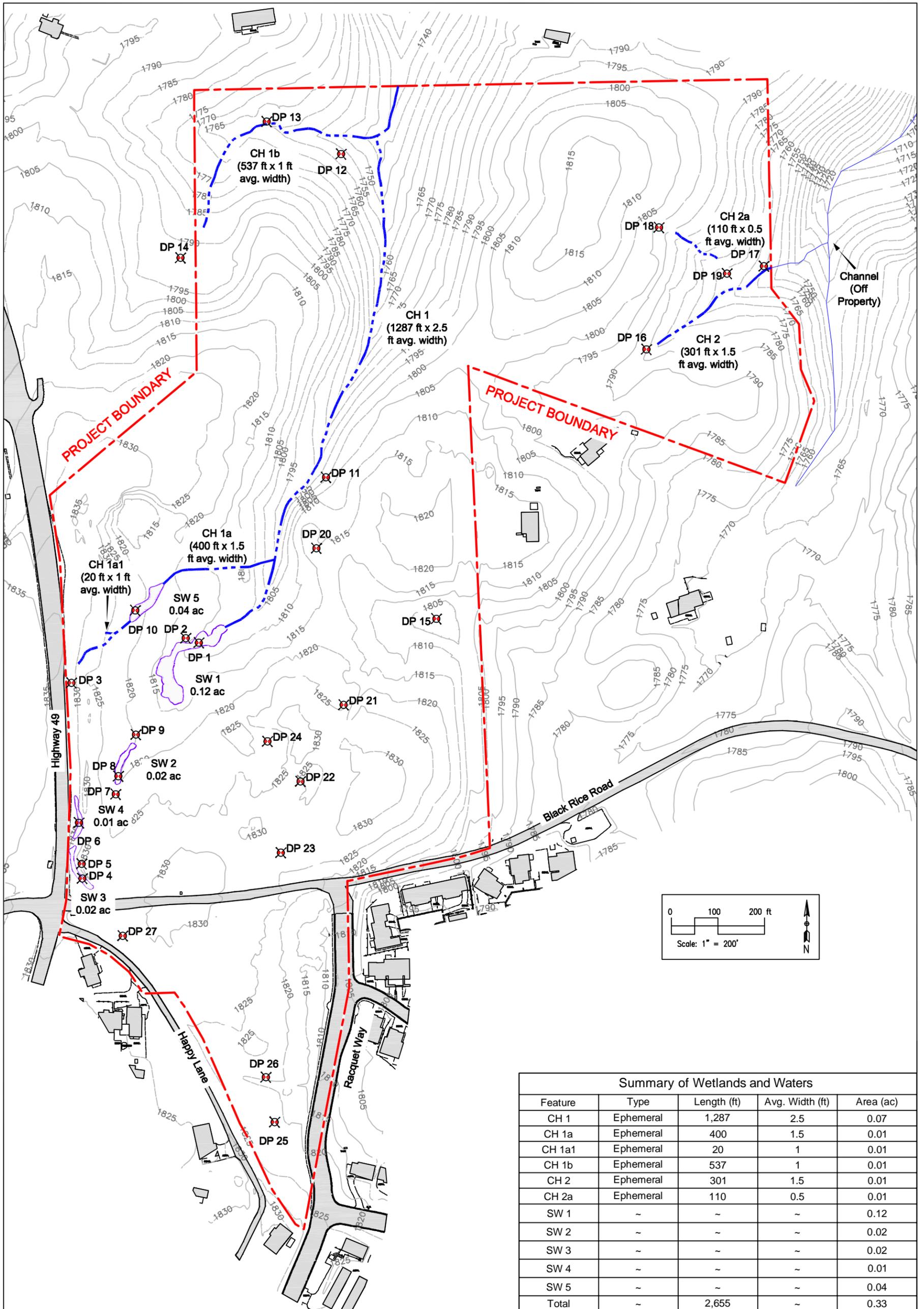
The U.S. Supreme Court, in its decision in *Rapanos et ux., et. al. v. United States* (19 June 2006), left open the possibility that certain wetlands and waters may not be regulated under section 404 of the Clean Water Act unless there is a “significant nexus” to traditionally navigable waters of the U.S. The Corps and U.S. Environmental Protection Agency (EPA) have not released new guidance for how to evaluate whether ephemeral or intermittent waters have a “significant nexus.” The Sacramento District of the Corps is currently using the presence of a surface water connection, no matter how distant, to establish “adjacency.” As a result, the District regulates most ephemeral and intermittent channels as “waters of the U.S.” and wetlands adjacent to other waters. Potential jurisdictional features are shown on Figure 5 and their acreages are shown in Table 3.

1. Waters of the U.S.

Channel 1 (CH 1): CH 1 is an ephemeral channel located in the western portion PSA. CH 1 did not contain water on the day of the delineation. Hydrology for CH 1 is provided by surface runoff from surrounding upland areas and from its three ephemeral tributaries. The bed of CH 1 is composed of scoured soil, cobble, and bedrock. There is no riparian corridor associated with CH 1.

Channel 1a (CH 1a): CH 1a is an ephemeral channel located in the western portion of the PSA. CH 1a is a tributary of CH 1 and did not contain water on the day of the delineation.

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Summary of Wetlands and Waters				
Feature	Type	Length (ft)	Avg. Width (ft)	Area (ac)
CH 1	Ephemeral	1,287	2.5	0.07
CH 1a	Ephemeral	400	1.5	0.01
CH 1a1	Ephemeral	20	1	0.01
CH 1b	Ephemeral	537	1	0.01
CH 2	Ephemeral	301	1.5	0.01
CH 2a	Ephemeral	110	0.5	0.01
SW 1	~	~	~	0.12
SW 2	~	~	~	0.02
SW 3	~	~	~	0.02
SW 4	~	~	~	0.01
SW 5	~	~	~	0.04
Total	~	2,655	~	0.33

Piedmont Oak Estates
 El Dorado County, CA
 9 April 2007

- = Project Boundary
- = Channel (CH)
- = Seasonal Wetland (SW)
- DP 1 = Soil Point



Date	Submittal	Delineators
9 Apr 07	Original	ACF

Basemap:
 Piedmont.dwg
 Gene Thorne & Associates, Inc.

Figure 5.
 Preliminary Jurisdictional Delineation Map

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Hydrology for CH 1a is provided by flow from a concrete box culvert and by surface runoff from surrounding upland areas in the PSA. The concrete box culvert is located west of and upslope from the upstream terminus of CH 1a. The concrete box culvert is associated with an old ditch segment that was likely related to previous mining activities. Within the PSA the ditch segment extends from the intersection of Highway 49 and Black Rice Road north approximately 500 ft to a culvert that extends under Highway 49. The culvert under Highway 49 is damaged and it is unknown if the culvert is functioning. No culvert was observed at the southern terminus of the ditch segment. As water collects in the ditch it appears to flow through the concrete box culvert and drop approximately 10 vertical ft and enter CH 1a. Additional flow is provided by surface runoff from upland areas surrounding CH 1a. The upper reach of CH 1a drains to seasonal wetland 5 (SW 5). At the downstream end of SW 5 flow reenters CH 1a and drains to CH 1. The bed of CH 1a is composed of scoured soil. Spoils piles are located adjacent to the upstream portions of CH 1a. There is no riparian corridor associated with CH 1a.

Table 3. Potential Wetlands and Other Waters of the U.S. in the PSA.

Wetland Feature	Hydrology/ Wetland Data Points/ Paired Upland Point	Length (ft)	Avg. Width (ft)	Area (ac) ¹
Wetlands				
SW 1	1/ 2	--	--	0.12
SW 2	8/ 7, 9	--	--	0.02
SW 3	4/ 5	--	--	0.02
SW 4	6/ 5	--	--	0.01
SW 5	10/ 2, 3	--	--	0.04
Subtotal Wetlands:		--	--	0.21
Other Waters of the U.S.				
CH 1	Ephemeral	1,287	2.5	0.07
CH 1a	Ephemeral	400	1.5	0.01
CH 1a1	Ephemeral	20	1	0.01
CH 1b	Ephemeral	537	1	0.01
CH 2	Ephemeral	301	1.5	0.01
CH 2a	Ephemeral	110	0.5	0.01
Subtotal Waters of the U.S.:	--			0.12
Total Waters of the U.S.:	--	2,655	--	0.33

¹ Acreages of jurisdictional features were calculated with AutoCAD® functions.

Channel 1a1 (CH 1a1): CH 1a1 is an ephemeral channel located in the western portion of the PSA. CH 1a1 did not contain water on the day of the delineation. Hydrology for CH 1a1 is provided by surface runoff from surrounding upland areas within the PSA. The bed of CH 1a1 is composed of scoured soil. Spoils piles are located adjacent to CH 1a1. There is no riparian corridor associated with CH 1a1.

Channel 1b (CH 1b): CH 1b is an ephemeral channel located in the northwestern portion of the PSA. CH 1b did not contain water on the day of the delineation. Hydrology for CH 1b is provided by surface runoff from surrounding upland areas within and immediately adjacent to the PSA. The bed of CH 1b is composed of scoured soil. There is no riparian corridor associated with CH 1b.

Channel 2 (CH 2): CH 2 is an ephemeral channel located in the northeast portion of the PSA. CH 2 did not contain water on the day of the delineation. CH 2a drains to an unnamed channel east of and outside the PSA. Hydrology for CH 2 is provided by surface runoff from surrounding upland areas in the PSA. The bed of CH 2 is composed of scoured soil and bedrock. There is no riparian corridor associated with CH 2.

Channel 2a (CH 2a): CH 2a is an ephemeral channel located in the northeast portion of the PSA. CH 2a did not contain water on the day of the delineation. Hydrology for CH 2a is provided by surface runoff from surrounding upland areas in the PSA. The downstream terminus of CH 2a is located approximately 60 ft north west of CH 2. Upland data point 19 (DP 19) was taken between the terminus of CH 2a and CH 2. No defined surface connection between CH 2a and CH 2 was observed. The bed of CH 2a is composed of scoured soil. There is no riparian corridor associated with CH 2a.

2. Wetlands

Seasonal Wetland 1 (SW 1): SW 1 is located in the west central portion of the PSA immediately south of the upstream terminus of CH 1. SW 1 is an open sloped depression that drains to CH 1. Hydrology for SW 1 is provided by surface runoff from surrounding uplands and likely includes runoff from SW 2. A dirt road crosses the central portion of SW 1. Hydrophytic species present include curly dock, yellow monkey flower (*Mimulus guttatus*), Italian ryegrass, and toad rush. Hydric soils in SW 1 are characterized by a brown (7.5YR 4/2) matrix color with common/ prominent yellowish red (5YR 4/6) mottles.

Seasonal Wetland 2 (SW 2): SW 2 is located in the western portion of the PSA approximately 120 ft southwest of SW 1. SW 2 is an open sloped depression that drains to SW 2. Hydrology for SW 2 is provided by surface runoff from surrounding upland areas. Hydrophytic species present include curly dock, yellow monkey flower, Italian ryegrass, *Ranunculus* sp., and toad rush. Hydric soils in SW 2 are characterized by a dark grayish brown (2.5Y 4/2) matrix color with common/ prominent yellowish red (5YR 5/8) mottles.

Seasonal Wetland 3 (SW 3): SW 3 is in the southwestern portion of the PSA approximately 30 ft north of the intersection of Highway 49 and Black Rice Road. SW 3 is an open sloped depression located in an old ditch segment that was likely related to previous mining activities. Hydrology for SW 3 is provided by surface runoff from surrounding uplands and likely includes runoff from Highway 49. Hydrophytic species present include deer grass, curly dock, Baltic rush, *Lythrum hyssopifolium*, and spikerush. Hydric soils in SW 3 are

characterized by a dark gray (2.5Y 4/1) matrix color with common/ prominent yellowish red (5YR 4/6) mottles.

Seasonal Wetland 4 (SW 4): SW 4 is an open sloped depression located approximately 20 ft north of SW 3 in the same ditch segment. Hydrology for SW 4 is provided by surface runoff from surrounding uplands and likely includes runoff from Highway 49. Hydrophytic species present include nutsedge, Bermuda grass (*Cynodon dactylon*), Italian ryegrass, spikerush, annual beard grass (*Polypogon monspeliensis*), and curly dock. Hydric soils in SW 4 are characterized by a dark grayish brown (2.5Y 4/2) matrix color with common/ prominent reddish brown (5YR 4/4) mottles.

Seasonal Wetland 5 (SW 5): SW 5 is an open depression located in the western portion of the PSA. Hydrology for SW 5 is provided by flow from CH 1a and surface runoff from surrounding upland areas. Hydrophytic species present include dock (*Rumex conglomeratus*), willow, Baltic rush, mugwort (*Artemisia douglasii*), and Himalayan blackberry. Hydric soils in SW 5 are characterized by a dark grayish brown (10YR 4/2) matrix color with common/ prominent strong brown (7YR 5/6) mottles.

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B. Personal Communications

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VIII. PREPARERS

R. John Little, Ph.D., Botany, Claremont Graduate School, Claremont, CA. Over 26 years experience managing and conducting environmental projects involving impact assessment and preparation of numerous NEPA/CEQA compliance documents, Biological Assessments, and Caltrans Natural Environmental Studies. Experience includes conducting special-status plant and wildlife species surveys, jurisdictional wetland delineations, general biological surveys, permitting and biological report preparation.

Responsibilities: Senior technical lead.

Jeffery Little, A.A., Sacramento City College, Sacramento, CA. Over 14 years of experience with preparation of NES, BA, and NEPA/CEQA compliance documents, and impact analysis, and project management. Consultations for Corps 404 permit issues and DFG Streambed Alteration Agreements; USFWS for both formal and informal section 7 consultations.

Conducts special-status species surveys, jurisdictional delineations, and prepares mitigation and monitoring plans. CAD/ GIS Manager.

Responsibilities: Project manager; Report and figure preparation.

Adam C. Forbes, M.S., Range Science (emphasis on plant systematics), New Mexico State University, Las Cruces, NM. Over six years experience conducting biological studies for the public and private sector. As a botanist/ biologist with Sycamore Environmental, Mr. Forbes conducts plant and wildlife surveys, prepares and edits reports, serves as assistant project manager, and conducts informal consultations with regulatory agency personnel.

Responsibilities also include assisting with proposal preparation and marketing activities.

Provides technical support for wetland delineations, biological resource evaluations, mitigation plans, and other documents used in the CEQA/NEPA process.

Responsibilities: Biological surveys, jurisdictional delineation, and report preparation.

Stephanie Brown, B.S., Industrial Engineering, Cal Poly San Luis Obispo, San Luis Obispo, CA. Prepares CAD/ GIS and ArcView[®] figures, assists with general project planning, and assists with the maintenance of project performance feedback.

Responsibilities: Figure preparation.

Cynthia Little, Principal, Sycamore Environmental.

Responsibilities: Senior editor, quality control.

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APPENDIX A.

California Natural Diversity Database (CNDDDB)/
RareFind Summary Report for the Placerville and eight adjacent quads

Piedmont Oak Estates

El Dorado County, CA

Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	R-E-D	CDFG
1 <i>Accipiter gentilis</i>	northern goshawk	ABNKC12060			G5	S3			SC
2 <i>Agelaius tricolor</i>	tricolored blackbird	ABPBXB0020			G2G3	S2			SC
3 <i>Allium jepsonii</i>	Jepson's onion	PMLIL022V0			G1	S1.2	1B	3-2-3	
4 <i>Arctostaphylos nissenana</i>	Nissenan manzanita	PDERI040V0			G2	S2.2	1B	3-2-3	
5 <i>Calochortus clavatus var. avius</i>	Pleasant Valley mariposa lily	PMLIL0D095			G4T3	S3.2	1B	2-2-3	
6 <i>Calystegia stebbinsii</i>	Stebbins's morning-glory	PDCON040H0	Endangered	Endangered	G1	S1.1	1B	3-3-3	
7 <i>Ceanothus roderickii</i>	Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G2	S2.1	1B	3-2-3	
8 <i>Central Valley Drainage Hardhead/Squawfish Stream</i>	Central Valley Drainage Hardhead/Squawfish Stream	CARA2443CA			G?	S?			
9 <i>Central Valley Drainage Resident Rainbow Trout Stream</i>	Central Valley Drainage Resident Rainbow Trout Stream	CARA2421CA			G?	S?			
10 <i>Chlorogalum grandiflorum</i>	Red Hills soaproot	PMLIL0G020			G2	S2.2	1B	2-2-3	
11 <i>Clarkia biloba ssp. brandegeeeae</i>	Brandegee's clarkia	PDONA05053			G4G5T2	S2.2	1B	2-2-3	
12 <i>Emys (=Clemmys) marmorata marmorata</i>	northwestern pond turtle	ARAAD02031			G3G4T3	S3			SC
13 <i>Fremontodendron decumbens</i>	Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1.2	1B	3-2-3	
14 <i>Galium californicum ssp. sierrae</i>	El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1.2	1B	3-2-3	
15 <i>Helianthemum suffrutescens</i>	Bisbee Peak rush-rose	PDCIS020F0			G2Q	S2.2	3	2-2-3	
16 <i>Horkelia parryi</i>	Parry's horkelia	PDROS0W0C0			G2	S2.2	1B	2-2-3	
17 <i>Lasionycteris noctivagans</i>	silver-haired bat	AMACC02010			G5	S3S4			SC
18 <i>Myotis yumanensis</i>	Yuma myotis	AMACC01020			G5	S4?			
19 <i>Packera layneae</i>	Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2.1	1B	2-2-3	
20 <i>Phrynosoma coronatum (frontale population)</i>	Coast (California) horned lizard	ARACF12022			G4G5	S3S4			SC
21 <i>Rana boylei</i>	foothill yellow-legged frog	AAABH01050			G3	S2S3			SC
22 <i>Sacramento-San Joaquin Foothill/Valley Ephemeral Stream</i>	Sacramento-San Joaquin Foothill/Valley Ephemeral Stream	CARA2130CA			G?	S?			
23 <i>Viburnum ellipticum</i>	oval-leaved viburnum	PDCPR07080			G5	S2.3	2	2-1-1	
24 <i>Wyethia reticulata</i>	El Dorado County mule ears	PDAST9X0D0			G2	S2.2	1B	2-2-3	

APPENDIX B.

USFWS Online Species List

Piedmont Oak Estates

El Dorado County, CA

United States Department of the Interior



FISH AND WILDLIFE SERVICE



Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

October 13, 2006

Document Number: 061013110815

R. John Little, Ph.D.
Sycamore Environmental Consultants, Inc.
6355 Riverside Blvd., Suite C
Sacramento, CA 95831

Subject: Species List for Piedmont Oak Estates

Dear: Dr. Little

We are sending this official species list in response to your October 13, 2006 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

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

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

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be January 11, 2007.

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

Endangered Species Division



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

Document Number: 061013110815
Database Last Updated: October 3, 2006

Species of Concern - The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. See www.fws.gov/sacramento/es/spp_concern.htm for more information and links to these sensitive species lists.

Red-Legged Frog Critical Habitat - The Service has designated final critical habitat for the California red-legged frog. The designation became final on May 15, 2006. See our [map index](#).

Species

Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

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

Amphibians

Rana aurora draytonii
California red-legged frog (T)

Birds

Haliaeetus leucocephalus
bald eagle (T)

Plants

Senecio layneae
Layne's butterweed (=ragwort) (T)

Candidate Species

Fish

Oncorhynchus tshawytscha
Central Valley fall/late fall-run chinook salmon (C) (NMFS)

Selected Quads

PLACERVILLE (510A)

County Lists

El Dorado County

Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardii
vernal pool tadpole shrimp (E)

Fish

Oncorhynchus (=Salmo) clarki henshawi
Lahontan cutthroat trout (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

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

Reptiles

Thamnophis gigas
giant garter snake (T)

Birds

Haliaeetus leucocephalus
bald eagle (T)

Plants

Calystegia stebbinsii
Stebbins's morning-glory (E)

Ceanothus roderickii
Pine Hill ceanothus (E)

Fremontodendron californicum ssp. decumbens

Pine Hill flannelbush (E)

Galium californicum ssp. sierrae
El Dorado bedstraw (E)

Senecio layneae
Layne's butterweed (=ragwort) (T)

Candidate Species

Amphibians

Bufo canorus
Yosemite toad (C)

Rana muscosa
mountain yellow-legged frog (C)

Mammals

Martes pennanti
fisher (C)

Plants

Rorippa subumbellata
Tahoe yellow-cress (C)

Key:

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

Important Information About Your Species List

How We Make Species Lists

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

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

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be

carried to their habitat by air currents.

- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

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

Surveying

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

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

Your Responsibilities Under the Endangered Species Act

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

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

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

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

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

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

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

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water,

air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

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

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

Candidate Species

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

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be January 11, 2007.

APPENDIX C.

Species Evaluated Table

Piedmont Oak Estates

El Dorado County, CA

Special-Status Species/ Common Name	Listing Status ^a Federal/State	Other DFG Codes ^b	Source ^c	Habitat Requirements	Potential to Occur within the Project Study Area?
Invertebrates					
<i>Desmocerus californicus dimorphus</i> Valley elderberry longhorn beetle	T/ --	--	1	Requires an elderberry shrub (<i>Sambucus mexicana</i> or <i>Sambucus racemosa</i> var. <i>microbotrys</i>) as a host plant (USFWS 1991).	No. No elderberry shrubs were observed in the PSA.
<i>Lepidurus packardii</i> Vernal pool tadpole shrimp	E/ --	--	1	Occurs in a variety of vernal pool habitats (USFWS 1994a).	No. No vernal pools occur in the PSA.
Fish					
<i>Hypomesus transpacificus</i> Delta smelt	T, CH/ T	--	1	Euryhaline (tolerant of a wide salinity range) species that spawns in freshwater dead-end sloughs and shallow edge-waters of channels of the Delta (USFWS 1994b).	No. Habitat for this species does not occur in the PSA.
<i>Oncorhynchus clarki henshawi</i> Lahontan cutthroat trout	T/ --	--	1	There are three populations of this species known: 1) Western Lahontan basin comprised of Truckee, Carson, and Walker river basins; 2) Northwestern Lahontan basin comprised of Quinn River, Black Rock Desert, and Coyote Lake basins; and 3) Humboldt River basin (USFWS 1994c).	No. The PSA is outside the geographic distribution of this species. Habitat for this species does not occur in the PSA.
<i>Oncorhynchus mykiss</i> Central Valley steelhead ESU	T/ --	--	1	Historically, this species was widely distributed in the Sacramento and San Joaquin drainages. While steelhead are found elsewhere in the Sacramento River system, the principal remaining wild populations are a few hundred fish that spawn annually in Deer and Mill Creeks in Tehama County and a population of unknown size in the lower Yuba River (Moyle 2002). With the possible exception of a small population in the lower Stanislaus River, steelhead appears to have been extirpated from the San Joaquin basin (Moyle 2002). Spawning occurs in small tributaries on coarse gravel beds in riffle areas (Busby 1996).	No. Habitat for this species does not occur in the PSA.
<i>Oncorhynchus tshawytscha</i> Central Valley fall/late fall-run chinook salmon ESU	C/ --	CSC	1	This anadromous species enters the Sacramento/San Joaquin Basin from July through April and spawns from October through February. Adult female chinook will prepare a spawning bed in a stream with suitable gravel composition, water depth, and velocity (McGinnis 1984).	No. Habitat for this species does not occur in the PSA.

Special-Status Species/ Common Name	Listing Status ^a Federal/State	Other DFG Codes ^b	Source ^c	Habitat Requirements	Potential to Occur within the Project Study Area?
<i>Oncorhynchus tshawytscha</i> Central Valley spring-run chinook salmon ESU	T/ T	--	1	Extant populations of this ESU spawn in the Sacramento River and its tributaries. Populations in the San Joaquin River are believed to be extirpated (NMFS 1998). Enters the Sacramento River from March to July and spawns from late August through early October. Adult female chinook will prepare a spawning bed in a stream with suitable gravel composition, water depth, and velocity. After hatching, fry and subyearlings return to the ocean and complete their development (McGinnis 1984).	No. Habitat for this species does not occur in the PSA.
Amphibians					
<i>Ambystoma californiense</i> California tiger salamander	PT/ --	CSC	1	Frequents grassland, oak savannah, and edges of mixed woodland and lower elevation coniferous forest. Spends much time underground in mammal burrows. Usually breeds in temporary ponds such as vernal pools but may also breed in slower parts of streams and some permanent waters (Stebbins 2003). Ponds with large populations of this species larvae usually contain very few larvae of other amphibian species (Zeiner et al. 1988).	No. The PSA is outside the geographic distribution of this species. Habitat for this species does not occur in the PSA.
<i>Bufo canorus</i> Yosemite toad	C/ --	CSC	1	Restricted to the vicinities of wet meadows in the central high Sierra. Occurs at elevations of 6,400 to 11, 300 ft. Frequents montane wet meadows, but also occurs in seasonal ponds associated with lodgepole pine and sub-alpine conifer forests (Zeiner et al. 1988).	No. The PSA is outside the elevational range of this species. Habitat for this species does not occur in the PSA.
<i>Rana aurora draytonii</i> California red-legged frog	T, CH/ --	CSC	1	Inhabits quiet pools of streams, marshes, and occasionally ponds. Requires permanent or nearly permanent pools for larval development (Zeiner et al. 1988).	No. See text.
<i>Rana boylei</i> Foothill yellow-legged frog	--/ --	CSC	1	Occurs in woodland and forest areas near streams and rivers, especially near riffles where there are exposed rocks. Requires permanent streams in which to reside (Zeiner et al. 1988).	No. Habitat for this species does not occur in the PSA.
<i>Rana muscosa</i> Mountain yellow-legged frog	C/ --	CSC	1	Occurs primarily at elevations above 5,900 ft in the Sierra Nevada from Plumas County to southern Tulare County. Associated with streams, lakes, and ponds in montane riparian, lodgepole pine, sub-alpine conifer, and wet meadow habitat types. Always encountered within a few feet of water (Zeiner et al. 1988).	No. The PSA is outside the elevational range of this species. Habitat for this species does not occur in the PSA.
Reptiles					
<i>Emys (=Clemmys) marmorata marmorata</i> Northwestern pond turtle	--/ --	CSC	2	Prefers aquatic habitats with abundant vegetative cover and exposed basking sites such as logs. They are associated with permanent or nearly permanent water in a wide variety of habitat types, normally in ponds, lakes, streams, irrigation ditches or permanent pools along intermittent streams (Zeiner et al. 1988).	No. Habitat for this species does not occur in the PSA.

Special-Status Species/ Common Name	Listing Status ^a Federal/State	Other DFG Codes ^b	Source ^c	Habitat Requirements	Potential to Occur within the Project Study Area?
<i>Phrynosoma coronatum frontale</i> California horned lizard	--/ --	CSC	2	Occurs in valley-foothill hardwood, conifer, and riparian habitats, as well as in pine-cypress, juniper and annual grass habitats. Common in the lowlands along sandy washes where scattered low shrubs provide cover. Also needs open areas for sunning and fine, loose soil where it can bury itself (Stebbins 2003). Ranges in the Central Valley from southern Tehama Co. south; in the Sierra foothills from Butte Co. to Tulare Co. below 4,000 ft; below 6,000 ft in the mountains of southern California exclusive of desert regions; throughout the Coast Ranges south from Sonoma Co. An isolated population occurs in Siskiyou Co. (Stebbins 2003).	No. Habitat for this species does not occur in the PSA.
<i>Thamnophis gigas</i> Giant garter snake	T/ T	--	1, 2	Habitat requisites consist of 1) adequate water during the snake's active season (early spring through mid-fall) to provide food and cover; 2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; 3) grassy banks and openings in waterside vegetation for basking; and 4) higher elevation uplands for cover and refuge from flood waters during the snake's winter dormant season (Stebbins 2003).	No. Habitat for this species does not occur in the PSA. The PSA is outside the geographic distribution of this species.
Birds					
<i>Accipiter gentilis</i> Northern goshawk	--/ --	CSC	2	Breeds in the North Coast Ranges and through the Sierra Nevada, Klamath, Cascade, and Warner Mountains. Possibly also breeds in Mt. Piños, San Jacinto, San Bernardino, and White Mts. Remains yearlong in breeding areas as a scarce to uncommon resident. Prefers middle and higher elevations, and mature, dense conifer and deciduous forests. Usually nests on north slopes, near water, in densest parts of stands, but close to openings (Zeiner et al. 1990a).	No. Habitat for this species does not occur in the PSA.
<i>Agelaius tricolor</i> Tricolored blackbird	--/ --	CSC	2	Nomadic, breeds near freshwater, preferably in emergent marsh of dense cattails or tules, and also in thickets of willow, blackberry, and wild rose. Highly colonial; nesting area must be large enough to support a minimum colony of about 50 pairs (Zeiner et al. 1990a).	No. Habitat for this species does not occur in the PSA.
<i>Haliaeetus leucocephalus</i> Bald eagle	T/ E	FP	1	Restricted to breeding mostly in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity Counties. More widespread as a winter migrant. Occurs along coasts, rivers, and large, deep lakes and reservoirs inland. Requires large, stoutly limbed trees, snags, broken topped trees, or high rock ledges for perches (Zeiner et al. 1990a).	No. Habitat for this species does not occur in the PSA.
Mammals					

Special-Status Species/ Common Name	Listing Status ^a Federal/State	Other DFG Codes ^b	Source ^c	Habitat Requirements	Potential to Occur within the Project Study Area?
<i>Lasionycteris noctivagans</i> Silver-haired bat	--/--	CSC	2	Primarily a forest dweller, feeding over streams, ponds, and open brushy areas. Summer distribution includes coastal and montane forests from Oregon border along the coast to San Francisco Bay and along the Sierra Nevada and Great Basin region to Inyo County. Also in Stanislaus and Monterey Counties. Summer habitats include coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valley foothill and montane riparian habitats below 2,750 m (9000 ft) May be found anywhere in California during spring and fall migrations (Zeiner et al. 1990b).	No. There is no habitat for this species in the PSA.
<i>Martes pennanti</i> Fisher	C/--	CSC	1	Permanent resident of Sierra Nevada, Cascades, Klamath Mountains, and the North Coast Range. Occurs above 3,200 ft in the Sierra Nevada and Cascades (Jameson and Peeters 2004). Prefers coniferous or deciduous riparian habitats with intermediate to large trees and closed canopies. Dens in tree/ log cavities and brush piles. Active yearlong, mostly nocturnal. Young born February through May (Zeiner et al. 1990b).	No. The PSA is outside the elevational range of this species. Habitat for this species does not occur in the PSA.
<i>Myotis yumanensis</i> Yuma myotis bat	--/--	--	1	Closely associated with water in a wide variety of habitats; optimal in open forests and woodlands with sources of water (ponds, streams) over which to feed. Roosts in buildings, mines, caves, or crevices; also in abandoned swallow nests and under bridges. May form large colonies, roosting with some other bat species (Zeiner et al. 1990b).	No. Habitat for this species does not occur in the PSA.
Special-Status Species/ Common Name	Listing Status ^a Federal/State	Other DFG Codes ^b / CNPS ^d	Source ^c	Habitat Requirements	Potential to Occur within the Project Study Area?
Plants					
<i>Allium jepsonii</i> Jepson's onion	--/--	--/ 1B.2	2	Bulbiferous perennial herb found in serpentine or volcanic soils of chaparral, cismontane woodland, and lower montane coniferous forest from 950 to 4,350 ft. Blooms May through August (CNPS 2005).	No. Habitat for this species does not occur in the PSA.
<i>Arctostaphylos nissenana</i> Nissenan Manzanita	--/--	--/ 1B.2	2	Evergreen shrub found in rocky closed-cone coniferous forest and chaparral from 1,475 to 3,610 ft in elevation. Known from El Dorado and Tuolumne counties. Blooms February through March (CNPS 2005).	Yes. See text.
<i>Calochortus clavatus</i> var. <i>avius</i> Pleasant Valley mariposa lily	--/--	--/ 1B.2	2	Bulbiferous herb found in lower montane coniferous forest from 1,000-5,900 ft in elevation. Known from Amador, Calaveras, El Dorado, and Mariposa Cos. Blooms May through July (CNPS 2005).	Yes. See text.
<i>Calystegia stebbinsii</i> Stebbins' morning-glory	E/E	--/ 1B.1	1	A perennial rhizomatous herb found in serpentine or gabbroic soils in chaparral openings and cismontane woodland from 600 to 2,400 ft elevation. Known from El Dorado and Nevada Counties. Blooms April through July (CNPS 2005).	No. The soil in the PSA is unsuitable for this species.
<i>Ceanothus roderickii</i> Pine Hill Ceanothus	E/R	--/ 1B.2	1	Evergreen shrub found in serpentine or gabbroic soils in chaparral and cismontane woodland from 850 to 2,100 ft elevation. Known from El Dorado County. Blooms May through June (CNPS 2005).	No. The soil in the PSA is unsuitable for this species.

Special-Status Species/ Common Name	Listing Status ^a Federal/State	Other DFG Codes ^b	Source ^c	Habitat Requirements	Potential to Occur within the Project Study Area?
<i>Chlorogalum grandiflorum</i> Red Hills soaproot	--/ --	--/ 1B.2	2	Perennial bulbiferous herb found in serpentine or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest from 800 to 3,300 ft. Blooms May through June (CNPS 2005).	No. The soil in the PSA is unsuitable for this species.
<i>Clarkia biloba ssp. brandegeae</i> Brandegee's clarkia	--/ --	--/ 1B.2	2	Annual herb found in chaparral and cismontane woodland, often on roadcuts, from 735 to 3,000 ft in elevation. Blooms May through July (CNPS 2005).	Yes. See text.
<i>Fremontodendron californicum ssp. decumbens</i> Pine Hill flannelbush	E/ R	--/ 1B.2	1	Evergreen shrub found in rocky areas of serpentine or gabbroic soils in chaparral and cismontane woodland from 1,400 to 2,500 ft in elevation. Known from El Dorado, Nevada, and Yuba counties. Blooms April through July (CNPS 2005).	No. The soil in the PSA is unsuitable for this species.
<i>Galium californicum ssp. sierrae</i> El Dorado bedstraw	E/ R	--/ 1B.2	1	Perennial herb found in gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest from 300 to 1,900 ft in elevation. Known from El Dorado County. Blooms May through June (CNPS 2005).	No. The PSA is above the elevational range of this species. The soil in the PSA is unsuitable for this species.
<i>Helianthemum suffrutescens</i> Amador (Bisbee Peak) rush-rose	--/ --	--/ 3.2	2	Evergreen shrub found in chaparral from 150 to 2,750 ft elevation. Often found on serpentine, gabbroic or Ione soils. Blooms April through June (CNPS 2005).	No. The soil in the PSA is unsuitable for this species.
<i>Horkelia parryi</i> Parry's horkelia	--/ --	--/ 1B.2	2	Perennial herb found in chaparral and cismontane woodland, especially of the Ione formation, from 260 to 3,400 ft in elevation. Blooms April through June (CNPS 2005).	No. The soil in the PSA is unsuitable for this species.
<i>Rorippa subumbellata</i> Tahoe yellow-cress	C/ E	--/ 1B.1	1	Perennial herb found in decomposed granitic beaches of lower montane coniferous forest and meadows and seeps from 6,200 to 6,250 ft in elevation. Known only from Lake Tahoe area. Blooms May through September (CNPS 2005).	No. The PSA is outside the elevational range of this species. Habitat for this species does not occur in the PSA.
<i>Senecio (=Packaera) layneae</i> Layne's butterweed (ragwort)	T/ R	--/ 1B.2	1	Perennial herb found in rocky areas with serpentine or gabbroic soils in chaparral and cismontane woodland from 650 to 3,300 ft in elevation. Known from El Dorado, Tuolumne, and Yuba counties. Blooms April through July (CNPS 2005).	No. The soil in the PSA is unsuitable for this species.
<i>Viburnum ellipticum</i> Oval-leaved viburnum	--/ --	--/ 2.2	2	Deciduous shrub found in chaparral, cismontane woodland and lower montane coniferous forest from 705 to 4,593 ft in elevation. Blooms May through June (CNPS 2005).	Yes. See text.
<i>Wyethia reticulata</i> El Dorado County mule ears	--/ --	--/ 1B.2	2	Perennial rhizomatous herb found in clay or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest from 600 to 2,050 ft elevation. Known from El Dorado Co. Blooms May through July (Ayres and Ryan 1999, CNPS 2005).	No. The soil in the PSA is unsuitable for this species.
Natural Communities					
Central Valley Drainage Resident Rainbow Trout	--/ --	--/ --	2	This community classification identifies drainages in the Central Valley that contain resident rainbow trout. This species requires near permanent waterbodies.	The channels in the PSA do not provide habitat for rainbow trout.
Central Valley Drainage Hardhead/ Squawfish Stream	--/ --	--/ --	2	Hardhead occur in low- to mid-elevation streams and the mainstem Sacramento River. Sacramento pikeminnow (squawfish) occur in similar streams with clear water (Moyle 2002).	The channels in the PSA do not provide habitat for Hardhead.

Special-Status Species/ Common Name	Listing Status ^a Federal/State	Other DFG Codes ^b	Source ^c	Habitat Requirements	Potential to Occur within the Project Study Area?
Sacramento-San Joaquin Foothill/Valley Ephemeral Stream	--/ --	--/ --	2	This community classification apparently identifies perennial streams that contain a diverse group of aquatic invertebrates. The meaning "ephemeral" as used in the title of this community classification is unknown. The one CNDDDB record for this community is located on a solid blueline stream (Jackass Canyon) on the Camino USGS 7.5" quad. The solid blueline indicates that this stream is perennial.	This community does not occur in the PSA.

^a **Listing Status:** Federal status determined from USFWS letter. State status determined from DFG (2006c, d). Codes used in table are as follows:

E = Endangered; **T** = Threatened; **CH** = Critical Habitat; **P** = Proposed; **PT** = Proposed Threatened; **PE** = Proposed Endangered; **R** = California Rare; * = Possibly extinct.

C = Candidate: Taxa for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened.

^b **CSC** = State Species of Special Concern, **FP** = Fully Protected.

^c **Sources.** 1 = Compiled from USFWS letter; 2 = From CNDDDB Lists or RareFind; 3 = Observed during survey.

^d **CNPS List.** **1A** = Presumed Extinct in CA; **1B** = Rare or Endangered in CA and elsewhere; **2** = R/E in CA and more common elsewhere; **3** = Need more information; **4** = Plants of limited distribution.

^e **CNPS List Decimal Extensions:** **.1** = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); **.2** = Fairly endangered in California (20-80% occurrences threatened); **.3** = Not very endangered in California (<20% of occurrences threatened or no current threats known).

APPENDIX D.

Plant and Wildlife Species Observed

Piedmont Oak Estates

El Dorado County, CA

Plant Species Observed.

Family	Scientific Name	Common Name	*
FERNS & ALLIES			
Pteridaceae	<i>Pentagramma triangularis</i>	Goldback fern	N
CONIFERS			
Pinaceae	<i>Pinus ponderosa</i>	Pacific ponderosa pine	N
	<i>Pinus sabiniana</i>	Gray pine	N
	<i>Pseudotsuga menziesii</i>	Douglas fir	N
DICOTS			
Amaranthaceae	<i>Amaranthus</i> sp.	Pigweed	--
Anacardiaceae	<i>Toxicodendron diversilobum</i>	Western poison oak	N
Apiaceae	<i>Daucus carota</i>	Carrot	I
	<i>Torilis arvensis</i>		I
Asteraceae	<i>Achillea millefolium</i>	Yarrow	N
	<i>Artemisia douglasiana</i>	Mugwort	N
	<i>Baccharis pilularis</i>	Coyote brush	N
	<i>Carduus pycnocephalus</i>	Italian thistle	I
	<i>Centaurea solstitialis</i>	Yellow star-thistle	I
	<i>Cichorium intybus</i>	Chicory	I
	<i>Cirsium vulgare</i>	Bull thistle	I
	<i>Gnaphalium</i> sp.	Cudweed	--
	<i>Holocarpha virgata</i>		N
	<i>Lactuca serriola</i>	Prickly lettuce	I
	<i>Micropus californicus</i> var. <i>californicus</i>	Slender cottonweed	N
	<i>Tragopogon</i> sp.	Goat's beard	I
Bignoniaceae	<i>Catalpa</i> sp.		I
Brassicaceae	<i>Rorippa</i> sp.**	Water cress	N
Caprifoliaceae	<i>Lonicera</i> sp.		N
Caryophyllaceae	<i>Spergularia</i> sp.	Sand-spurrey	--
	<i>Stellaria media</i>	Common chickweed	I
Ericaceae	<i>Arctostaphylos</i> sp.	Manzanita	N
Euphorbiaceae	<i>Eremocarpus setigerus</i>	Dove weed; Turkey mullein	N
Fabaceae	<i>Trifolium hirtum</i>	Rose clover	I
	<i>Trifolium</i> sp.		--
	<i>Vicia villosa</i> ssp. <i>villosa</i>	Hairy vetch	I
Fagaceae	<i>Quercus douglasii</i>	Blue oak	N
	<i>Quercus kelloggii</i>	California black oak	N
	<i>Quercus lobata</i>	Valley oak	N
	<i>Quercus wislizenii</i> var. <i>wislizenii</i>	Interior live oak	N
Geraniaceae	<i>Erodium cicutarium</i>	Filaree	I
Hippocastanaceae	<i>Aesculus californica</i>	California buckeye	N
Hypericaceae	<i>Hypericum perforatum</i>	Klamathweed	I
Lamiaceae	<i>Mentha</i> sp.		--
	<i>Stachys</i> sp.	Hedge nettle	N
	<i>Trichostema lanceolatum</i>	Vinegar weed	N
Lythraceae	<i>Lythrum hyssopifolium</i>		I

Malvaceae	<i>Sidalcea</i> sp.		N
Onagraceae	<i>Epilobium brachycarpum</i>	Fireweed	N
Papaveraceae	<i>Eschscholzia californica</i>	California poppy	N
Plantaginaceae	<i>Plantago lanceolata</i>	English plantain	I
Polygonaceae	<i>Polygonum arenastrum</i>	Common knotweed	I
	<i>Polygonum</i> sp.		--
	<i>Rumex conglomeratus</i>	Dock	I
	<i>Rumex crispus</i>	Curly dock	I
Ranunculaceae	<i>Ranunculus</i> sp.		--
Rhamnaceae	<i>Ceanothus cuneatus</i> var. <i>cuneatus</i>	Buck brush	N
	<i>Rhamnus tomentella</i> ssp. <i>tomentella</i>	Hoary coffeeberry	N
Rosaceae	<i>Heteromeles arbutifolia</i>	Toyon	N
	<i>Prunus</i> sp.		I
	<i>Pyrus</i> sp.	Pear	I
	<i>Rubus discolor</i>	Himalayan blackberry	I
Rubiaceae	<i>Galium aparine</i>	Goose grass	N
	<i>Galium parisiense</i>	Wall bedstraw	I
Salicaceae	<i>Salix</i> sp.	Willow	N
Scrophulariaceae	<i>Kickxia elatine</i>	Fluellin	I
	<i>Mimulus guttatus</i>	Yellow monkeyflower	N
	<i>Verbascum thapsus</i>	Woolly mullein	I
Simaroubaceae	<i>Ailanthus altissima</i>	Tree of heaven	I
Verbenaceae	<i>Verbena litoralis</i>	Verbena	I
Vitaceae	<i>Vitis californica</i>	California wild grape	N
MONOCOTS			
Cyperaceae	<i>Carex</i> sp.		N
	<i>Cyperus eragrostis</i>	Nut sedge	N
	<i>Eleocharis macrostachya</i>	Spikerush	N
Juncaceae	<i>Juncus balticus</i>	Baltic rush	N
	<i>Juncus bufonius</i>	Toad rush	N
	<i>Juncus</i> sp.	Rush	N
Liliaceae	<i>Chlorogalum grandiflorum</i>	Red Hills soaproot	N
Poaceae	<i>Aegilops triuncialis</i>	Barbed goatgrass	I
	<i>Aira caryophyllea</i>	Silver European hairgrass	I
	<i>Avena fatua</i>	Wild oat	I
	<i>Briza minor</i>	Quaking grass	I
	<i>Bromus diandrus</i>	Rippgut grass	I
	<i>Bromus hordeaceus</i>	Soft brome	I
	<i>Bromus madritensis</i> ssp. <i>rubens</i>	Foxtail chess	I
	<i>Cynodon dactylon</i>	Bermuda grass	I
	<i>Cynosurus echinatus</i>	Hedgehog dogtail	I
	<i>Deschampsia danthonioides</i>	Annual hairgrass	N
	<i>Elymus glaucus</i>	Blue wildrye	N
	<i>Gastridium ventricosum</i>	Nit grass	I
	<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley	I
	<i>Lolium multiflorum</i>	Italian ryegrass	I
	<i>Muhlenbergia rigens</i>	Deergrass	N
	<i>Phalaris</i> sp.		--
	<i>Poa bulbosa</i>	Bulbous bluegrass	I
	<i>Polypogon monspeliensis</i>	Annual beard grass	I
	<i>Taeniatherum caput-medusae</i>	Medusa head	I
	<i>Vulpia myuros</i> var. <i>myuros</i>	Vulpia	I

* N = Native to CA; I = Introduced

** Not *Rorippa subumbellata*: *R. subumbellata* is a perennial species; the *Rorippa* sp. observed in the PSA was an annual.

Wildlife Species Observed.

Common Name	Scientific Name
BIRDS	
Acorn woodpecker	<i>Melanerpes formicivorus</i>
California quail	<i>Callipepla californica</i>
Common raven	<i>Corvus corax</i>
Bushtit	<i>Psaltriparus minimus</i>
Mourning dove	<i>Zenaida macroura</i>
Scrub jay	<i>Aphelocoma coerulescens</i>
Wild turkey	<i>Meleagris gallopavo</i>
MAMMALS	
California ground squirrel	<i>Spermophilus beecheyi</i>
Black-tailed jackrabbit	<i>Lepus californicus</i>
Mule deer/ black-tailed deer	<i>Odocoileus hemionus</i>

APPENDIX E.

Photographs of the Project Study Area

Piedmont Oak Estates

El Dorado County, CA



Photo 1. View from southwestern portion of PSA looking west at SW 3 (white arrow). Red arrow shows location of State Highway 49. 9 September 2006.



Photo 2. View from northwest central portion of the PSA looking downstream (north) at CH 1 (white arrow). 9 September 2006.



Photo 3. View from west central portion of PSA looking southeast at mixed oak woodland community (background). 9 September 2006



Photo 4. View from south central portion of PSA looking southeast a graded/excavated area. 9 September 2006.



Photo 5. View from southern PSA looking north at mixed oak woodland community. 10 September 2006.



Photo 6. View from southwestern portion of PSA looking northeast at SW 1 (white arrow). 9 September 2006.

APPENDIX F.

Channel & Wetland Data Sheets

Piedmont Oak Estates

El Dorado County, CA

DATA FORM FOR CHANNELS/ WATERS OF THE U.S.

Field Personnel: Adam Forbes M.S. Channel #: 1
 Project/ Site: Piedmont Oak Estates Date: 9 Sept 2006
 Applicant/ Owner: Piedmont Oak Estates LLC County, State: El Dorado, CA

CONDITION OF CHANNEL

Channel #:	Average Width: (ft)	Condition of channel bed:	Vegetation present:	Does water flow appear permanent/ intermittent/ unknown?	Is a defined bed and bank present?
CH-1	2.5 ft	Scoured soil, sand, gravel and bedrock	<i>Lolium multiflorum, Aesculus californica, Juncus bufonius</i>	Ephemeral	Yes
Photos taken? Yes		Data Points Mapped? Yes		Are hydrophytic species present? Marginal	

Other comments/ observations: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is this channel jurisdictional? Yes

Rationale for jurisdictional decision: Defined bed and bank present. Evidence of flow.

DATA FORM FOR CHANNELS/ WATERS OF THE U.S.

Field Personnel: Adam Forbes M.S. Channel #: 1a & 1a1
 Project/ Site: Piedmont Oak Estates Date: 9 Sept 2006
 Applicant/ Owner: Piedmont Oak Estates LLC County, State: El Dorado, CA

CONDITION OF CHANNEL

Channel #:	Average Width: (ft)	Condition of channel bed:	Vegetation present:	Does water flow appear permanent/ intermittent/ unknown?	Is a defined bed and bank present?
CH-1a & 1a1	1a = 1.5 ft 1a1 = 1 ft	Scoured soil	<i>Pinus sabiniana, Elymus glaucus, Toxicodendron diversilobum</i>	Ephemeral	Yes
Photos taken?		Data Points Mapped?		Are hydrophytic species present?	
		Yes		Marginal	

Other comments/ observations: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is this channel jurisdictional? Yes

Rationale for jurisdictional decision: Defined bed and bank present. Evidence of flow.

DATA FORM FOR CHANNELS/ WATERS OF THE U.S.

Field Personnel: Adam Forbes M.S. Channel #: 1b
 Project/ Site: Piedmont Oak Estates Date: 9 Sept 2006
 Applicant/ Owner: Piedmont Oak Estates LLC County, State: El Dorado, CA

CONDITION OF CHANNEL

Channel #:	Average Width: (ft)	Condition of channel bed:	Vegetation present:	Does water flow appear permanent/ intermittent/ unknown?	Is a defined bed and bank present?
CH-1c	1 ft	Scoured soil	<i>Toxicodendron diversilobum,</i> <i>Elymus glaucus, Pinus sabiniana</i>	Ephemeral	Yes
Photos taken?		Data Points Mapped?		Are hydrophytic species present?	
		Yes		No	

Other comments/ observations: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is this channel jurisdictional? Yes

Rationale for jurisdictional decision: Defined bed and bank present.

DATA FORM FOR CHANNELS/ WATERS OF THE U.S.

Field Personnel: Adam Forbes M.S. **Channel #:** 2
Project/ Site: Piedmont Oak Estates **Date:** 9 Sept 2006
Applicant/ Owner: Piedmont Oak Estates LLC **County, State:** El Dorado, CA

CONDITION OF CHANNEL

Channel #:	Average Width: (ft)	Condition of channel bed:	Vegetation present:	Does water flow appear permanent/ intermittent/ unknown?	Is a defined bed and bank present?
CH-2	4.5 ft	Cobble, sand, gravel, bedrock	<i>Rubus discolor, Vitis californica, Aesculus californica, Quercus kelloggii</i>	Intermittent	Yes
Photos taken? Yes		Data Points Mapped? Yes	Are hydrophytic species present? Yes		

Other comments/ observations: Shallow ponded water throughout, trickle of flow in some areas.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is this channel jurisdictional? Yes

Rationale for jurisdictional decision: Defined bed and bank present.

DATA FORM FOR CHANNELS/ WATERS OF THE U.S.

Field Personnel: Adam Forbes M.S. Channel #: 2
 Project/ Site: Piedmont Oak Estates Date: 9 Sept 2006
 Applicant/ Owner: Piedmont Oak Estates LLC County, State: El Dorado, CA

CONDITION OF CHANNEL

Channel #:	Average Width: (ft)	Condition of channel bed:	Vegetation present:	Does water flow appear permanent/ intermittent/ unknown?	Is a defined bed and bank present?
CH-2a	1.5 ft	Scoured soil, bedrock	<i>Quercus kelloggii, Lolium multiflorum, Toxicodendron diversilobum, Aesculus californica</i>	Ephemeral	Yes
Photos taken? Yes		Data Points Mapped? Yes		Are hydrophytic species present? Marginal	

Other comments/ observations: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is this channel jurisdictional? Yes

Rationale for jurisdictional decision: Defined bed and bank present.

DATA FORM FOR CHANNELS/ WATERS OF THE U.S.

Field Personnel: Adam Forbes M.S. Channel #: 2a
 Project/ Site: Piedmont Oak Estates Date: 9 Sept 2006
 Applicant/ Owner: Piedmont Oak Estates LLC County, State: El Dorado, CA

CONDITION OF CHANNEL

Channel #:	Average Width: (ft)	Condition of channel bed:	Vegetation present:	Does water flow appear permanent/ intermittent/ unknown?	Is a defined bed and bank present?
CH-2a1	1 ft	Scoured soil	<i>Elymus glaucus, Torilis arvensis, Bromus diandrus, Arctostaphylos sp.</i>	Ephemeral	Yes
Photos taken?		Data Points Mapped?		Are hydrophytic species present?	
		Yes		No	

Other comments/ observations: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is this channel jurisdictional? Yes

Rationale for jurisdictional decision: Defined bed and bank present.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 **DP No.:** 1
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Seasonal Wetland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Lolium multiflorum</i>	H	FAC	5. <i>Bromus hordeaceus</i>	H	FACU
2. <i>Juncus</i> sp. (at least FACW)	H	FACW	6. <i>Micropus californicus</i> var. <i>californicus</i>	H	--
3. <i>Rumex crispus</i>	H	FACW-	7. <i>Juncus bufonius</i>	H	FACW+
4. <i>Mimulus guttatus</i>	H	OBL			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): $5/7 = 71\%$
Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tide Gauge
 Aerial Photographs
 Other
 No Recorded Data Available

Wetland Hydrology Indicators:

Primary Indicators:
 Inundated
 Saturated in upper 12 inches
 Water marks
 Drift lines
 Sediment deposits
 Drainage patterns in wetlands

Secondary Indicators (2 or more required):
 Oxidized root channels in upper 12 inches
 Local soil survey data
 FAC-Neutral Test
 Other (explain in remarks)
 Water-stained leaves

Field Observations:
Depth of Surface Water: -- (in.)
Depth to Free Water in Pit: -- (in.)
Depth to Saturated Soil: -- (in.)

Remarks:

SOILS Map Unit Name

(Series and Phase): Placer Diggings

Field Observations Confirm Mapped Type?

Taxonomy (Subgroup): _____

Yes No

Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		7.5YR 4/2	5YR 4/6	Common/Prominent	Sandy loam

Hydric Soil Indicators:

Histosol
 Histic Epipedon
 Sulfidic Odor
 Aquic Moisture Regime
 Reducing Conditions
 Gleyed or Low-Chroma Colors

Concretions
 High Organic Content in Surface Layer Sandy Soils
 Organic Streaking in Sandy Soils
 Listed on Local Hydric Soils List
 Listed on National Hydric Soils List
 Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No
Wetland Hydrology Present? Yes No
Hydric Soils Present? Yes No

Is this sampling point within a wetland? Yes No

Remarks/Rationale: Criteria met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 **DP No.:** 2
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Bromus hordeaceus</i>	H	FACU	5. <i>Bromus diandrus</i>	H	--
2. <i>Cynosurus echinatus</i>	H	--	6. <i>Toxicodendron diversilobum</i>	S	--
3. <i>Lolium multiflorum</i>	H	FAC	7. <i>Trifolium</i> sp.	H	--
4. <i>Quercus wislizenii</i> var. <i>wislizenii</i>	T	--	8. <i>Aira caryophyllea</i>	H	--

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1/8 = 13 %
Remarks: _____

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: <u> -- </u> (in.) Depth to Free Water in Pit: <u> -- </u> (in.) Depth to Saturated Soil: <u> -- </u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
---	--

Remarks: No evidence of wetland hydrology.

SOILS Map Unit Name _____ (Series and Phase): Placer Diggings Field Observations Confirm Mapped Type? Yes No
Taxonomy (Subgroup): _____
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>0-10</u>	<u> </u>	<u>7.5YR 4/4</u>	<u> -- </u>	<u> -- </u>	<u>Sandy loam</u>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Not hydric.

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 **DP No.:** 3
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Cynosurus echinatus</i>	H	--	5. <i>Carduus pycnocephalus</i>	H	--
2. <i>Lolium multiflorum</i>	H	FAC	6. <i>Arctostaphylos</i> sp.	S	--
3. <i>Toxicodendron diversilobum</i>	S	--			
4. <i>Quercus wislizenii</i> var. <i>wislizenii</i>	T	--			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1/6 = 17%
Remarks: _____

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: <u> -- </u> (in.) Depth to Free Water in Pit: <u> -- </u> (in.) Depth to Saturated Soil: <u> -- </u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
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Remarks: No evidence of wetland hydrology.

SOILS Map Unit Name (Series and Phase): _____ Taxonomy (Subgroup): _____ Drainage Class: _____	Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input type="checkbox"/> No												
<table border="1" style="width: 100%;"> <thead> <tr> <th>Depth (inches)</th> <th>Horizon</th> <th>Matrix Color (Munsell Moist)</th> <th>Mottle Colors (Munsell Moist)</th> <th>Mottle Abundance/Contrast</th> <th>Texture, Concretions, Structure, etc.</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>	Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.	_____	_____	_____	_____	_____	_____	
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.								
_____	_____	_____	_____	_____	_____								

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Soil pit unnecessary (1987 Manual, Fig. 14, Step 9).

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 **DP No.:** 4
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Seasonal Wetland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Eleocharis macrostachya</i>	H	OBL	5. <i>Lythrum hyssopifolium</i>	H	FACW
2. <i>Muhlenbergia rigens</i>	H	FACW	6. <i>Vitis californica</i>	V	FACW
3. <i>Carex</i> sp.(at least FACW)	H	FACW	7. <i>Rumex crispus</i>	H	FACW-
4. <i>Juncus balticus</i>	H	OBL			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 7/7 = 100%
Remarks: _____

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: <u> -- </u> (in.) Depth to Free Water in Pit: <u> -- </u> (in.) Depth to Saturated Soil: <u> -- </u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input checked="" type="checkbox"/> Sediment deposits <input checked="" type="checkbox"/> Drainage patterns in wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
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Remarks: _____

SOILS Map Unit Name _____ (Series and Phase): Placer Diggings Field Observations Confirm Mapped Type? Yes No
Taxonomy (Subgroup): _____
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>0-8</u>	<u> </u>	<u>2.5Y 4/1</u>	<u>5YR 4/6</u>	<u>Common Prominent</u>	<u>Sandy Clay Loam</u>

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: _____

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this sampling point within a wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks/Rationale: Criteria met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 DP No.: 5
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Centaurea solstitialis</i>	H	--	5. <i>Tragopogon</i> sp.	H	--
2. <i>Bromus diandrus</i>	H	--	6. <i>Lolium multiflorum</i>	H	FAC
3. <i>Lactuca serriola</i>	H	FAC	7. <i>Ceanothus cuneatus</i> var. <i>cuneatus</i>	S	--
4. <i>Bromus hordeaceus</i>	H	FACU-	8. <i>Torilis arvensis</i>	H	--

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): $2/8 = 25\%$
Remarks: _____

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: <u> -- </u> (in.) Depth to Free Water in Pit: <u> -- </u> (in.) Depth to Saturated Soil: <u> -- </u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
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Remarks: No evidence of wetland hydrology.

SOILS Map Unit Name (Series and Phase): <u>Placer Diggings</u> Taxonomy (Subgroup): _____ Drainage Class: _____	Field Observations Confirm Mapped Type? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		7.5YR 4/4	--	--	Loam

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Not hydric.

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 DP No.: 6
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Seasonal Wetland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Cynodon dactylon</i>	H	FAC	5. <i>Cynosurus echinatus</i>	H	--
2. <i>Rumex crispus</i>	H	FACW-	6. <i>Carex</i> sp.(at least FACW)	H	FACW
3. <i>Cyperus eragrostis</i>	H	FACW	7. <i>Polypogon monspeliensis</i>	H	FACW+
4. <i>Eleocharis macrostachya</i>	H	OBL	8. <i>Lolium multiflorum</i>	H	FAC

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): $7/8 = 88\%$
Remarks: _____

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: <u> -- </u> (in.) Depth to Free Water in Pit: <u> -- </u> (in.) Depth to Saturated Soil: <u> -- </u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input checked="" type="checkbox"/> Sediment deposits <input checked="" type="checkbox"/> Drainage patterns in wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
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Remarks: _____

SOILS Map Unit Name _____ (Series and Phase): Placer Diggings Field Observations Confirm Mapped Type? Yes No
Taxonomy (Subgroup): _____
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>0-8</u>	<u> </u>	<u>2.5Y 4/2</u>	<u>5YR 4/4</u>	<u>Common Prominent</u>	<u>Sandy Loam</u>

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: _____

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this sampling point within a wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	--

Remarks/Rationale: Criteria met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 **DP No.:** 7
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Lolium multiflorum</i>	H	FAC	5. <i>Torilis arvensis</i>	H	--
2. <i>Juncus</i> sp. (at least FACW)	H	FACW	6. <i>Bromus diandrus</i>	H	--
3. <i>Cynosurus echinatus</i>	H	--	7. <i>Quercus wislizenii</i> var. <i>wislizenii</i>	T	--
4. <i>Avena fatua</i>	H	--			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): $2/7 = 29\%$
Remarks:

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: <u> -- </u> (in.) Depth to Free Water in Pit: <u> -- </u> (in.) Depth to Saturated Soil: <u> -- </u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
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Remarks: Only one secondary indicator present.

SOILS Map Unit Name _____ (Series and Phase): Placer Diggings Field Observations Confirm Mapped Type?
Taxonomy (Subgroup): _____ Yes No
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast Common Prominent	Texture, Concretions, Structure, etc.
<u>0-8</u>	<u> </u>	<u>10YR 4/3</u>	<u>2.5YR 4/6</u>	<u> </u>	<u>Loam</u>

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Not hydric.

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 **DP No.:** 8
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Seasonal Wetland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Juncus</i> sp. (at least FACW)	H	FACW	5. <i>Cynosurus echinatus</i>	H	--
2. <i>Juncus bufonius</i>	H	FACW+	6. <i>Ranunculus</i> sp. (at least FACW)	H	FACW
3. <i>Mimulus guttatus</i>	H	OBL	7. <i>Polypogon monspeliensis</i>	H	FACW+
4. <i>Lolium multiflorum</i>	H	FAC			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): $6/7 = 86\%$
Remarks: _____

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: <u>--</u> (in.) Depth to Free Water in Pit: <u>--</u> (in.) Depth to Saturated Soil: <u>--</u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input checked="" type="checkbox"/> Sediment deposits <input checked="" type="checkbox"/> Drainage patterns in wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
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Remarks: _____

SOILS Map Unit Name _____ (Series and Phase): Placer Diggings Field Observations Confirm Mapped Type? Yes No
Taxonomy (Subgroup): _____
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>0-10</u>		<u>2.5Y 4/2</u>	<u>5YR 5/8</u>	<u>Common Prominent</u>	<u>Loam</u>

Hydric Soil Indicators:	
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)

Remarks: _____

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this sampling point within a wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	--

Remarks/Rationale: Criteria met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 **DP No.:** 9
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Cynosurus echinatus</i>	H	--	5. <i>Bromus diandrus</i>	H	--
2. <i>Torilis arvensis</i>	H	--	6. <i>Trifolium</i> sp.	H	--
3. <i>Lolium multiflorum</i>	H	FAC	7. <i>Vicia villosa</i> ssp. <i>villosa</i>	H	--
4. <i>Toxicodendron diversilobum</i>	S	--			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1/7 = 14%
Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tide Gauge
 Aerial Photographs
 Other
 No Recorded Data Available

Wetland Hydrology Indicators:

Primary Indicators:
 Inundated
 Saturated in upper 12 inches
 Water marks
 Drift lines
 Sediment deposits
 Drainage patterns in wetlands

Secondary Indicators (2 or more required):
 Oxidized root channels in upper 12 inches
 Local soil survey data
 FAC-Neutral Test
 Other (explain in remarks)
 Water-stained leaves

Field Observations:
Depth of Surface Water: -- (in.)
Depth to Free Water in Pit: -- (in.)
Depth to Saturated Soil: -- (in.)

Remarks: Only one secondary indicator present.

SOILS Map Unit Name

(Series and Phase): Placer Diggings
Taxonomy (Subgroup): _____
Drainage Class: _____

Field Observations Confirm Mapped Type?

Yes No

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
<u>0-8</u>		<u>10YR 4/4</u>	<u>5YR 4/6</u>	<u>Few Prominent</u>	<u>Sandy Loam</u>

Hydric Soil Indicators:

Histosol
 Histic Epipedon
 Sulfidic Odor
 Aquic Moisture Regime
 Reducing Conditions
 Gleyed or Low-Chroma Colors

Concretions
 High Organic Content in Surface Layer Sandy Soils
 Organic Streaking in Sandy Soils
 Listed on Local Hydric Soils List
 Listed on National Hydric Soils List
 Other (Explain in Remarks)

Remarks: Not hydric.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No
Wetland Hydrology Present? Yes No
Hydric Soils Present? Yes No

Is this sampling point within a wetland? Yes No

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 DP No.: 10
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Seasonal Wetland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Rubus discolor</i>	H	FACW	5. <i>Toxicodendron diversilobum</i>	S	--
2. <i>Artemisia douglasiana</i>	H	FACW	6. <i>Juncus balticus</i>	H	OBL
3. <i>Carex</i> sp.(at least FACW)	H	FACW	7. <i>Salix</i> sp. (at least FACW)	H	FACW
4. <i>Mentha</i> sp.	H	FAC	8. <i>Rumex conglomeratus</i>	H	FACW

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 7/8 = 88%
Remarks: _____

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input checked="" type="checkbox"/> Sediment deposits <input checked="" type="checkbox"/> Drainage patterns in wetlands		Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
	Field Observations: Depth of Surface Water: <u>--</u> (in.) Depth to Free Water in Pit: <u>--</u> (in.) Depth to Saturated Soil: <u>--</u> (in.)		

Remarks: _____

SOILS Map Unit Name (Series and Phase): <u>Placer Diggings</u> Taxonomy (Subgroup): _____ Drainage Class: _____	Field Observations Confirm Mapped Type? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
<u>0-10</u>		<u>10YR 4/2</u>	<u>7.5YR 5/6</u>	<u>Few Prominent</u>	<u>Loam (over sand)</u>

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: _____

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this sampling point within a wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	--

Remarks/Rationale: Criteria met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 **DP No.:** 11
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Cynosurus echinatus</i>	H	--	5. <i>Torilis arvensis</i>	H	--
2. <i>Toxicodendron diversilobum</i>	S	--	6. <i>Quercus wislizenii</i> var. <i>wislizenii</i>	T	--
3. <i>Elymus glaucus</i>	H	--	7. <i>Bromus diandrus</i>	H	--
4. <i>Pinus sabiniana</i>	T	--			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0/7 = 0%
Remarks: _____

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands	Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves

Remarks: No evidence of wetland hydrology.

SOILS Map Unit Name: <u>Diamond Springs very fine sandy loam</u> (Series and Phase): <u>9 to 15% slopes</u> Taxonomy (Subgroup): _____ Drainage Class: _____	Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>0-8</u>		<u>7.5YR 4/4</u>	<u>NA</u>	<u>--</u>	<u>Loam</u>

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Not hydric.

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
 (1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 DP No.: 12
 Project/Site: Piedmont Oak Estates State: CA
 Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
 Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
 Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Elymus glaucus</i>	H	FACU	5. <i>Toxicodendron diversilobum</i>	S	--
2. <i>Cynosurus echinatus</i>	H	--	6. <i>Heteromeles arbutifolia</i>	S	--
3. <i>Bromus hordeaceus</i>	H	FACU-	7. <i>Torilis arvensis</i>	H	--
4. <i>Aesculus californica</i>	T	--			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0/7 = 0%
 Remarks:

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands	Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves

Remarks: Data point is old ditch dug in upland. Only one secondary indicator present.

SOILS Map Unit Name: <u>Diamond Springs very fine sandy loam</u> (Series and Phase): <u>9 to 15% slopes</u> Taxonomy (Subgroup): _____ Drainage Class: _____	Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>0-8</u>		<u>10YR 4/6</u>	<u>--</u>	<u>--</u>	<u>Loam</u>

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Not hydric.

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 DP No.: 13
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Bromus hordeaceus</i>	H	FACU-	6. <i>Torilis arvensis</i>	H	--
2. <i>Artemisia douglasiana</i>	H	FACW	7. <i>Trifolium</i> sp.	H	--
3. <i>Lolium multiflorum</i>	H	FAC	8. <i>Lactuca serriola</i>	H	FAC
4. <i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	H	FAC	9. <i>Centaurea solstitialis</i>	H	--
5. <i>Elymus glaucus</i>	H	FACU			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 4/9 = 44%
Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tide Gauge
 Aerial Photographs
 Other
 No Recorded Data Available

Wetland Hydrology Indicators:

Primary Indicators:
 Inundated
 Saturated in upper 12 inches
 Water marks
 Drift lines
 Sediment deposits
 Drainage patterns in wetlands

Secondary Indicators (2 or more required):
 Oxidized root channels in upper 12 inches
 Local soil survey data
 FAC-Neutral Test
 Other (explain in remarks)
 Water-stained leaves

Field Observations:
Depth of Surface Water: -- (in.)
Depth to Free Water in Pit: -- (in.)
Depth to Saturated Soil: -- (in.)

Remarks: No evidence of wetland hydrology.

SOILS Map Unit Name: Diamond Springs very rocky fine sandy loam 3 to 50% slopes Field Observations Confirm Mapped Type?
(Series and Phase): _____
Taxonomy (Subgroup): _____ Yes No
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
<u>0-10</u>	<u>---</u>	<u>10YR 3/4</u>	<u>--</u>	<u>--</u>	<u>Loam</u>

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: Not hydric.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No
Wetland Hydrology Present? Yes No
Hydric Soils Present? Yes No

Is this sampling point within a wetland? Yes No

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 9 September 06 **DP No.:** 14
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Avena fatua</i>	H	--	5. <i>Elymus glaucus</i>	H	FACU
2. <i>Toxicodendron diversilobum</i>	S	--	6. <i>Bromus hordeaceus</i>	H	FACU-
3. <i>Torilis arvensis</i>	H	--	7. <i>Aira caryophyllea</i>	H	--
4. <i>Cynosurus echinatus</i>	H	--			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0/7 = 0%
Remarks: _____

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands		Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
	Field Observations: Depth of Surface Water: <u> -- </u> (in.) Depth to Free Water in Pit: <u> -- </u> (in.) Depth to Saturated Soil: <u> -- </u> (in.)		

Remarks: No evidence of wetland hydrology.

SOILS Map Unit Name _____ (Series and Phase): _____
Taxonomy (Subgroup): _____
Drainage Class: _____

Field Observations Confirm Mapped Type?
 Yes No

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
_____	_____	_____	_____	_____	_____

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Soil pit unnecessary (1987 Manual, Fig. 14, Step 9).

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 15
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID:
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID:

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Lolium multiflorum</i>	H	FAC	5. <i>Verbascum thapsus</i>	H	--
2. <i>Eremocarpus setigerus</i>	H	--	6. <i>Taeniatherum caput-medusae</i>	H	--
3. <i>Plantago lanceolata</i>	H	FAC-	7. <i>Juncus bufonius</i>	H	FACW+
4. <i>Centaurea solstitialis</i>	H	--	8. <i>Vulpia myuros</i> var. <i>myuros</i>	H	FACU

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 2/8 = 25%
Remarks:

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands	Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
	Field Observations: Depth of Surface Water: -- (in.) Depth to Free Water in Pit: -- (in.) Depth to Saturated Soil: -- (in.)	

Remarks: Only one secondary indicator present.

SOILS Map Unit Name: Diamond Springs very fine sandy loam (Series and Phase): 9 to 15% slopes Taxonomy (Subgroup): Drainage Class:	Field Observations Confirm Mapped Type? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	--

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 5/4	5YR 4/6	Few Prominent	Loam

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Not hydric.

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 16
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Lolium multiflorum</i>	H	FAC	5. <i>Artemisia douglasiana</i>	H	FACW
2. <i>Elymus glaucus</i>	H	--	6. <i>Cynosurus echinatus</i>	H	--
3. <i>Avena fatua</i>	H	--	7. <i>Verbena litoralis</i>	H	FACW
4. <i>Taeniatherum caput-medusae</i>	H	--	8. <i>Bromus hordeaceus</i>	H	FACU-

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 3/8 = 38%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tide Gauge
 Aerial Photographs
 Other
 No Recorded Data Available

Field Observations:
Depth of Surface Water: -- (in.)
Depth to Free Water in Pit: -- (in.)
Depth to Saturated Soil: -- (in.)

Wetland Hydrology Indicators:

Primary Indicators:
 Inundated
 Saturated in upper 12 inches
 Water marks
 Drift lines
 Sediment deposits
 Drainage patterns in wetlands

Secondary Indicators (2 or more required):
 Oxidized root channels in upper 12 inches
 Local soil survey data
 FAC-Neutral Test
 Other (explain in remarks)
 Water-stained leaves

Remarks: Only one secondary indicator present.

SOILS Map Unit Name: Diamond Springs very fine sandy loam
(Series and Phase): 9 to 15% slopes Field Observations Confirm Mapped Type?
Taxonomy (Subgroup): _____ Yes No
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0-6		7.5YR 4/4	--	--	Loam

Hydric Soil Indicators:

Histosol
 Histic Epipedon
 Sulfidic Odor
 Aquic Moisture Regime
 Reducing Conditions
 Gleyed or Low-Chroma Colors

Concretions
 High Organic Content in Surface Layer Sandy Soils
 Organic Streaking in Sandy Soils
 Listed on Local Hydric Soils List
 Listed on National Hydric Soils List
 Other (Explain in Remarks)

Remarks: Not hydric.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No
Wetland Hydrology Present? Yes No
Hydric Soils Present? Yes No

Is this sampling point within a wetland? Yes No

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 17
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Torilis arvensis</i>	H	--	5. <i>Aesculus californica</i>	T	--
2. <i>Toxicodendron diversilobum</i>	S	--	6. <i>Cynosurus echinatus</i>	H	--
3. <i>Lolium multiflorum</i>	H	FAC	7. <i>Pentagramma triangularis</i>	H	--
4. <i>Quercus kelloggii</i>	H	--			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1/7 = 14%
Remarks:

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: -- (in.) Depth to Free Water in Pit: -- (in.) Depth to Saturated Soil: -- (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
--	--

Remarks: Data point in old mining ditch that runs cross slope. No evidence of wetland hydrology.

SOILS Map Unit Name: Diamond Springs very rocky fine sandy (Series and Phase): loam 3 to 50% slopes Taxonomy (Subgroup): _____ Drainage Class: _____	Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 4/4	--	--	Loam

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
---	---

Remarks: Not hydric.

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 18
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Aira caryophylla</i>	H	--	5. <i>Plantago lanceolata</i>	H	FAC
2. <i>Avena fatua</i>	H	--	6. <i>Rhamnus tomentella</i> ssp. <i>tomentella</i>	S	--
3. <i>Gastroidium ventricosum</i>	H	--	7. <i>Elymus glaucus</i>	H	FACU
4. <i>Centaurea solstitialis</i>	H	--	8. <i>Hypericum perforatum</i>	H	--

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1/8 = 13%
Remarks:

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands	Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves

Remarks: No evidence of wetland hydrology.

SOILS Map Unit Name: Diamond Springs very fine sandy loam (Series and Phase): 9 to 15% slopes Taxonomy (Subgroup): _____ Drainage Class: _____	Field Observations Confirm Mapped Type? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	--

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 4/4	--	--	Loam

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
---	---

Remarks: Not hydric.

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 19
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID:
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID:

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Elymus glaucus</i>	H	FACU	5. <i>Trifolium hirtum</i>	H	--
2. <i>Cynosurus echinatus</i>	H	--	6. <i>Centaurea solstitialis</i>	H	--
3. <i>Avena fatua</i>	H	--	7. <i>Arctostaphylos</i> sp.	S	--
4. <i>Bromus diandrus</i>	H	--	8. <i>Hypericum perforatum</i>	H	--

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0/8 = 0%
Remarks:

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands	Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves

Remarks: No evidence of wetland hydrology.

SOILS Map Unit Name: Diamond Springs very rocky fine sandy (Series and Phase): loam 3 to 50% slopes Taxonomy (Subgroup): Drainage Class:	Field Observations Confirm Mapped Type? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	--

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		7.5YR 4/4	--	--	Sandy Loam

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
---	---

Remarks: Not hydric.

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 20
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Juncus bufonius</i>	H	FACW+	5. <i>Deschampsia danthonioides</i>	H	FACW
2. <i>Lythrum hyssopifolium</i>	H	FACW	6. <i>Gastridium ventricosum</i>	H	FACU
3. <i>Lolium multiflorum</i>	H	FAC	7. <i>Cynosurus echinatus</i>	H	--
4. <i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	H	FAC	8. <i>Torilis arvensis</i>	H	--

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 5/8 = 63%
Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tide Gauge
 Aerial Photographs
 Other
 No Recorded Data Available

Field Observations:
Depth of Surface Water: -- (in.)
Depth to Free Water in Pit: -- (in.)
Depth to Saturated Soil: -- (in.)

Wetland Hydrology Indicators:

Primary Indicators:
 Inundated
 Saturated in upper 12 inches
 Water marks
 Drift lines
 Sediment deposits
 Drainage patterns in wetlands

Secondary Indicators (2 or more required):
 Oxidized root channels in upper 12 inches
 Local soil survey data
 FAC-Neutral Test
 Other (explain in remarks)
 Water-stained leaves

Remarks: Only one secondary indicator present.

SOILS Map Unit Name _____ (Series and Phase): Placer Diggings _____ Field Observations Confirm Mapped Type?
Taxonomy (Subgroup): _____ Yes No
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0-6 >6 bed rock		10YR 4/4	5YR 4/6	Few/ Prominent	Loam

Hydric Soil Indicators:

Histosol Concretions
 Histic Epipedon High Organic Content in Surface Layer Sandy Soils
 Sulfidic Odor Organic Streaking in Sandy Soils
 Aquic Moisture Regime Listed on Local Hydric Soils List
 Reducing Conditions Listed on National Hydric Soils List
 Gleyed or Low-Chroma Colors Other (Explain in Remarks)

Remarks: Not hydric.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No
Wetland Hydrology Present? Yes No
Hydric Soils Present? Yes No

Is this sampling point within a wetland? Yes No

Remarks/Rationale: Highly disturbed area adjacent to dirt road, high point in topo. Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 21
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Cynosurus</i> sp.	H		5. <i>Vulpia myuros</i> var. <i>myuros</i>	H	--
2. <i>Aira caryophyllea</i>	H	--	6. <i>Juncus bufonius</i>	H	FACW+
3. <i>Quercus wislizenii</i> var. <i>wislizenii</i>	T	--	7. <i>Torilis arvensis</i>	H	--
4. <i>Bromus madritensis</i> ssp. <i>rubens</i>	H	FACU			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1/7 = 14%
Remarks:

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: -- (in.) Depth to Free Water in Pit: -- (in.) Depth to Saturated Soil: -- (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
--	--

Remarks: No evidence of wetland hydrology.

SOILS Map Unit Name _____ (Series and Phase): Placer Diggings _____ Field Observations Confirm Mapped Type? Yes No
Taxonomy (Subgroup): _____
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0-8		7.5YR 4/6	--	--	Sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Not Hydric

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 22
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID:
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID:

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	H	FAC	5. <i>Avena fatua</i>	H	--
2. <i>Lolium multiflorum</i>	H	FAC	6. <i>Amaranthus</i> sp. (at least FACW)	H	FACW
3. <i>Quercus wislizenii</i> var. <i>wislizenii</i>	T	--	7. <i>Eremocarpus setigerus</i>	H	--
4. <i>Verbascum thapsus</i>	H	--			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 3/7 = 43%
Remarks:

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands		Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
	Field Observations: Depth of Surface Water: -- (in.) Depth to Free Water in Pit: -- (in.) Depth to Saturated Soil: -- (in.)		

Remarks: No evidence of wetland hydrology. Area has been excavated.

SOILS Map Unit Name (Series and Phase): _____ Field Observations Confirm Mapped Type?
Taxonomy (Subgroup): _____ Yes No
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
_____	_____	_____	_____	_____	_____

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Soil pit unnecessary (1987 Manual, Fig. 14, Step 9).

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 23
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Lolium multiflorum</i>	H	FAC	5. <i>Quercus wislizenii</i> var. <i>wislizenii</i>	T	--
2. <i>Cynosurus echinatus</i>	H	--	6. <i>Avena fatua</i>	H	--
3. <i>Torilis arvensis</i>	H	--	7. <i>Bromus diandrus</i>	H	--
4. <i>Bromus hordeaceus</i>	H	FACU			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1/7 = 14%
Remarks:

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands		Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
	Field Observations: Depth of Surface Water: -- (in.) Depth to Free Water in Pit: -- (in.) Depth to Saturated Soil: -- (in.)		

Remarks: No evidence of wetland hydrology.

SOILS Map Unit Name (Series and Phase): Placer Diggings Taxonomy (Subgroup): _____ Drainage Class: _____	Field Observations Confirm Mapped Type? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	--

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0-10		2.5YR 4/3	7.5YR 5/8	Few Prominent	Loam

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)	
---	--	---	--

Remarks: Not hydric.

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 24
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Rumex crispus</i>	H	FACW-	5. <i>Eremocarpus setigerus</i>	H	--
2. <i>Amaranthus</i> sp.	H	FACW+	6. <i>Toxicodendron diversilobum</i>	S	--
3. <i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	H	FAC	7. <i>Cynosurus echinatus</i>	H	--
4. <i>Trichostema lanceolatum</i>	H	--			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 3/7 = %
Remarks: _____

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: <u> </u> (in.) Depth to Free Water in Pit: <u> </u> (in.) Depth to Saturated Soil: <u> </u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
--	--

Remarks: No evidence of wetland hydrology. Area has been excavated.

SOILS Map Unit Name _____ (Series and Phase): Placer Diggings Field Observations Confirm Mapped Type? Yes No
Taxonomy (Subgroup): _____
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>0-8</u>	<u> </u>	<u>10YR 4/4</u>	<u>--</u>	<u>--</u>	<u>Sandy Loam</u>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Not hydric.

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 25
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Heteromeles arbutifolia</i>	S	--	5. <i>Cynosurus echinatus</i>	H	--
2. <i>Lonicera hispidula</i>	S	--	6. <i>Elymus glaucus</i>	H	FACU
3. <i>Toxicodendron diversilobum</i>	S	--	7. <i>Bromus diandrus</i>	H	--
4. <i>Quercus wislizenii</i> var. <i>wislizenii</i>	T	--			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0/7 = 0%
Remarks:

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: -- (in.) Depth to Free Water in Pit: -- (in.) Depth to Saturated Soil: -- (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
--	---

Remarks: No evidence of wetland hydrology.

SOILS Map Unit Name (Series and Phase): _____ Taxonomy (Subgroup): _____ Drainage Class: _____	Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input type="checkbox"/> No
--	---

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
_____	_____	_____	_____	_____	_____

Hydric Soil Indicators: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
---	---

Remarks: Soil pit unnecessary (1987 Manual, Fig. 14, Step 9).

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 26
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Heteromeles arbutifolia</i>	S	--	5. <i>Vulpia myuros</i> var. <i>myuros</i>	H	FACU
2. <i>Pinus sabiniana</i>	T	--	6. <i>Torilis arvensis</i>	H	--
3. <i>Quercus douglasii</i>	T	--	7. <i>Aira caryophylla</i>	H	--
4. <i>Cynosurus echinatus</i>	H	--			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0/7 = 0%
Remarks:

HYDROLOGY <input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: -- (in.) Depth to Free Water in Pit: -- (in.) Depth to Saturated Soil: -- (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Drainage patterns in wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized root channels in upper 12 inches <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain in remarks) <input type="checkbox"/> Water-stained leaves
--	--

Remarks: No evidence of wetland hydrology.

SOILS Map Unit Name _____ (Series and Phase): Placer Diggings _____ Field Observations Confirm Mapped Type? Yes No
Taxonomy (Subgroup): _____
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 4/4	--	--	Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Not hydric.

WETLAND DETERMINATION Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks/Rationale: Criteria not met.

Data Form
Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Field Investigator(s): Adam Forbes M.S. Date: 10 September 06 DP No.: 27
Project/Site: Piedmont Oak Estates State: CA
Applicant/Owner: Piedmont Oak Estates LLC County: El Dorado

Do Normal Circumstances exist on the site? Yes No Community ID: Upland
Is the site significantly disturbed (Atypical Situation)? Yes No Transect ID: _____
Is the site a potential Problem Area? (If needed, explain below) Yes No Plot ID: _____

VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Polygonum arenastrum</i>	H	FAC	5. <i>Amaranthus</i> sp. (at least FACW)	H	FACW
2. <i>Poa bulbosa</i>	H	--	6. <i>Quercus douglasii</i>	T	--
3. <i>Rumex crispus</i>	H	FACW-	7. <i>Cyperus eragrostis</i>	H	FACW
4. <i>Lolium multiflorum</i>	H	FAC	8. <i>Mimulus guttatus</i>	H	OBL

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 6/8 = 75%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tide Gauge
 Aerial Photographs
 Other
 No Recorded Data Available

Field Observations:
Depth of Surface Water: -- (in.)
Depth to Free Water in Pit: -- (in.)
Depth to Saturated Soil: -- (in.)

Wetland Hydrology Indicators:

Primary Indicators:
 Inundated
 Saturated in upper 12 inches
 Water marks
 Drift lines
 Sediment deposits
 Drainage patterns in wetlands

Secondary Indicators (2 or more required):
 Oxidized root channels in upper 12 inches
 Local soil survey data
 FAC-Neutral Test
 Other (explain in remarks)
 Water-stained leaves

Remarks: Data point located in old mining ditch.

SOILS Map Unit Name: Diamond Springs very fine sandy loam
(Series and Phase): 9 to 15% slopes Field Observations Confirm Mapped Type?
Taxonomy (Subgroup): _____ Yes No
Drainage Class: _____

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0-4		2.5YR 4/2	--		Loam

Hydric Soil Indicators:

Histosol Concretions
 Histic Epipedon High Organic Content in Surface Layer Sandy Soils
 Sulfidic Odor Organic Streaking in Sandy Soils
 Aquic Moisture Regime Listed on Local Hydric Soils List
 Reducing Conditions Listed on National Hydric Soils List
 Gleyed or Low-Chroma Colors Other (Explain in Remarks)

Remarks: Not hydric.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No
Wetland Hydrology Present? Yes No
Hydric Soils Present? Yes No
Is this sampling point within a wetland? Yes No

Remarks/Rationale: Criteria not met.

PRELIMINARY DRAINAGE REPORT
for
PIEDMONT OAK ESTATES
EL DORADO, CA

12 SEP 14 AM 8:22
RECEIVED
PLANNING DEPARTMENT

PREPARED BY:

GENE E. THORNE & ASSOCIATES, INC.
4080 PLAZA GOLDORADO CIRCLE
CAMERON PARK, CA 95682-8527
530.677.1747/916.985.7745

09 MAY 13 PM 4:10
RECEIVED
PLANNING DEPARTMENT



REVIEWED BY:

Gene E. Thorne
GENE E. THORNE, RCE 20462

Z12-0010 / PD12-0002
TM/12-1510

FILE COPY

11 MAY 2009

A 09-0003/Z 09-0006
PD 09-0004/TM 09-1490



October 3, 2012

Lillian MacLeod, Senior Planner
El Dorado County Development Services Dept.
Planning Services
2850 Fairlane Court
Placerville, CA 95667

RE: Piedmont Oak Estates Preliminary Drainage Report by Gene E. Thorne & Assoc, Inc.

Lillian,

This letter serves to verify the applicability of the Preliminary Drainage Report for Piedmont Oak Estates dated May 11, 2009 by Gene E. Thorne. I have reviewed the Report, and find that it adequately demonstrates that drainage facilities, including those areas designated for detention and post construction runoff control are adequate to serve the reduced project study area currently in for review by the Development Services Department. Unfortunately, due the passing of Gene Thorne, and the resulting closure of Gene E. Thorne & Associates, revisions to the Report are impossible.

During the final design phase of the project for improvement plans, and likely required by the Conditions of Approval, a Final Drainage Report will be prepared to meet the requirements of El Dorado County Department of Transportation. The Final Drainage Report will be significantly more detailed, and will consider the current project and design standards.

With kindest regards,

A handwritten signature in black ink, appearing to read "P. Thorne", with a long horizontal flourish extending to the right.

Peter K. Thorne
Vice-President, BTConsulting Inc.
PE 58279

RECEIVED
PLANNING DEPARTMENT
OCT 4 AM 10:45

P.O. Box 304, Shingle Springs, California 95682
Phone: 530-672-2316 • Fax: 530-405-4722
www.gobtc.net

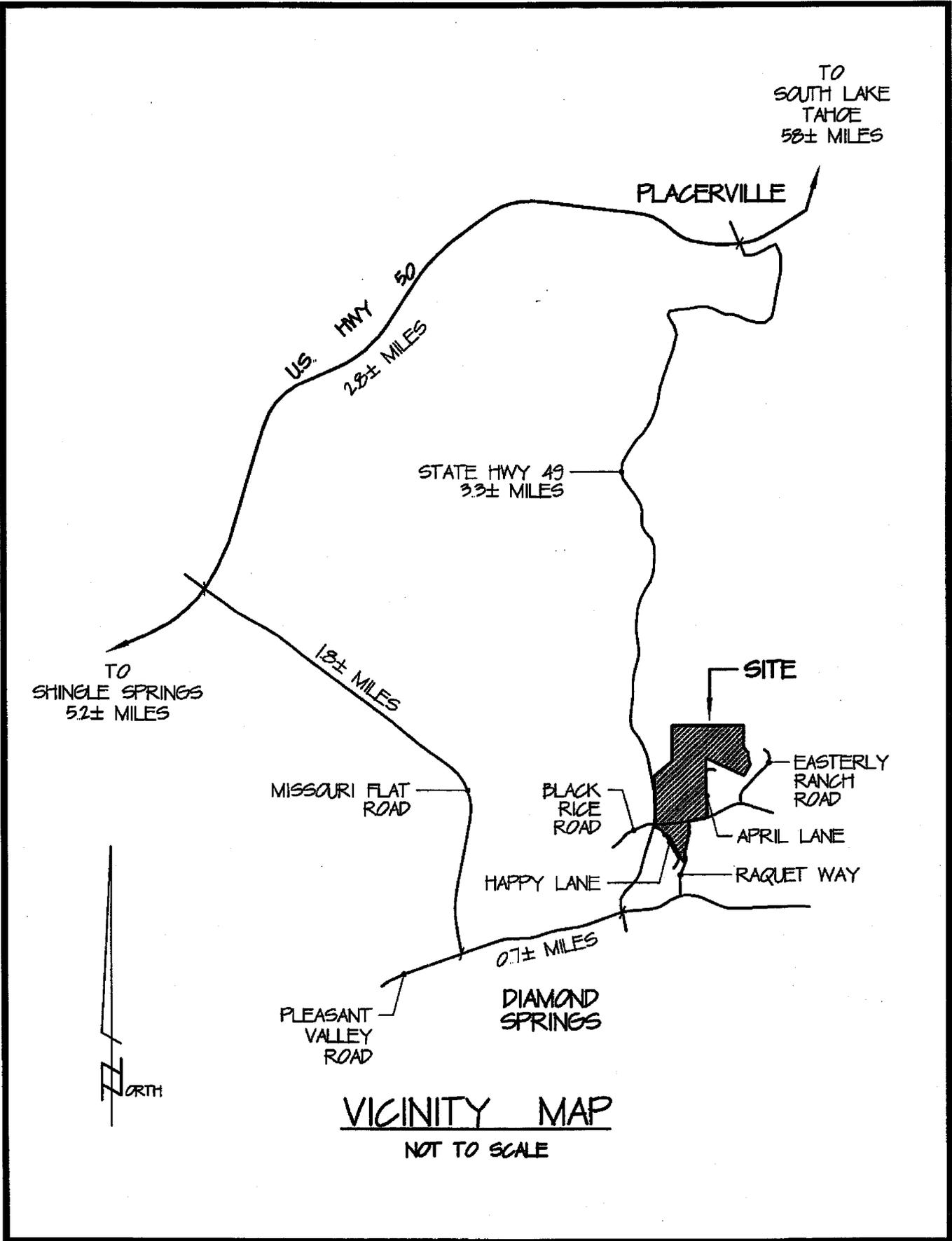


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Introduction and Background

Piedmont Oaks Drainage Report analyzes the possibility of flooding because of development during any storm event at the project site.

The drainage report examines and recommends drainage improvements to handle computed discharges, based upon the 100-year hydraulic grade line (HGL), as stated in Section 3.2.6 of the County of El Dorado Drainage Manual, March 14, 1995.

The drainage for Piedmont Oaks was analyzed using the **Unit Hydrograph** method as discussed in Section 2.4 of the El Dorado County Drainage Manual, adopted March 14, 1995.

The hydraulic analysis of the existing and proposed drainage improvements related to the project area was based on Civil Storm modeling software by Haestad Methods.

Location:

Piedmont Oaks is located north of Pleasant Valley Road and east of State Highway 49 along Black Rice Road near Diamond Springs, California. The property is owned by Jim Davies, and encompasses approximately 48.97 acres.

Existing Conditions:

The property area is covered mostly with grass, trees and surrounded by residential development. All runoff from the project site flows north, through two existing trapezoidal channels into Weber Creek. See Quad Map in Appendix E.

Summary and Conclusions

Pre-Development Hydraulic Analysis:

See Appendix B for Pre Development Drainage Sheds, and analysis of three (3) Points of Release. Note that Point of Release "A" is analyzed for flow contributed only by the subject property in order to compare pre and post development increases or decreases in flow and does not consider the entire drainage shed for flow at that location.

Proposed Improvements:

- Drainage improvements along onsite roads with outlet pipe to daylight.
- Detention Ponds. See proposed detention basins in Appendix A.

Storm Drain Flow Calculations:

Civil Storm software computes the flow rate and analyzes the existing and future storm drain system. For quantity of flow and hydraulic grade line (HGL) in each pipe see Future and Existing Storm Drain Pipes in Appendix A and B respectively.

Post-Development Hydraulic Analysis:

With the addition of two (2) detention facilities (see Post-Development Drainage Shed Map), the project maintains pre development runoff when built. Table 1 provides a summary of results for three (3) release points.

Table 1: Existing and Proposed Peak Flow Comparison

Release Point	Pre-Development		Post-Development	
	10-yr Peak Flow (cfs)	100-yr Peak Flow (cfs)	10-yr Peak Flow (cfs)	100-yr Peak Flow (cfs)
A	15.95	28.44	19.17	31.53
B	21.01	38.98	22.32	32.05
C	2.60	4.90	3.61	4.95
Total	39.56	72.32	45.10	68.51

Procedure

A. Watershed Areas:

For location of delineated pre and post development watershed areas, see the attached drainage shed maps located in Appendix A and B respectively.

B. Mean Annual Precipitation, Pptn: The site was located on the Mean Annual Rainfall Map for El Dorado County. Then, the annual rainfall for the project was determined from the map.

Use Pptn = 38 inches (see Appendix C)

C. Soil Survey:

The soil survey map (Appendix E) was used in order to determine the soil types present within the watershed areas that contribute runoff to the project site. Next, data from the El Dorado Area Soil Survey (USDA, April 1974) describing each soil type was reviewed in order to determine the hydrological soil group of the soil. Soils are rated as Type A, having high infiltration rates, through Type D, having the lowest infiltration rate. This project site contains 2 soil types. Diamond Springs (DfC and DgE), a very fine sandy loam over clay loam with bedrock found between 20 to 50 inches deep, and Placer Diggins (PrD), no interpretations made because of variable properties. DfC and DgE soils lie within soil hydrological group C. Utilizing Table 2-2a in Appendix D, pre and post-development curve numbers are determined.

D. Time of Concentration, T_c: Per Section 2.4 of the EDC Drainage Manual.

See Watershed Properties Table in Appendix A and B for Post and Pre Development T_c of each shed area. A minimum time of concentrations of 5 minutes was used.

E. Unit Hydrograph:

Using the Mean Annual Precipitation, and the El Dorado Design Rainfall Tables (See Appendix C), both 10 and 100 year event Rainfall Depths are determined. This information is then entered into Bentley Civil Storm Type 1 SCS Storm Event to produce a Temporal Distribution Model (Cumulative Rainfall) for the 10 and 100-year events. The rainfall excess and the incremental excess values are estimated per Section 2.4 of the EDC Drainage Manual. Then, the runoff hydrograph is computed using the incremental rainfall excess per Section 2.4.2 of the EDC Drainage Manual.

F. Pipes Size Requirements:

Pipes sizes vary to convey the 10-year event within the pipe and within storm structures as stated in Section 4.3.2 of El Dorado County Drainage Manual, adopted March 14, 1995.

G. Detention Facilities:

Utilizing Bentley Civil Storm, two detention ponds have been located to reduce offsite flows to be near or below existing pre development levels. Outlet control structures are designed to accomplish this.

APPENDIX A – Post Development Hydraulic Analysis

Watershed Properties Table

Watershed areas tributary to existing downstream pipes and ponds analyzed. Data imported from Bentley CivilStorm v8. See delineated watershed areas in Post-Development Drainage Shed Map.

Shed Name	SCS Curve Number	Area (Acres)	2-yr 24 hr depth	Tc (min)	100-Year Peak Flow (cfs)	10-Year Peak Flow (cfs)
CS1	98	0.32	3.34	5	0.53	0.37
CS2	98	0.34	3.34	5	0.57	0.40
CS3	98	0.25	3.34	5	0.41	0.29
CS4	98	0.26	3.34	5	0.44	0.31
CS5	90.8	2.34	3.34	10	3.56	2.35
CS6	92	1.12	3.34	10	1.73	1.16
CS7	83	1.99	3.34	15	2.49	1.50
CS8	83	4.75	3.34	15	5.97	3.59
CS9	83	5.92	3.34	15	7.44	4.48
CS10	83	0.26	3.34	10	0.33	0.20
CS11	90.4	4.15	3.34	15	6.14	4.04
CS12	74	1.17	3.34	10	1.14	0.61
CS13	74	0.52	3.34	10	0.51	0.27
CS14	79.7	9.80	3.34	20	10.80	6.21
CS15	79	14.03	3.34	20	15.20	8.64
CS16	83	1.79	3.34	10	2.30	1.38
CS17	79	1.60	3.34	10	1.84	1.05
CS18	92.4	1.24	3.34	10	1.93	1.30
CS19	90.8	1.05	3.34	10	1.59	1.05
CS20	98	0.59	3.34	5	0.99	0.70
CS21	98	0.32	3.34	5	0.53	0.37
CS22	98	0.26	3.34	5	0.43	0.30
CS23	74	0.81	3.34	5	0.80	0.43
CS24	98	0.13	3.34	5	0.22	0.16
CS25	98	0.14	3.34	5	0.24	0.17
CS26	98	0.12	3.34	5	0.20	0.14
CS27	90.8	2.85	3.34	10	4.32	2.86
CS28	98	0.31	3.34	5	0.51	0.36
CS29	90	0.92	3.34	10	1.38	0.90
CS30	90	0.13	3.34	5	0.20	0.13
CS31	98	0.14	3.34	5	0.23	0.16
CS32	98	0.10	3.34	5	0.16	0.12
CS33	98	0.12	3.34	5	0.21	0.15
CS34	90	0.85	3.34	8	1.28	0.84
CS35	84.5	1.61	3.34	10	2.15	1.32
CS36	98	0.12	3.34	5	0.20	0.14
CS37	90	0.50	3.34	7	0.77	0.51

CS38	98	0.12	3.34	5	0.20	0.14
CS39	91.2	0.21	3.34	5	0.33	0.22
CS40	84.5	1.47	3.34	10	1.95	1.20

Future Storm Drain Pipes - Hydraulic Analysis

Hydraulic analysis of 100-yr non-uniform flow in proposed storm drain pipes. (Source: Civil Storm v8).

FlexTable: Conduit Table (Piedmont Post with Det NORTH.csd)

Current Time: 483.000 min

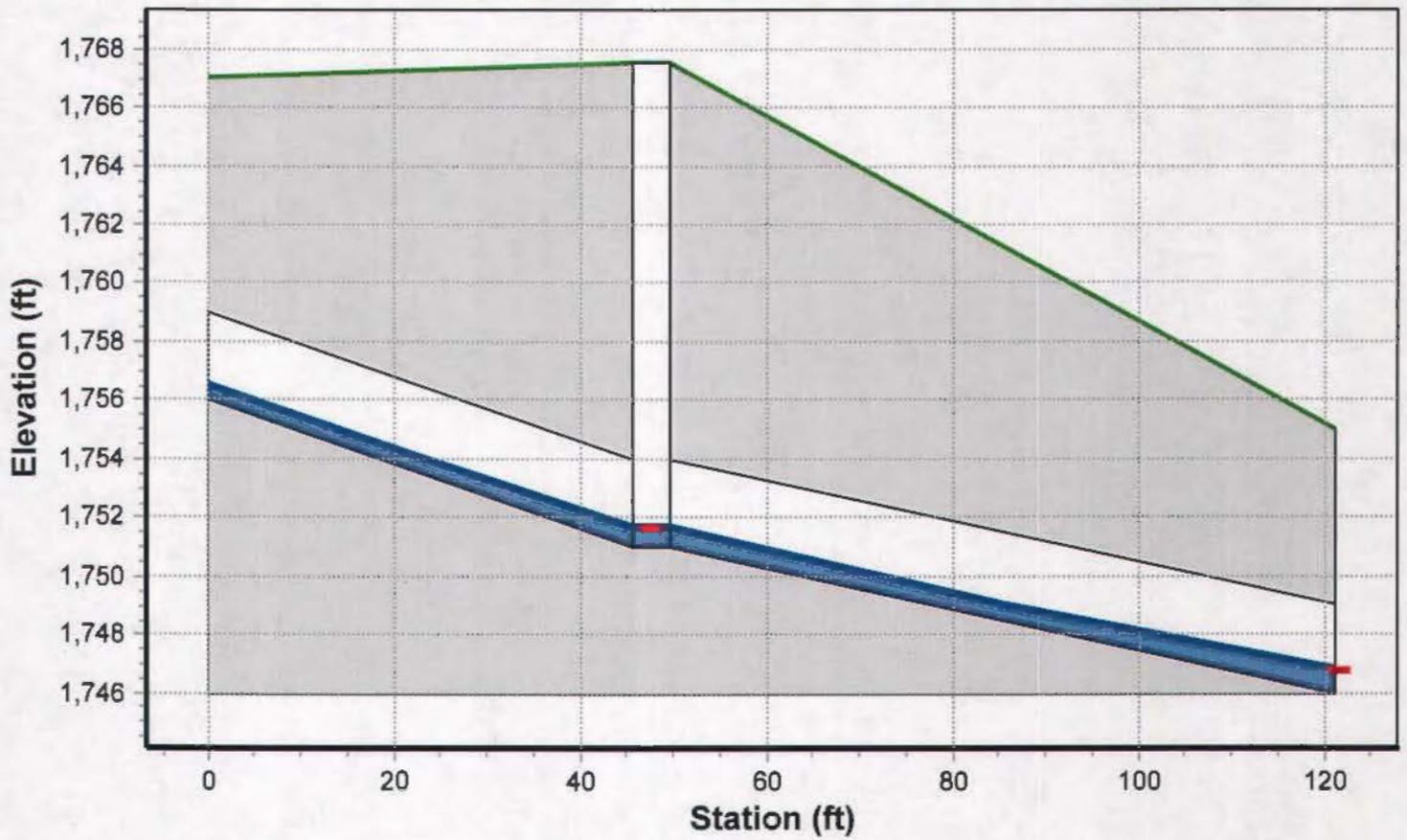
Label	Elevation (Start Invert) (ft)	Elevation (Stop Invert) (ft)	Slope (%)	Diameter (in)	Material	Manning's n	Flow (Maximum) (ft ³ /s)
SD E 07	1794.00	1793.00	7.246	18.0	HDPE	0.013	4.91
SD E 06	1795.54	1794.00	8.613	12.0	HDPE	0.013	0.41
SD E 05	1810.00	1794.00	2.495	18.0	HDPE	0.013	4.51
SD E 01	1814.51	1814.01	1.518	12.0	HDPE	0.013	3.56
SD E 02	1814.01	1810.00	4.093	18.0	HDPE	0.013	3.56
SD F 01	1822.00	1821.00	4.492	12.0	HDPE	0.013	1.73
SD G 03	1819.00	1818.00	3.391	18.0	HDPE	0.013	1.25
SD E 03	1810.77	1810.00	4.784	12.0	HDPE	0.013	0.53
SD E 04	1810.77	1810.00	4.471	12.0	HDPE	0.013	0.44
SD A 01	1786.00	1785.00	3.766	12.0	HDPE	0.013	4.32
SD A 02	1785.00	1784.00	2.572	12.0	HDPE	0.013	4.82
SD B 07	1751.00	1746.00	6.978	36.0	HDPE	0.013	19.72
SD B 01	1798.33	1797.50	5.140	12.0	HDPE	0.013	1.59
SD B 02	1798.50	1797.50	4.073	12.0	HDPE	0.013	0.20
SD E 08	1793.00	1790.00	3.984	18.0	HDPE	0.013	5.47
SD A 03	1780.00	1779.00	2.051	18.0	HDPE	0.013	6.13
SD B 06	1756.00	1751.00	10.963	36.0	HDPE	0.013	16.27
SD G 01	1821.00	1820.00	2.929	18.0	None	0.013	0.80
SD B 05	1763.00	1762.00	2.794	12.0	HDPE	0.013	1.93
SD B 04	1763.00	1762.00	2.978	18.0	HDPE	0.013	0.99
SD D 01	1806.36	1805.36	3.006	12.0	HDPE	0.013	0.53
SD D 02	1805.36	1804.00	1.212	12.0	HDPE	0.013	0.96
SD G 02	1820.00	1819.00	2.555	18.0	HDPE	0.013	1.02
SD B 03	1797.00	1751.00	9.115	18.0	HDPE	0.013	1.79

FlexTable: Conduit Table (Piedmont Post with Det.csd)

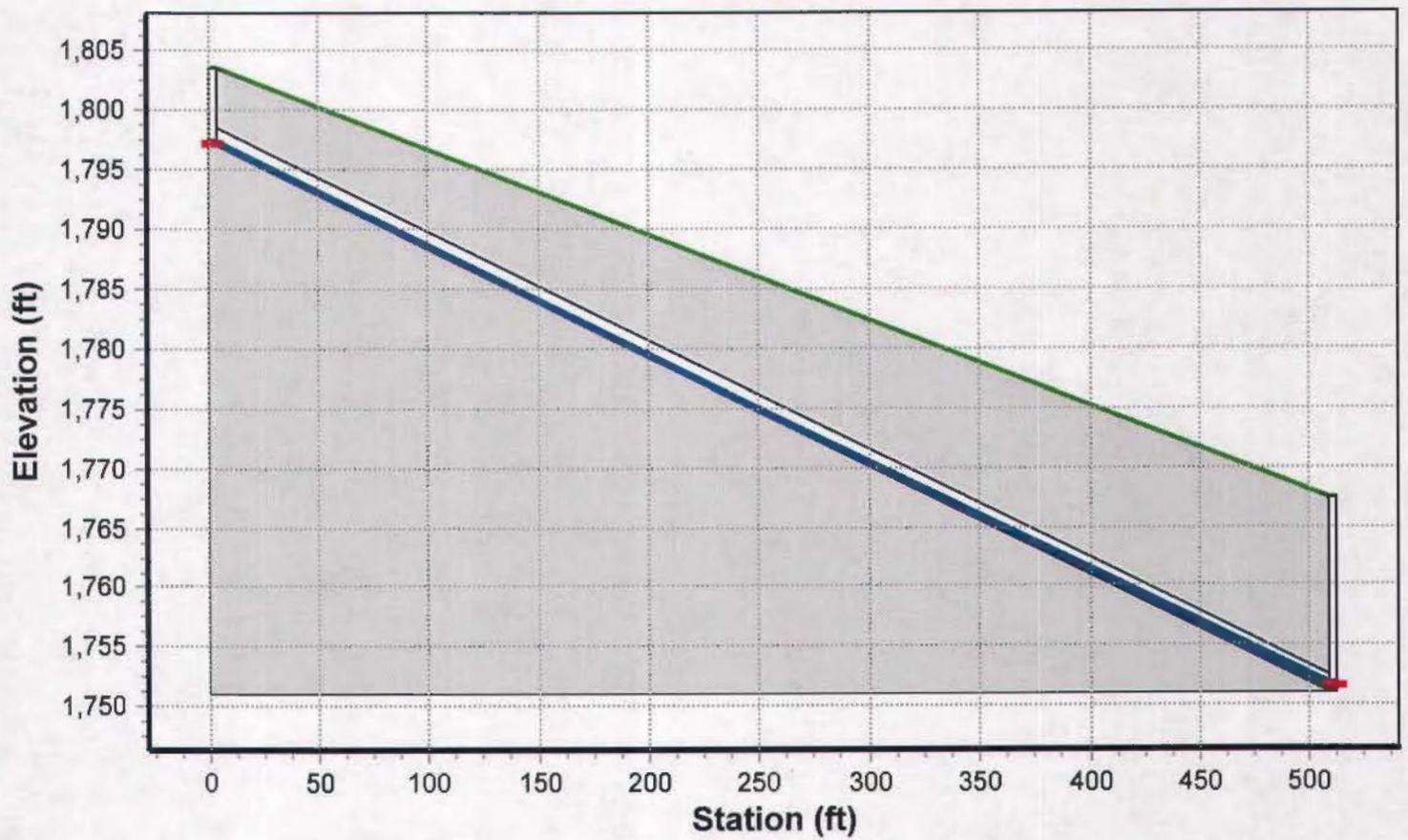
Current Time: 480.000 min

Label	Elevation (Start Invert) (ft)	Elevation (Stop Invert) (ft)	Slope (%)	Diameter (in)	Material	Manning's n	Flow (Maximum) (ft ³ /s)
SD C 1	1825.00	1824.00	6.457	12.0	HDPE	0.013	0.16
SD C 2	1825.00	1824.00	4.431	12.0	HDPE	0.013	0.21
SD C 3	1824.00	1820.00	1.433	18.0	HDPE	0.013	0.37
SD C 4	1824.50	1823.50	2.443	12.0	HDPE	0.013	0.23
SD C 5	1820.00	1818.00	1.865	18.0	HDPE	0.013	0.60
SD C 6	1821.00	1818.00	9.676	18.0	HDPE	0.013	1.28
SD C 7	1818.00	1809.50	6.772	18.0	HDPE	0.013	1.88
SD C 8	1810.50	1809.50	3.529	18.0	HDPE	0.013	2.15
SD C 9	1809.50	1804.50	9.333	18.0	HDPE	0.013	4.01
SD C 10	1804.86	1804.50	1.786	12.0	HDPE	0.013	0.20
SD C 11	1804.50	1804.00	2.834	18.0	HDPE	0.013	4.20
SD C 15 (E)	1802.16	1799.93	2.071	18.0	HDPE	0.013	1.95
SD C 14 (E)	1799.93	1798.80	2.234	18.0	HDPE	0.013	4.95
SD C 16 (E)	1798.80	1796.00	16.393	18.0	HDPE	0.013	4.95
SD C 12	1804.00	1803.00	2.363	18.0	HDPE	0.013	4.40
SD C 13	1803.00	1799.93	6.150	18.0	None	0.013	2.91

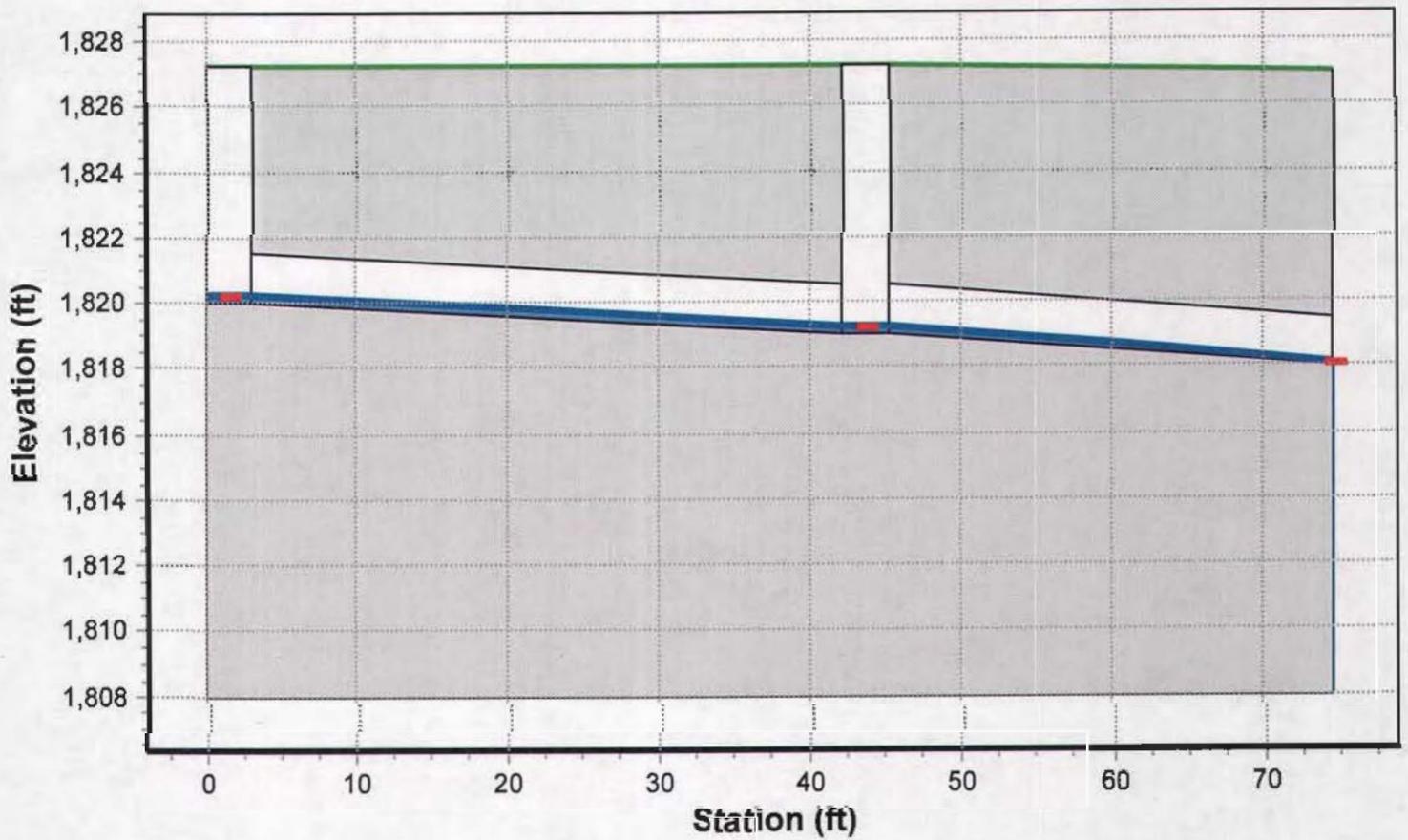
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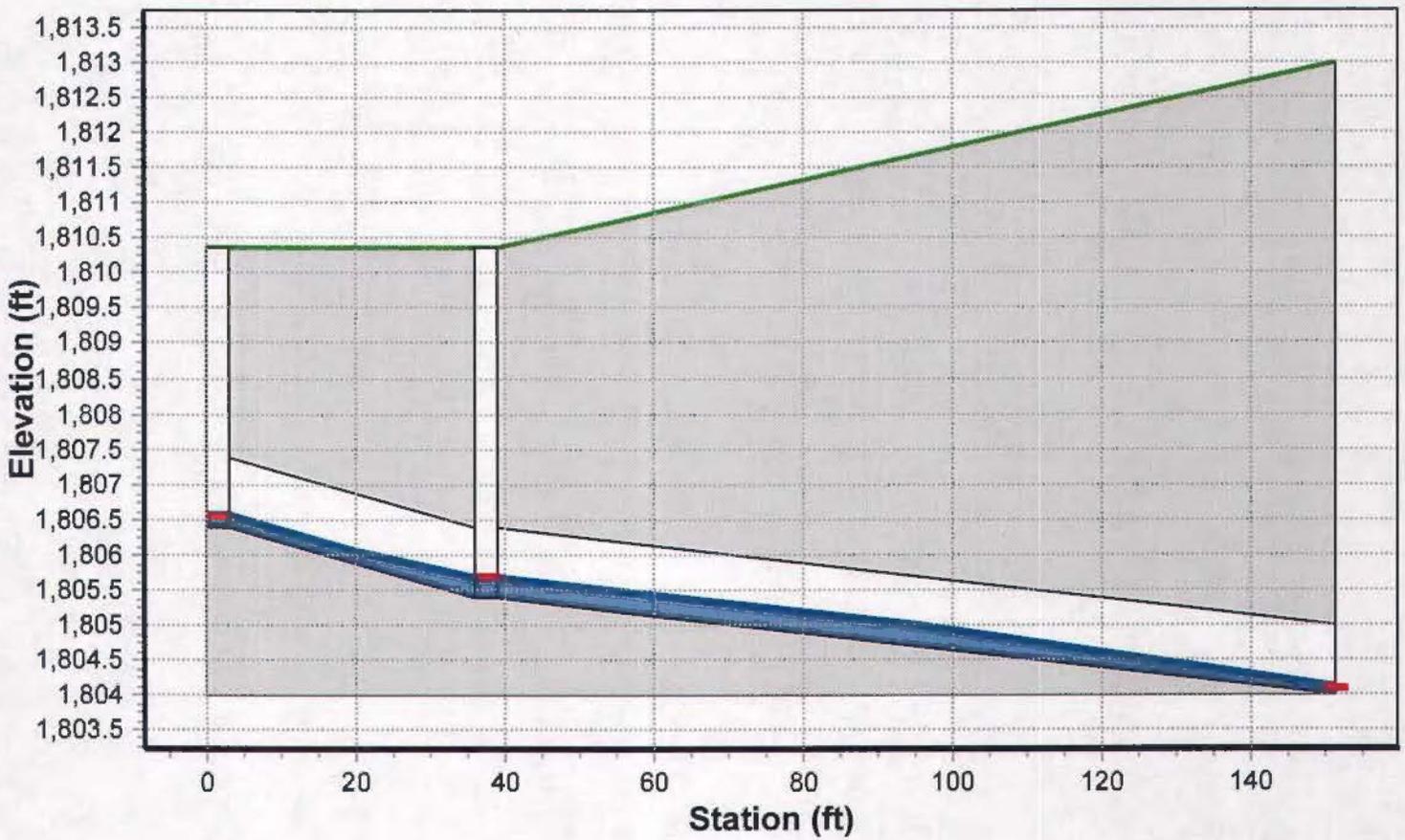
Profile - B2 - 100 Year Storm Event Time: 08:03:00



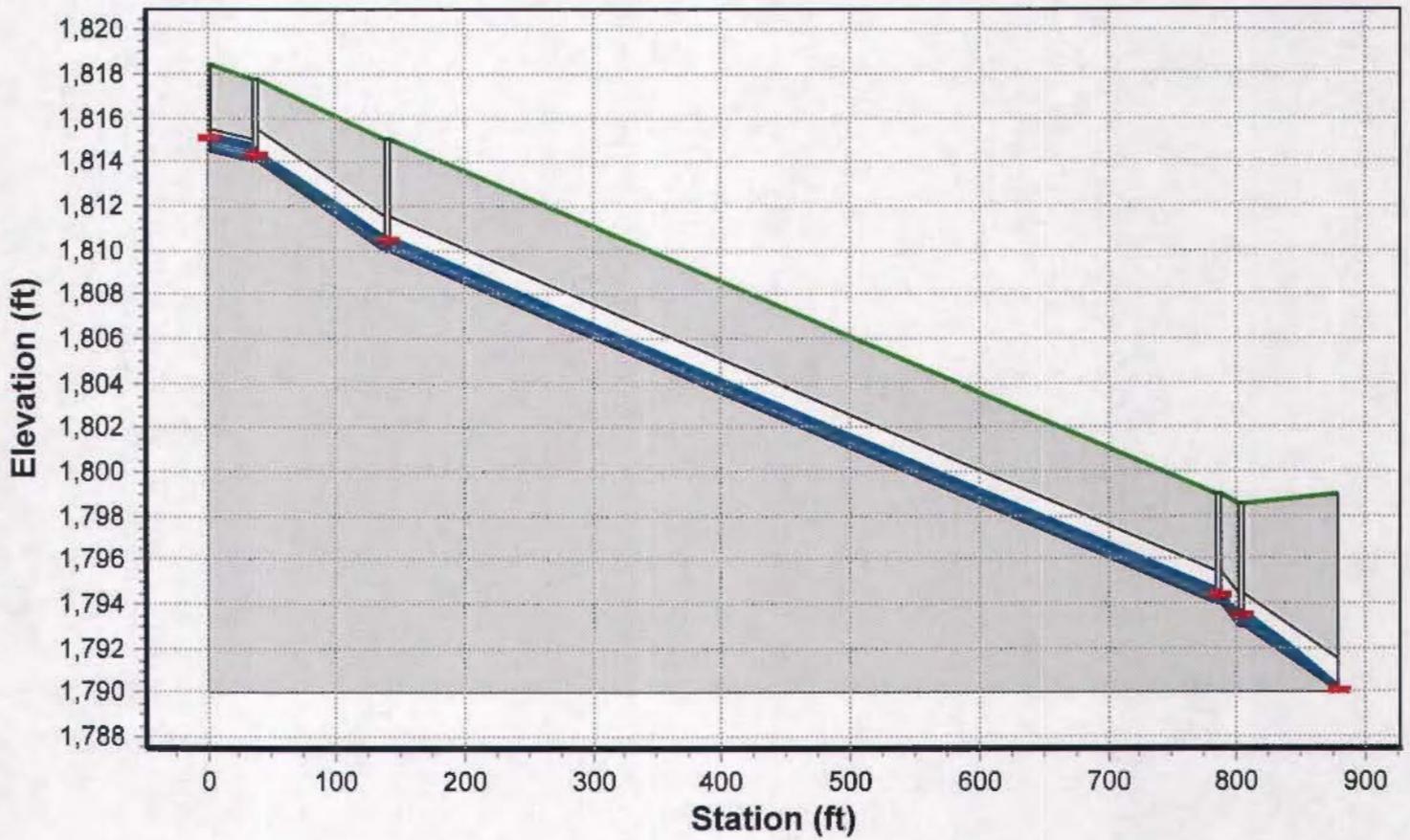
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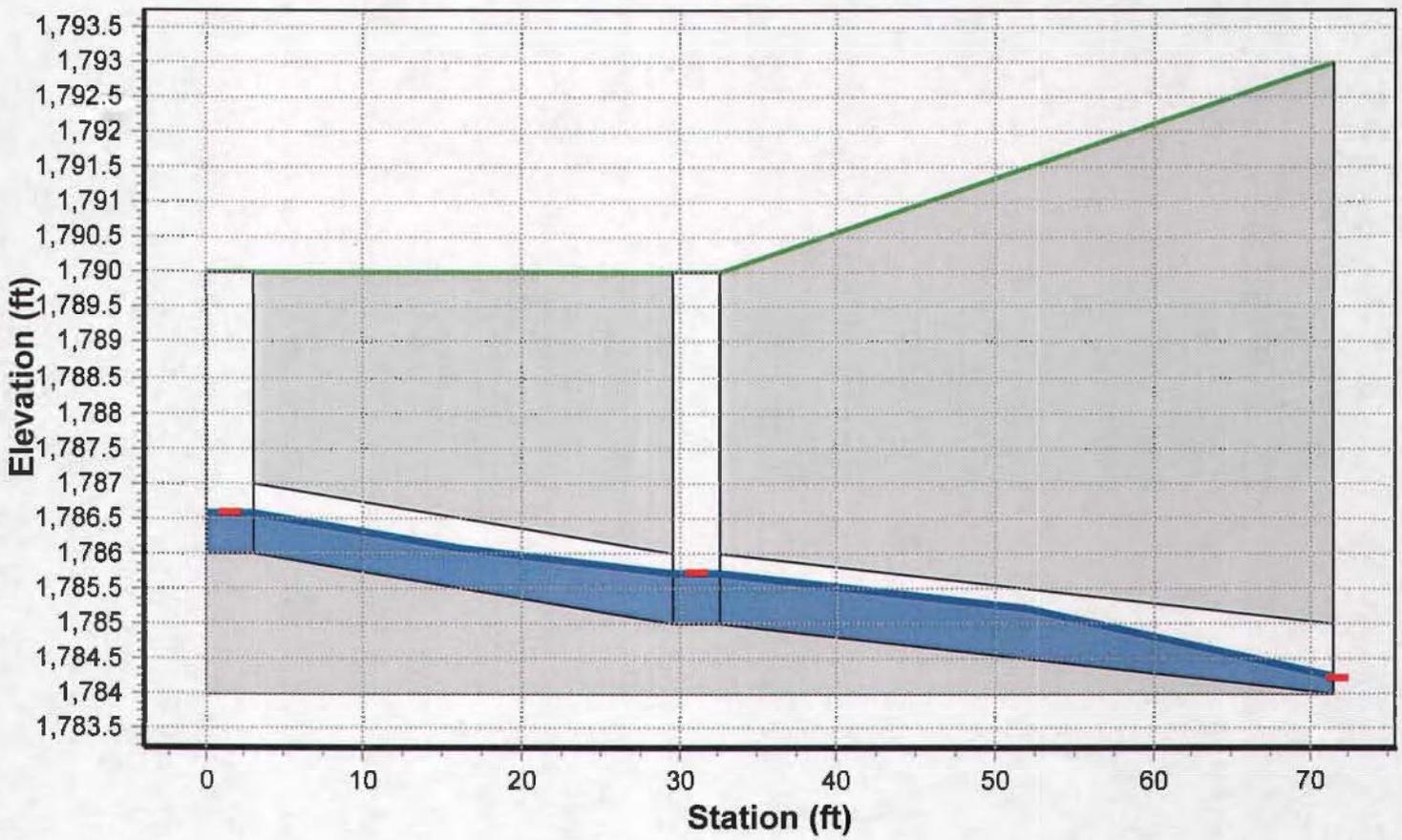
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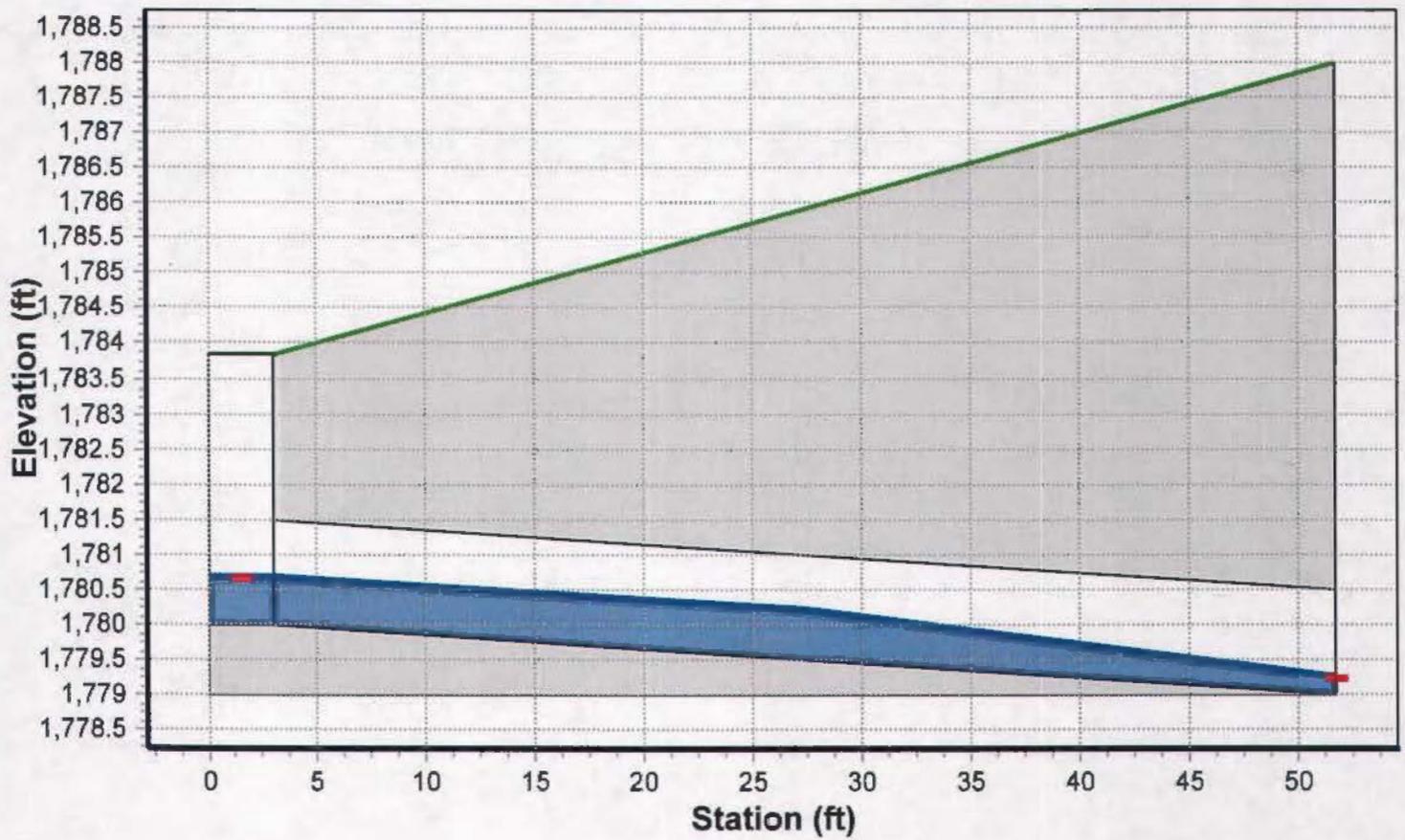
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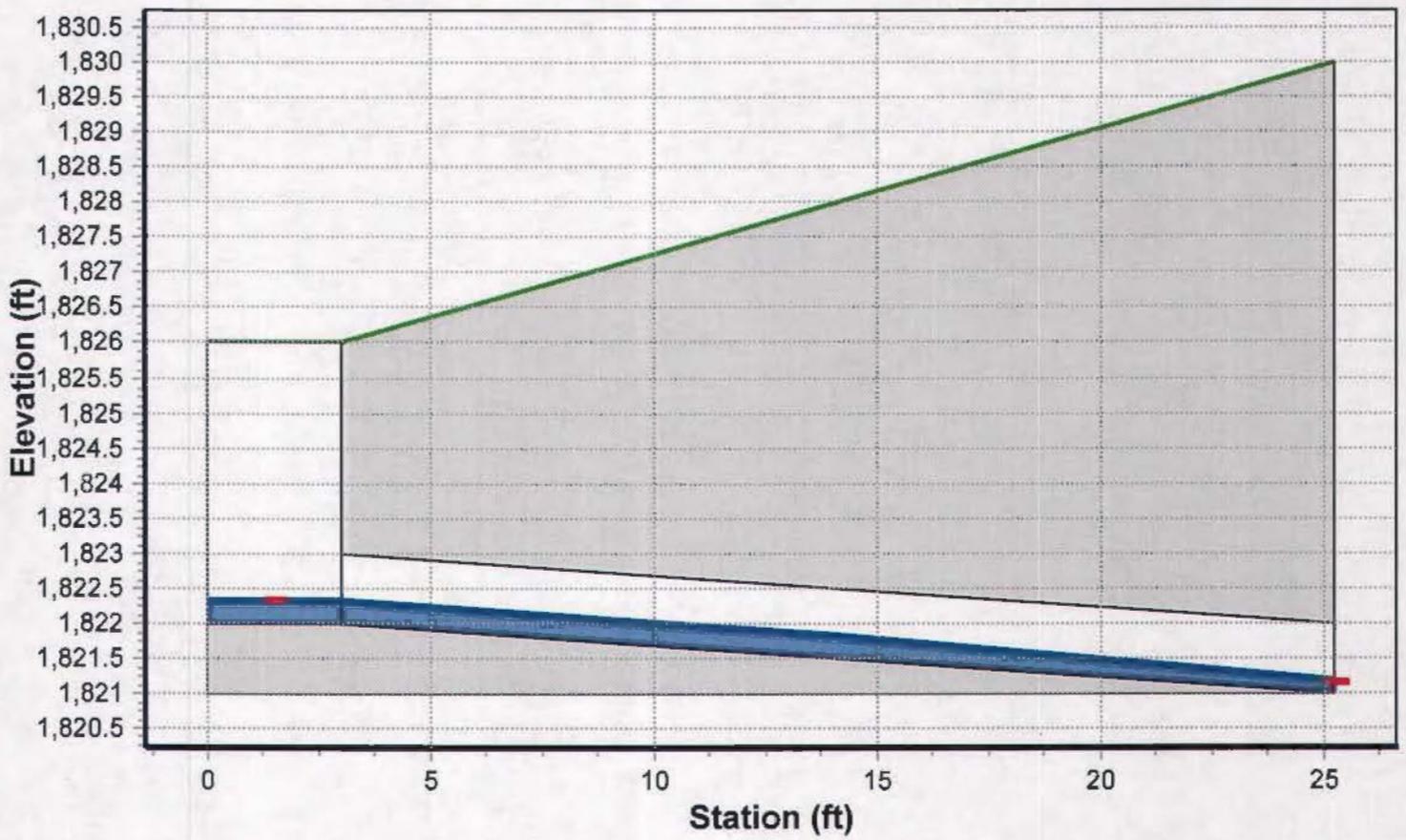
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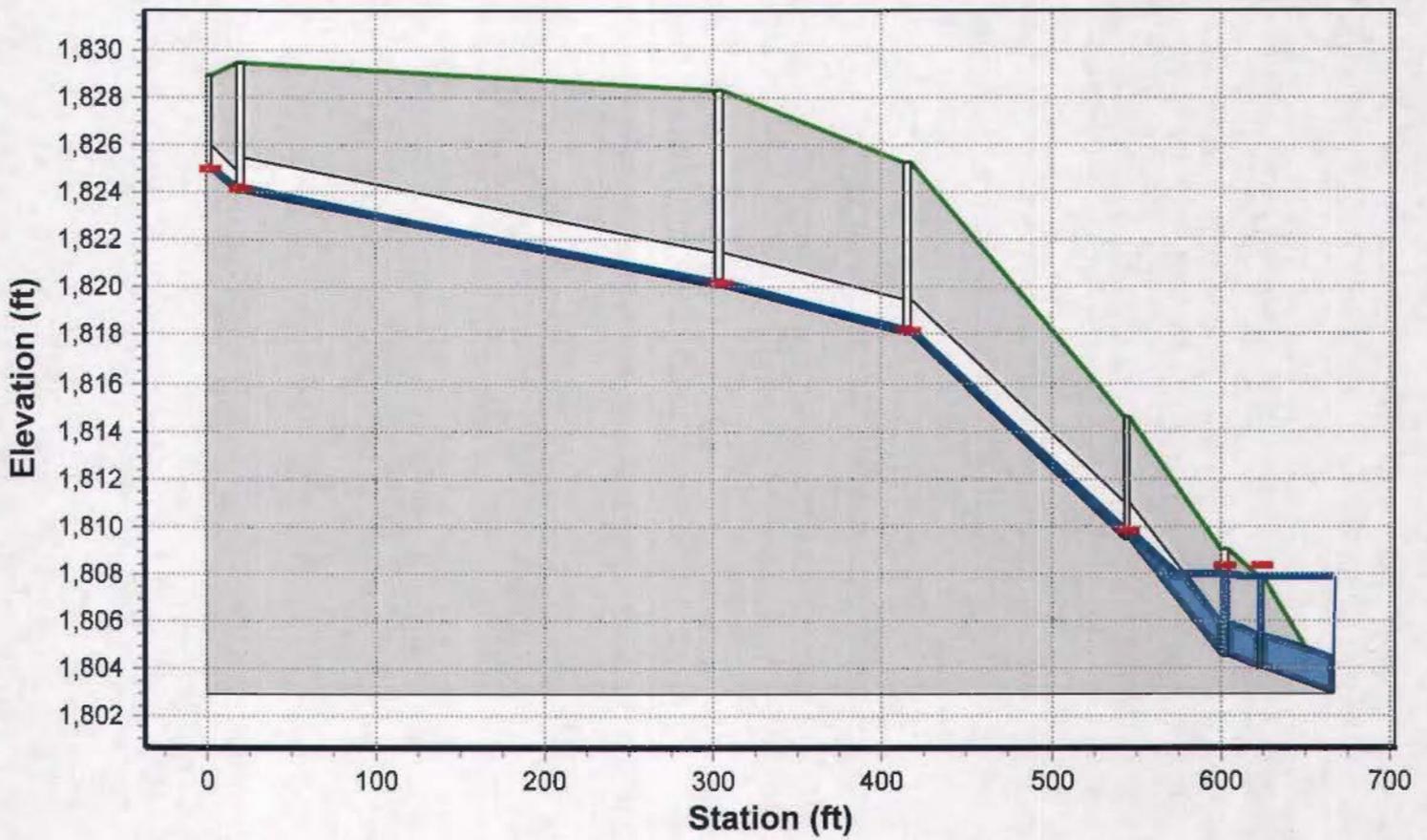
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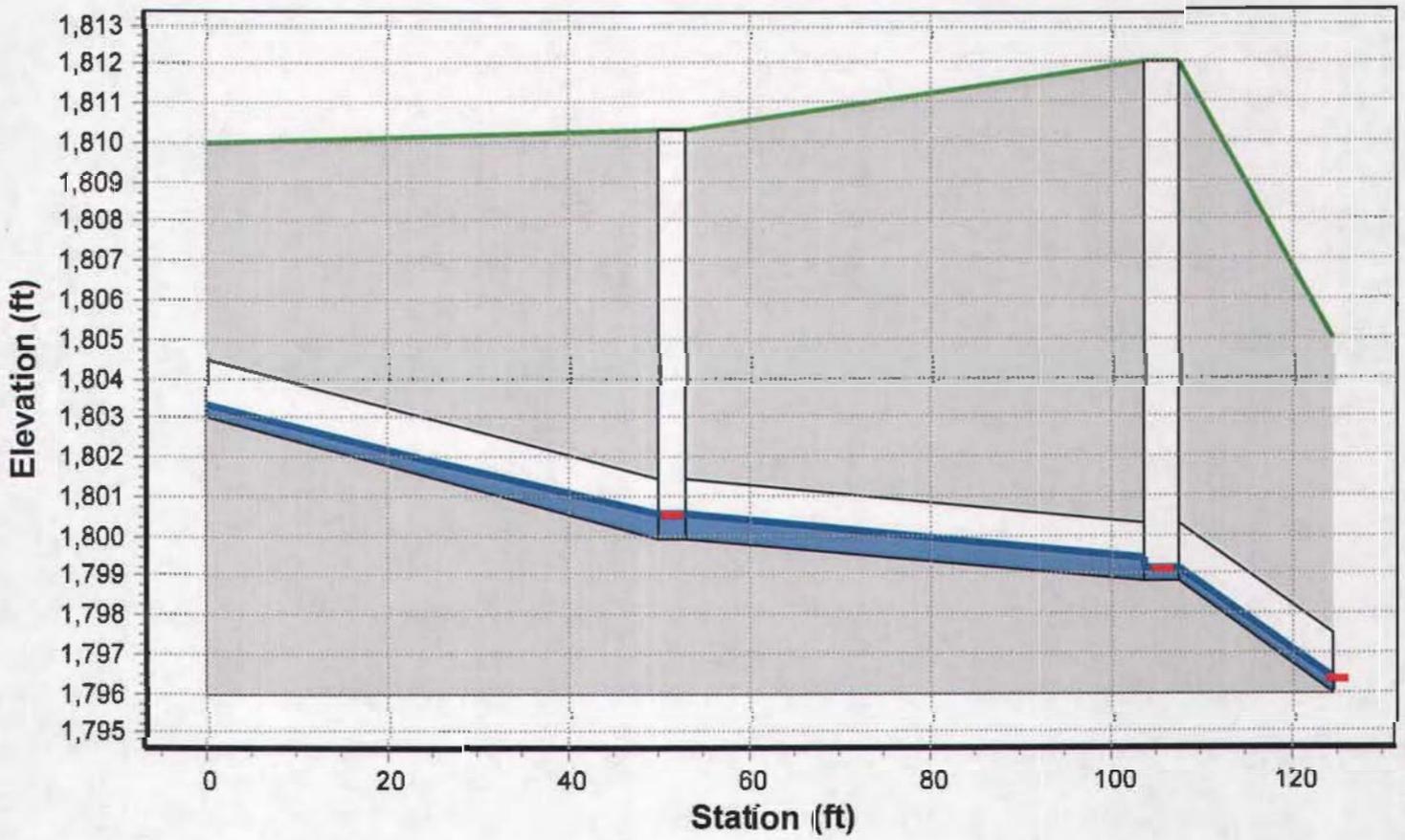
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Profile - C1 - 100 Year Storm Event Time: 08:00:00



Profile - C2 - 100 Year Storm Event Time: 08:00:00



APPENDIX B - Pre Development Hydraulic Analysis

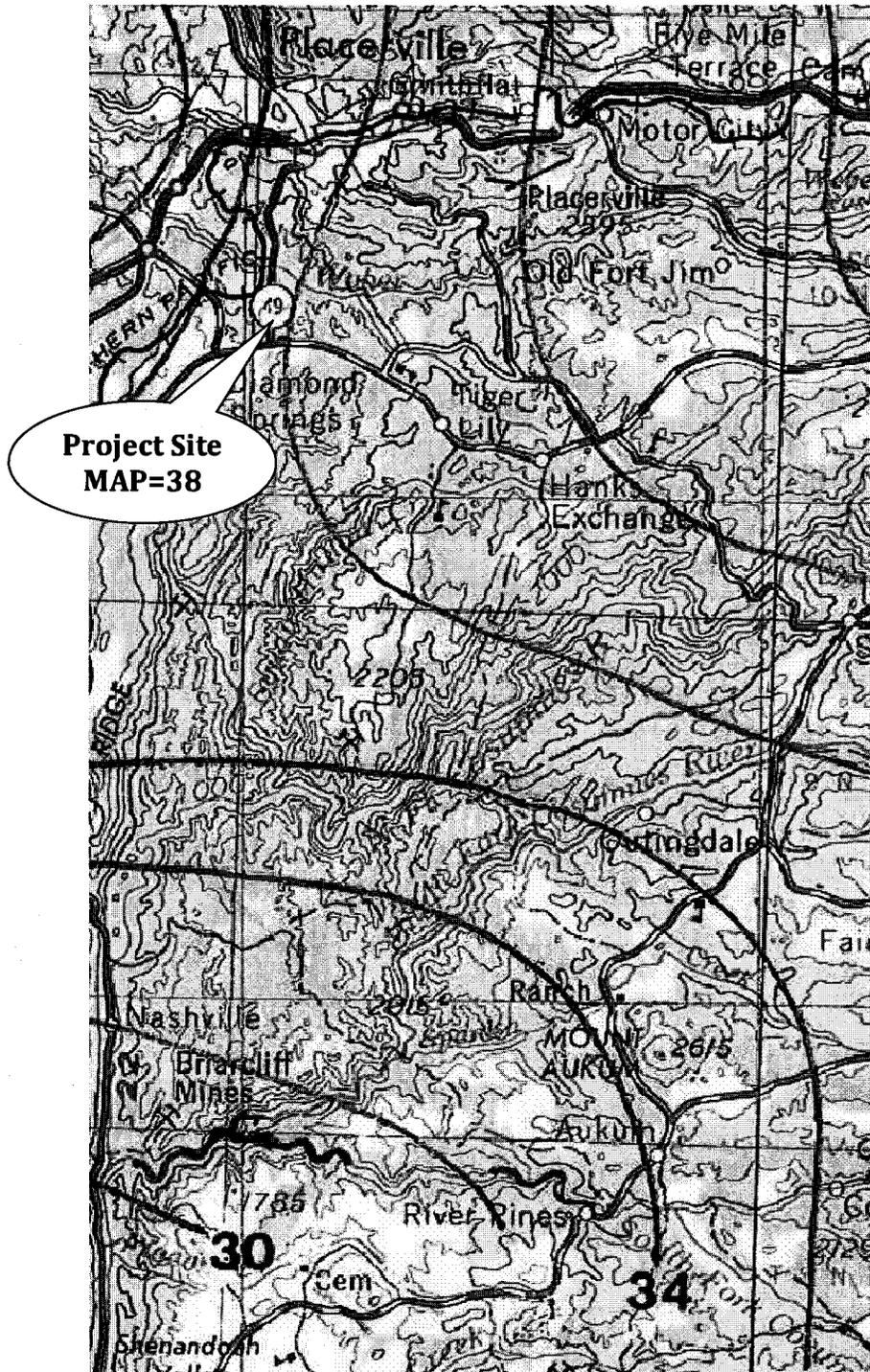
Watershed Properties Table

Watershed areas tributary to existing downstream pipes and channels. Data imported from Bentley CivilStorm v8. See delineated watershed areas in Pre-Development Drainage Shed Map, Appendix B.

Shed Name	SCS Curve Number	Area (Acres)	2-yr 24 hr depth	Tc (min)	100-Year Peak Flow (cfs)	10-Year Peak Flow (cfs)
CS101	74.0	8.39	3.34	14	8.05	4.25
CS102	94.0	5.05	3.34	14	7.94	5.42
CS103	74.0	4.26	3.34	20	3.90	2.05
CS104	74.0	3.25	3.34	8	3.20	1.70
CS105	74.0	22.65	3.34	28	19.37	10.13
CS106	74.0	2.35	3.34	12	2.28	1.21
CS107	74.0	3.84	3.34	11	3.76	1.99
CS108	74.0	0.98	3.34	8	0.97	0.51
CS109	79.0	20.80	3.34	20	22.53	12.83
CS110	98.0	0.07	3.34	5	0.11	0.08

APPENDIX C

Mean Annual Rainfall Map



APPENDIX D - El Dorado Design Rainfall Tables

APPENDIX D – El Dorado Design Rainfall

Table 2-2a Runoff Curve Numbers for Urban Areas

Table 2.4.3 Overland-Flow Roughness Coefficients

El Dorado Design Rainfall Depth

Rainfall Intensity – 10 year

Rainfall Intensity – 100 year

URBAN HYDROLOGY FOR SMALL WATERSHEDS
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
TECHNICAL RELEASE 55

TABLE 2-2a

RUNOFF CURVE NUMBERS FOR URBAN AREAS¹

Cover Description	Average Percent Impervious Area ²	Curve Numbers for Hydrologic Soil Group			
		A	B	C	D
<i>Fully developed and hydrologic condition</i>					
Open Space (lawn, parks, golf courses, cemeteries, etc.) ³					
Poor condition (grass cover <50%).....		68	79	86	89
Fair condition (grass cover 50% to 75%).....		49	69	79	84
Good condition (grass cover >75%).....		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way).....		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way).....		98	98	98	98
Paved; open ditches (including right-of-way).....		83	89	92	93
Gravel (including right-of-way).....		76	85	89	91
Dirt (including right-of-way).....		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) ⁴		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders).....		96	96	96	96
Urban districts:					
Commercial and business.....	85	89	92	94	95
Industrial.....	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses).....	65	77	85	90	92
1/4 acre.....	38	61	75	83	87
1/3 acre.....	30	57	72	81	86
1/2 acre.....	25	54	70	80	85
1 acre.....	20	51	68	79	84
2 acres.....	12	46	65	77	82
<i>Developing urban areas</i>					
Newly graded areas (pervious areas only, no vegetation) ⁵		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in Table 2-2c)					

¹Average runoff condition, and $I_a = 0.2S$

²The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic conditions. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

³CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

⁴Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

⁵Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4, based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas

Table 2.4.3

OVERLAND-FLOW ROUGHNESS COEFFICIENTS

(Source: SCS, 1986)

Surface Description (1)	Overland Flow n (2)
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated Soils:	
Residue Cover <20%	0.06
Residue Cover >20%	0.17
Grass:	
Short Grass Prairie	0.15
Dense Grasses	0.24
Bermuda	0.41
Range (natural)	0.13
Woods:	
Light Underbrush	0.40
Dense Underbrush	0.80

EL DORADO DESIGN RAINFALL

Rainfall Depth in Inches for Return Period = 2.33 years

Mean Annual Precipitation	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hrs	3 Hrs	6 Hrs	12 Hrs	24 Hrs
20	0.113	0.162	0.200	0.286	0.410	0.587	0.723	1.035	1.481	2.120
22	0.120	0.172	0.212	0.304	0.435	0.623	0.768	1.099	1.572	2.249
24	0.128	0.183	0.225	0.322	0.461	0.660	0.814	1.165	1.667	2.385
26	0.135	0.193	0.238	0.341	0.488	0.698	0.860	1.231	1.762	2.251
28	0.142	0.203	0.251	0.359	0.514	0.735	0.907	1.298	1.857	2.657
30	0.149	0.214	0.264	0.377	0.540	0.773	0.953	1.364	1.952	2.793
32	0.157	0.224	0.277	0.396	0.566	0.810	1.000	1.430	2.047	2.929
34	0.164	0.235	0.289	0.414	0.593	0.848	1.046	1.497	2.142	3.065
36	0.171	0.245	0.302	0.433	0.619	0.886	1.092	1.563	2.237	3.200
38	0.179	0.256	0.315	0.451	0.645	0.923	1.139	1.629	2.332	3.336
40	0.186	0.266	0.328	0.469	0.671	0.961	1.185	1.696	2.246	3.472
42	0.193	0.276	0.341	0.488	0.698	0.998	1.231	1.762	2.521	3.608
44	0.200	0.287	0.354	0.506	0.724	1.036	1.278	1.282	2.616	3.744
46	0.208	0.297	0.366	0.524	0.750	1.074	1.324	1.895	2.77	3.880
48	0.512	0.308	0.379	0.543	0.777	1.111	1.370	1.961	2.806	4.016
50	0.222	0.318	0.392	0.561	0.803	1.149	1.417	2.027	2.91	4.152
52	0.229	0.328	0.405	0.579	0.829	1.186	1.463	2.094	2.996	4.287
54	0.237	0.339	0.418	0.598	0.855	1.224	1.510	2.160	3.091	4.423
56	0.244	0.349	0.431	0.616	0.882	1.262	1.556	2.226	3.186	4.559
58	0.251	0.360	0.443	0.643	0.908	1.299	1.602	2.293	3.281	4.695
60	0.259	0.370	0.456	0.653	0.934	1.337	1.649	2.359	3.376	4.831
62	0.266	0.380	0.469	0.671	0.960	1.374	1.695	2.425	3.471	4.967
64	0.273	0.391	0.482	0.690	0.987	1.412	1.741	2.492	3.566	5.103
66	0.280	0.401	0.495	0.708	1.013	1.450	1.788	2.558	3.661	5.238
68	0.288	0.412	0.508	0.726	1.039	1.487	1.834	2.625	3.756	5.374
70	0.295	0.422	0.520	0.745	1.066	1.525	1.880	2.691	3.851	5.510
72	0.302	0.432	0.533	0.762	1.092	1.562	1.927	2.757	3.946	5.646
74	0.309	0.443	0.546	0.781	1.118	1.600	1.973	2.824	4.040	5.782
76	0.317	0.453	0.559	0.800	1.144	1.638	2.020	2.890	4.135	5.918
78	0.324	0.464	0.572	0.818	1.171	1.675	2.066	2.956	4.230	6.054
80	.0331	0.474	0.585	0.836	1.197	1.713	2.112	3.023	4.325	6.189
82	0.339	0.484	0.597	0.855	1.223	1.750	2.159	3.089	4.420	6.325
84	0.346	0.495	0.610	0.873	1.250	1.788	2.205	3.155	4.515	6.461
86	0.353	0.505	0.623	0.892	1.276	1.826	2.251	3.222	4.610	6.597
88	0.360	0.516	0.636	0.910	1.302	1.863	2.298	3.288	4.705	6.733
90	0.368	0.526	0.649	0.928	1.328	1.901	2.344	3.354	4.800	6.869

Source: Design Rainfall Tables for El Dorado County, prepared by Jim Goodridge, July 29, 1989

Rainfall Intensity in Inches per Hour for Return Period = 10 years

Mean Annual Precipitation	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hrs	3 Hrs	6 Hrs	12 Hrs	24 Hrs
20	2.004	1.434	1.179	0.843	0.603	0.432	0.355	0.254	0.182	0.130
22	2.127	1.522	1.251	0.895	0.640	0.458	0.377	0.270	0.193	0.138
24	2.255	1.613	1.326	0.949	0.679	0.486	0.399	0.286	0.204	0.146
26	2.383	1.705	1.402	1.003	0.718	0.514	0.422	0.302	0.216	0.155
28	2.512	1.797	1.478	1.057	0.756	0.541	0.422	0.318	0.228	0.163
30	2.640	1.889	1.553	1.111	0.795	0.569	0.468	0.335	0.239	0.171
32	2.769	1.981	1.629	1.165	0.834	0.597	0.490	0.351	0.251	0.180
34	2.897	2.073	1.704	1.219	0.872	0.624	0.513	0.367	0.263	0.188
36	3.026	2.165	1.780	1.273	0.911	0.652	0.536	0.383	0.274	0.196
38	3.154	2.257	1.855	1.327	0.950	0.680	0.559	0.400	0.286	0.205
40	3.282	2.349	1.931	1.381	0.988	0.707	0.581	0.416	0.298	0.213
42	3.411	2.440	2.006	1.436	1.027	0.735	0.604	0.432	0.309	0.221
44	3.539	2.532	2.082	1.490	1.066	0.763	0.627	0.449	0.321	0.230
46	3.668	2.624	2.157	1.544	1.104	0.790	0.650	0.465	0.333	0.238
48	3.796	2.716	2.233	1.598	1.143	0.818	0.672	0.481	0.344	0.246
50	3.925	2.808	2.309	1.652	1.182	0.846	0.695	0.497	0.356	0.255
52	4.053	2.900	2.384	1.706	1.221	0.873	0.718	0.514	0.368	0.263
54	4.181	2.922	2.460	1.760	1.259	0.901	0.741	0.530	0.379	0.271
56	4.310	3.084	2.535	1.814	1.298	0.929	0.763	0.546	0.391	0.280
58	4.438	3.176	2.611	1.868	1.337	0.956	0.786	0.563	0.402	0.288
60	4.567	3.267	2.686	1.922	1.375	0.984	0.809	0.579	0.414	0.296
62	4.695	3.359	2.762	1.976	1.414	1.012	0.832	0.595	0.426	0.305
64	4.824	3.451	2.837	2.030	1.453	1.039	0.854	0.611	0.437	0.313
66	4.952	3.543	2.913	2.084	1.491	1.067	0.877	0.628	0.449	0.321
68	5.081	3.635	2.989	2.138	1.530	1.095	0.900	0.644	0.461	0.330
70	5.209	3.727	3.064	2.192	1.569	1.122	0.923	0.660	0.472	0.338
72	5.337	3.819	3.140	2.246	1.607	1.150	0.945	0.676	0.484	0.346
74	5.466	3.911	3.215	2.300	1.646	1.178	0.968	0.693	0.496	0.355
76	5.594	4.003	3.291	2.354	1.685	1.205	0.991	0.709	0.507	0.363
78	5.723	4.095	3.366	2.409	1.723	1.233	1.014	0.725	0.519	0.371
80	5.851	4.186	3.442	2.463	1.762	1.261	1.036	0.742	0.531	0.380
82	5.980	4.278	3.517	2.517	1.801	1.288	1.059	0.758	0.542	0.388
84	6.108	4.370	3.593	2.571	1.839	1.316	1.082	0.774	0.554	0.396
86	6.236	4.462	3.668	2.625	1.878	1.344	1.105	0.790	0.566	0.405
88	6.365	4.554	3.744	2.679	1.917	1.371	1.127	0.807	0.577	0.413
90	6.493	4.646	3.820	2.733	1.955	1.399	1.150	0.823	0.589	0.421

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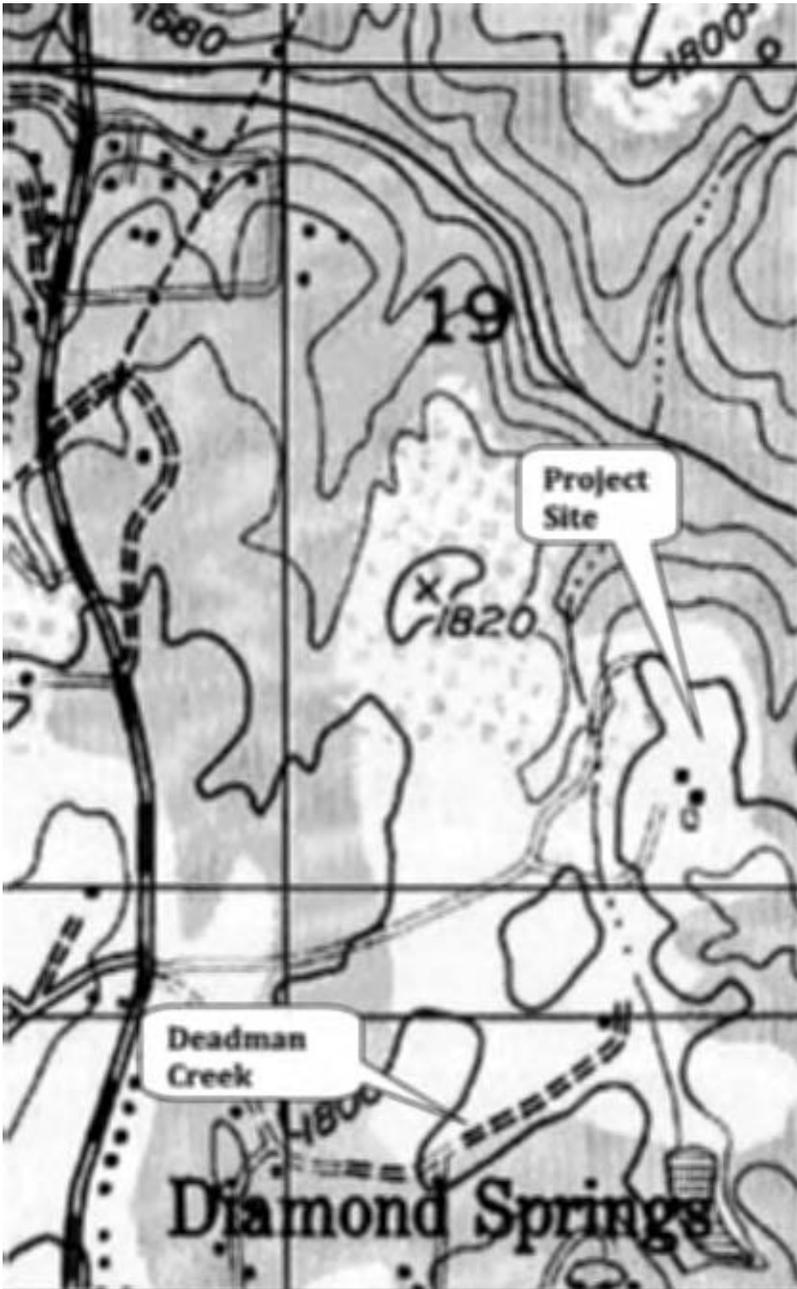
Rainfall Intensity in Inches per Hour for Return Period = 100 years

Mean Annual Precipitation	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hrs	3 Hrs	6 Hrs	12 Hrs	24 Hrs
20	2.840	2.032	1.671	1.195	0.855	0.612	0.503	0.360	0.258	0.184
22	3.014	2.157	1.773	1.269	0.908	0.649	0.534	0.382	0.273	0.196
24	3.196	2.287	1.880	1.345	0.963	0.689	0.566	0.405	0.290	0.207
26	3.378	2.417	1.987	1.422	1.017	0.728	0.598	0.428	0.306	0.219
28	3.561	2.548	2.094	1.499	1.072	0.767	0.631	0.451	0.323	0.231
30	3.743	2.678	2.202	1.575	1.127	0.806	0.663	0.474	0.339	0.243
32	3.925	2.808	2.309	1.652	1.182	0.846	0.695	0.497	0.356	0.255
34	4.107	2.938	2.416	1.728	1.237	0.885	0.727	0.520	0.372	0.266
36	4.289	3.069	2.523	1.805	1.291	0.924	0.760	0.544	0.389	0.278
38	4.471	3.199	2.630	1.882	1.346	0.963	0.792	0.567	0.405	0.290
40	4.653	3.329	2.737	1.958	1.401	1.002	0.824	0.590	0.422	0.302
42	4.835	3.459	2.844	2.035	1.456	1.042	0.856	0.613	0.438	0.314
44	5.017	3.590	2.951	2.112	1.511	1.081	0.889	0.636	0.455	0.326
46	5.199	3.720	3.058	2.188	1.566	1.120	0.921	0.659	0.471	0.337
48	5.381	3.850	3.164	2.265	1.620	1.159	0.953	0.682	0.488	0.349
50	5.563	3.980	3.272	2.341	1.675	1.199	0.985	0.705	0.504	0.361
52	5.745	4.111	3.380	2.418	1.730	1.238	1.018	0.728	0.521	0.373
51	5.927	4.241	3.487	2.495	1.785	1.277	1.050	0.751	0.537	0.385
56	6.109	4.371	3.594	2.571	1.840	1.316	1.082	0.774	0.554	0.396
58	6.291	4.501	3.701	2.648	1.895	1.356	1.114	0.797	0.571	0.408
60	6.473	4.632	3.808	2.725	1.949	1.395	1.147	0.820	0.587	0.420
62	6.656	4.762	3.915	2.801	2.004	1.434	1.179	0.844	0.604	0.432
64	6.838	4.892	4.022	2.878	2.059	1.473	1.211	0.867	0.620	0.444
66	7.020	5.022	4.129	2.954	2.114	1.512	1.243	0.890	0.637	0.455
68	7.202	5.153	4.236	3.031	2.169	1.552	1.276	0.913	0.653	0.467
70	7.384	5.283	4.343	3.108	2.223	1.591	1.308	0.936	0.670	0.479
72	7.566	5.413	4.450	3.184	2.278	1.630	1.340	0.959	0.686	0.491
74	7.748	5.544	4.558	3.261	2.333	1.669	1.372	0.982	0.703	0.503
76	7.930	5.674	4.665	3.338	2.388	1.709	1.405	1.005	0.719	0.514
78	8.112	5.804	4.772	3.414	2.443	1.748	1.437	1.028	0.736	0.526
80	8.294	5.934	4.879	3.491	2.498	1.787	1.469	1.051	0.752	0.538
82	8.476	6.065	4.986	3.567	2.552	1.826	1.501	1.074	0.769	0.550
84	8.658	6.195	5.093	3.644	2.607	1.865	1.534	1.097	0.785	0.562
86	8.840	6.325	5.200	3.721	2.662	1.905	1.566	1.120	0.802	0.574
88	9.022	6.455	5.307	3.797	2.717	1.944	1.598	1.143	0.818	0.585
90	9.204	6.586	5.414	3.874	2.772	1.983	1.630	1.167	0.835	0.597

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APPENDIX E

Quad Map



Soil Survey Map

Soil Map—El Dorado Area, California
(Piedmont Soil Map)



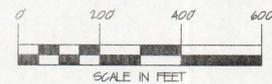
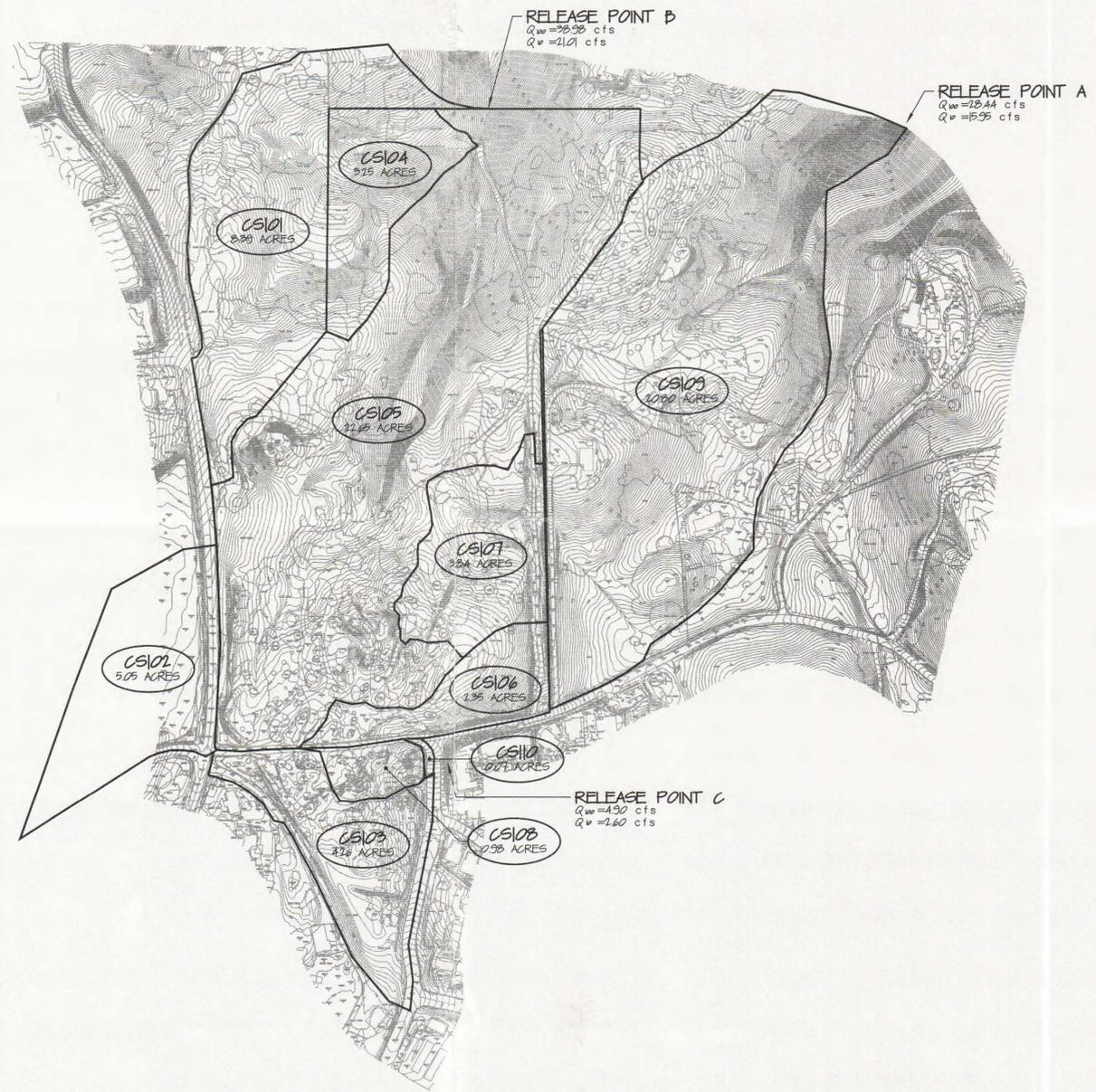
Map Unit Legend

El Dorado Area, California (CA624)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DfC	Diamond Springs very fine sandy loam, 9 to 15 percent slopes	22.0	45.9%
DgE	Diamond Springs very rocky, very fine sandy 3 to 50 percent slopes	5.1	10.6%
PrD	Placer Diggins	20.9	43.5%
Totals for Area of Interest (AOI)		48.1	100.0%

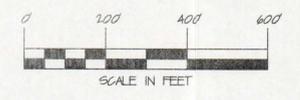
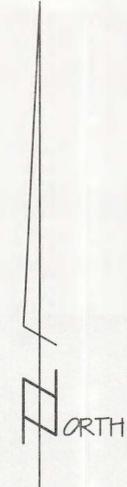
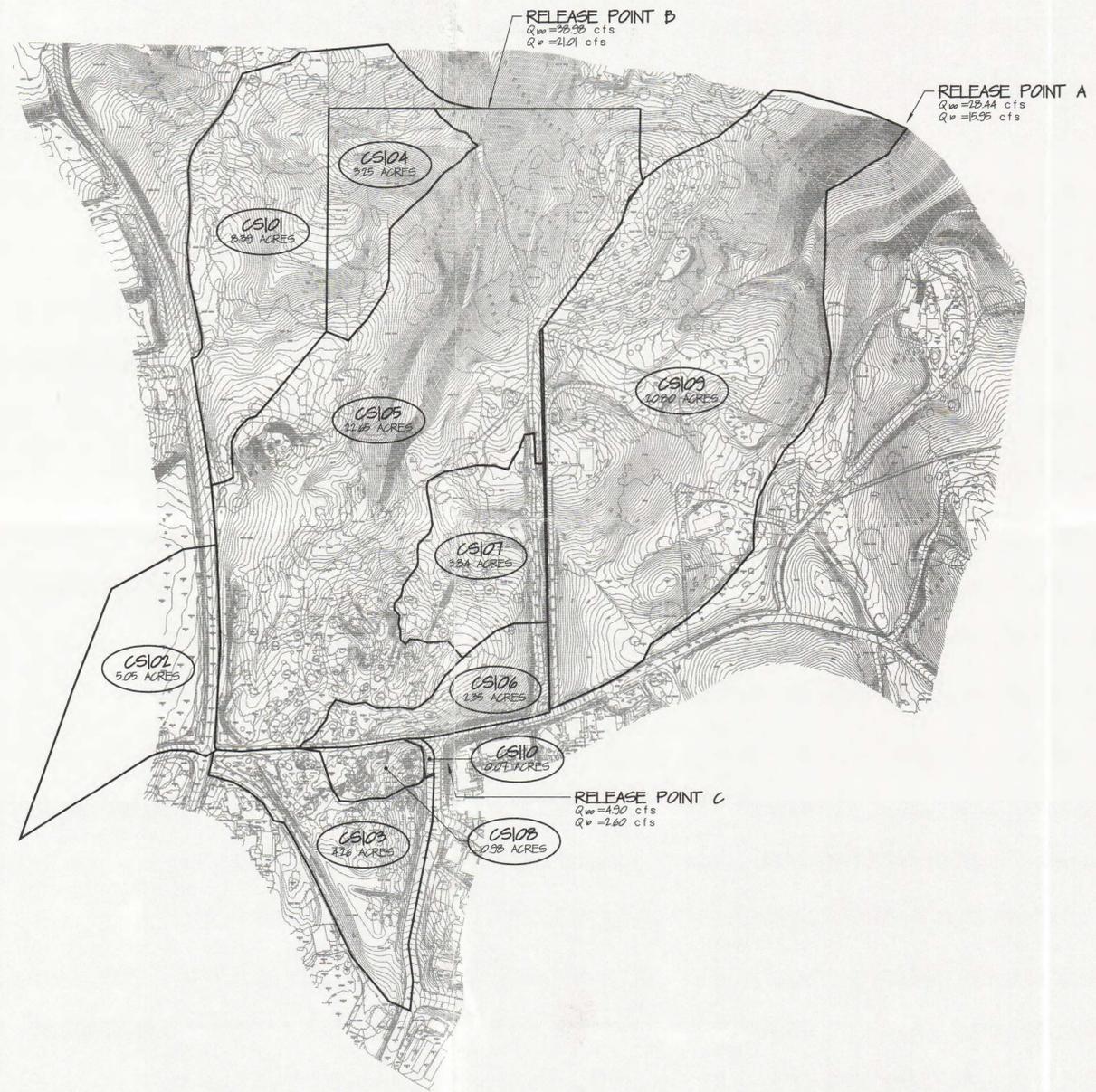
PRE DEVELOPMENT DRAINAGE SHED MAP PIEDMONT OAK ESTATES

COUNTY OF EL DORADO, STATE OF CALIFORNIA



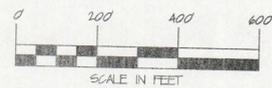
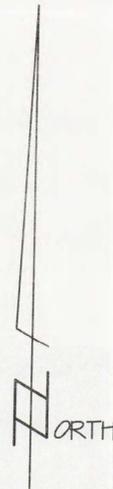
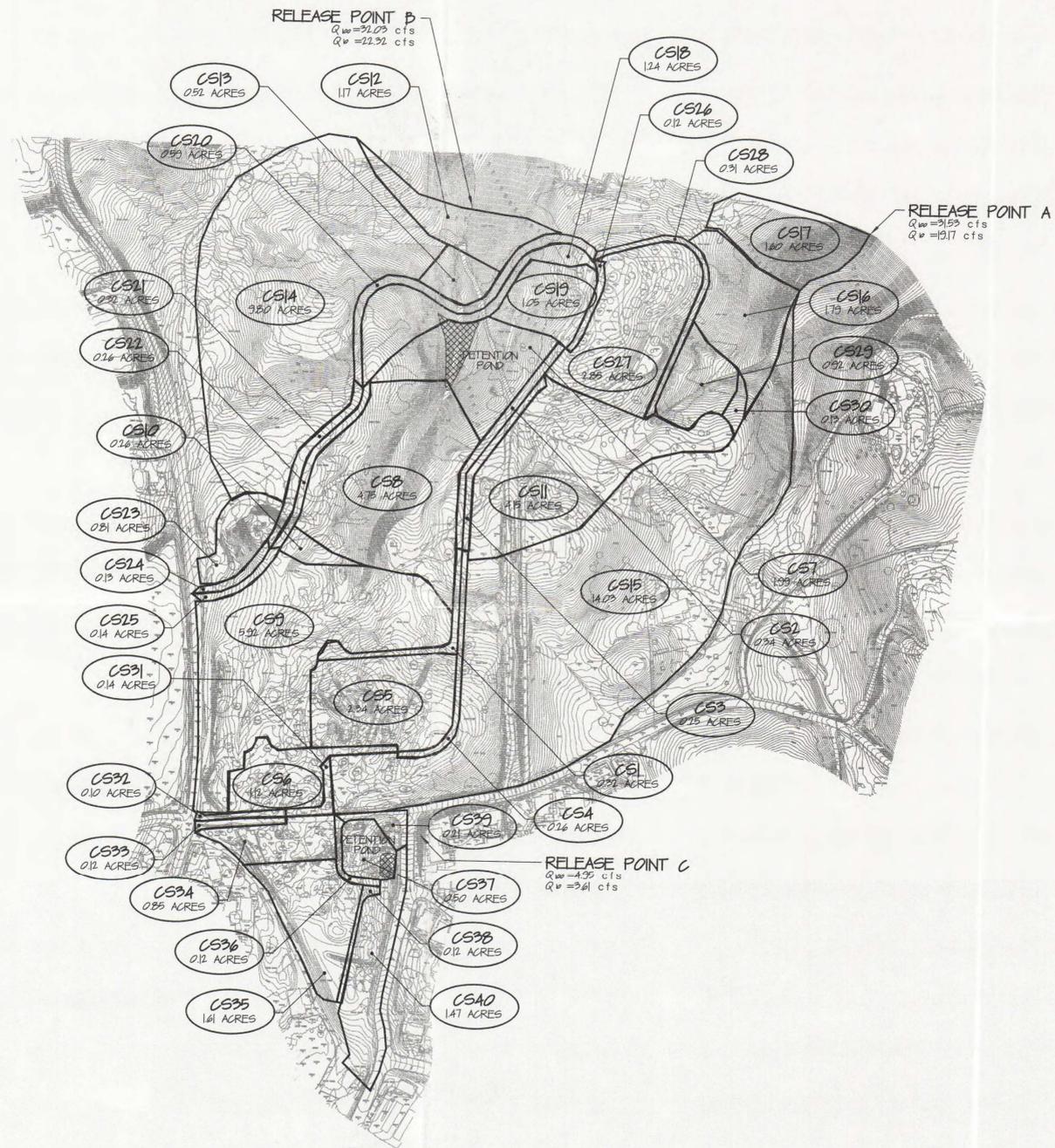
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COUNTY OF EL DORADO, STATE OF CALIFORNIA



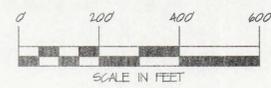
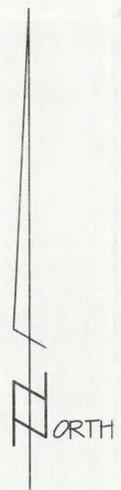
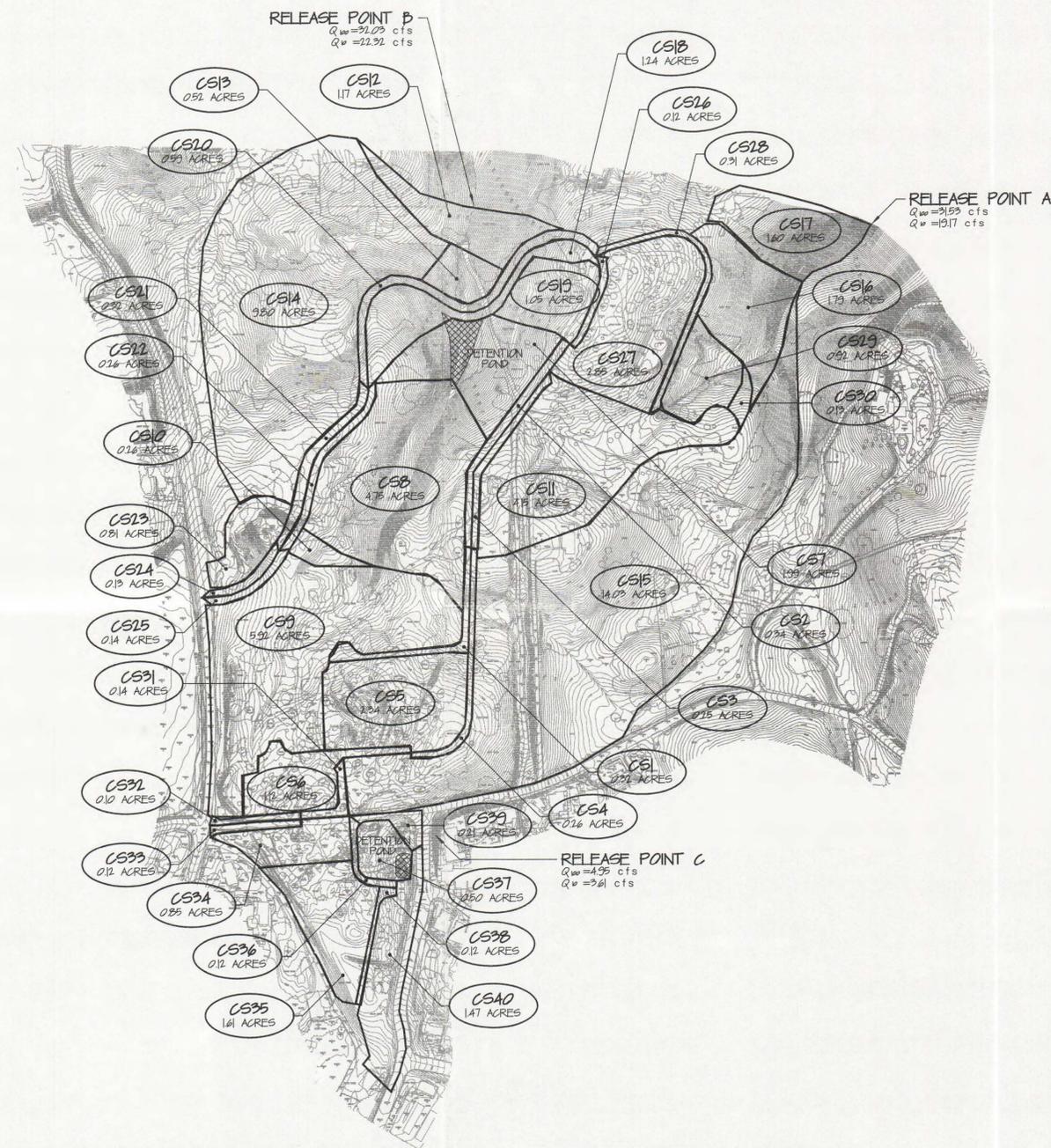
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COUNTY OF EL DORADO, STATE OF CALIFORNIA



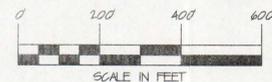
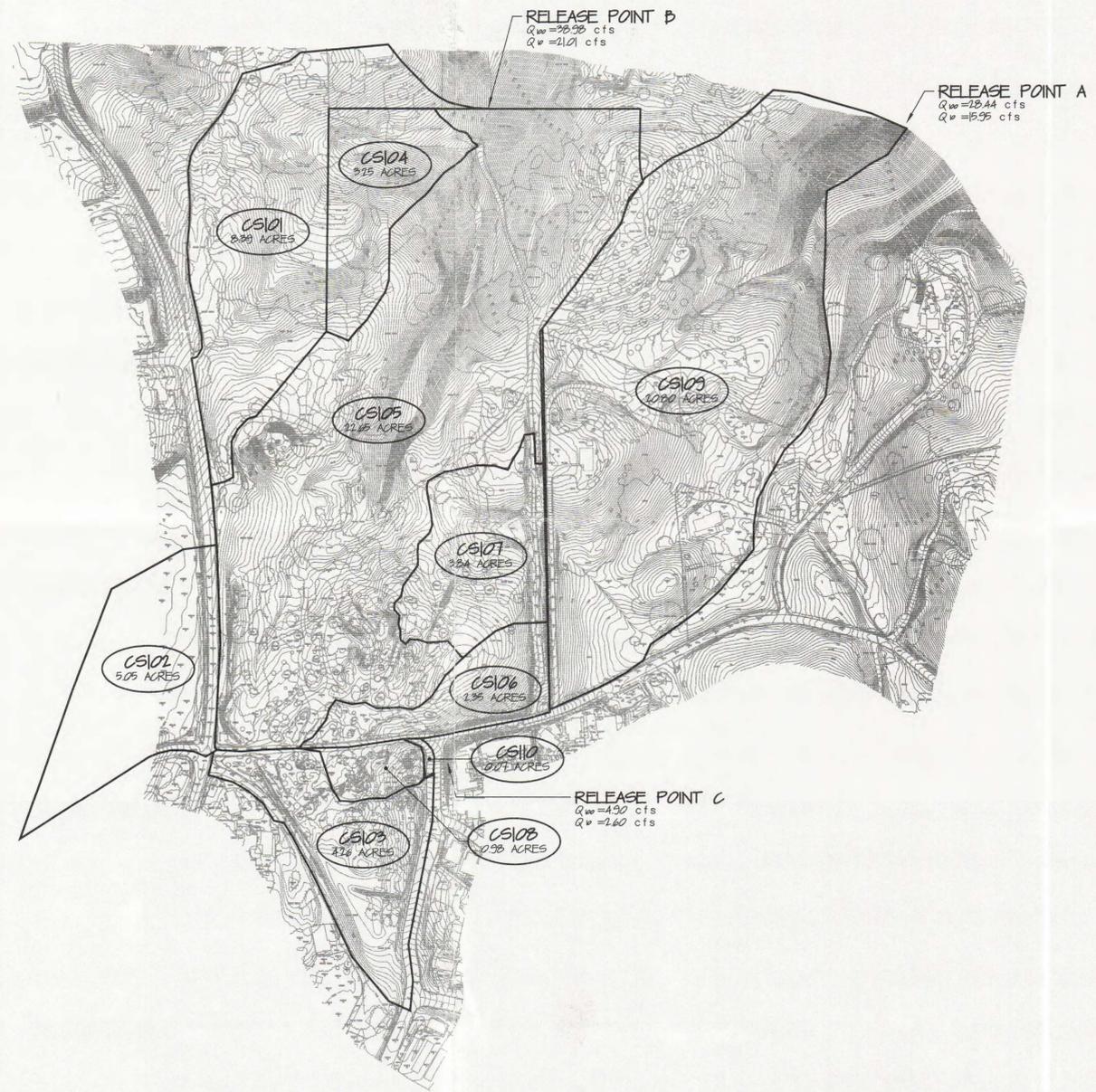
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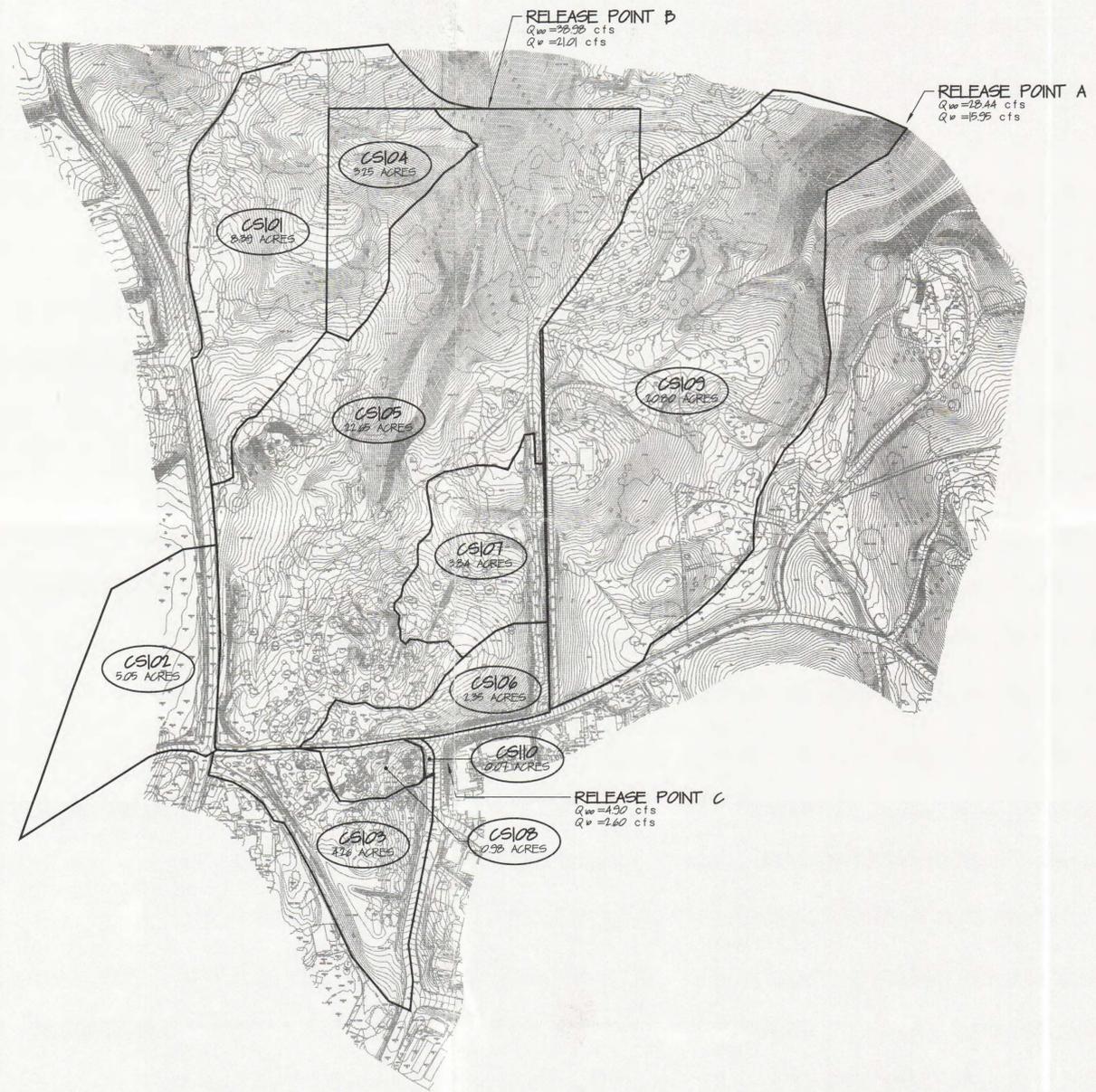
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COUNTY OF EL DORADO, STATE OF CALIFORNIA



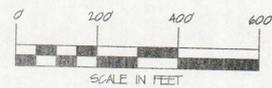
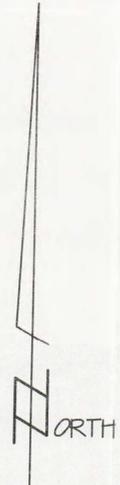
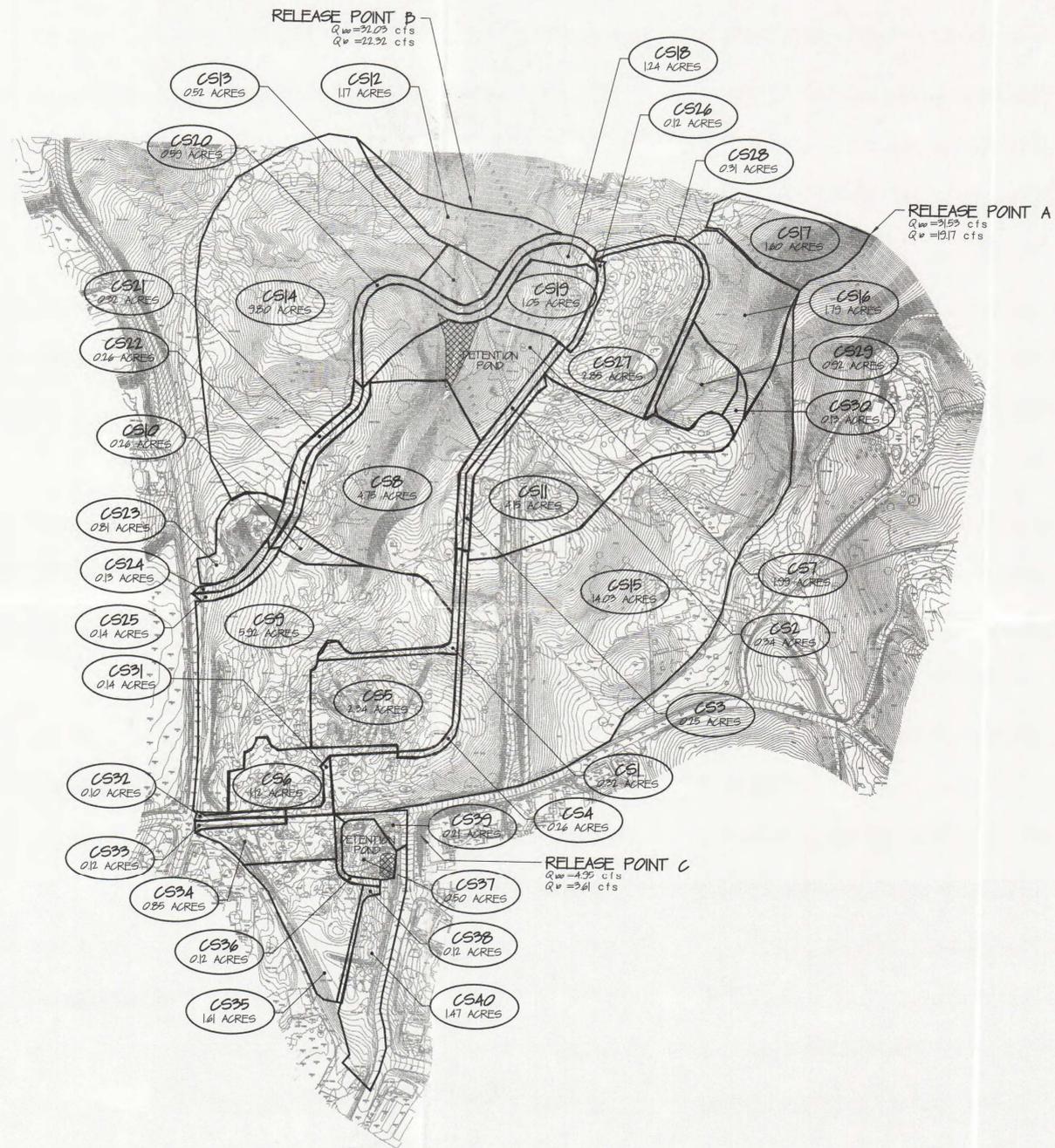
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COUNTY OF EL DORADO, STATE OF CALIFORNIA



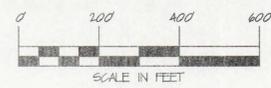
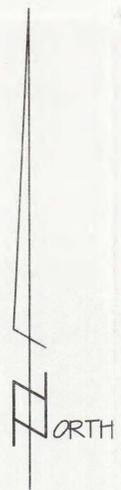
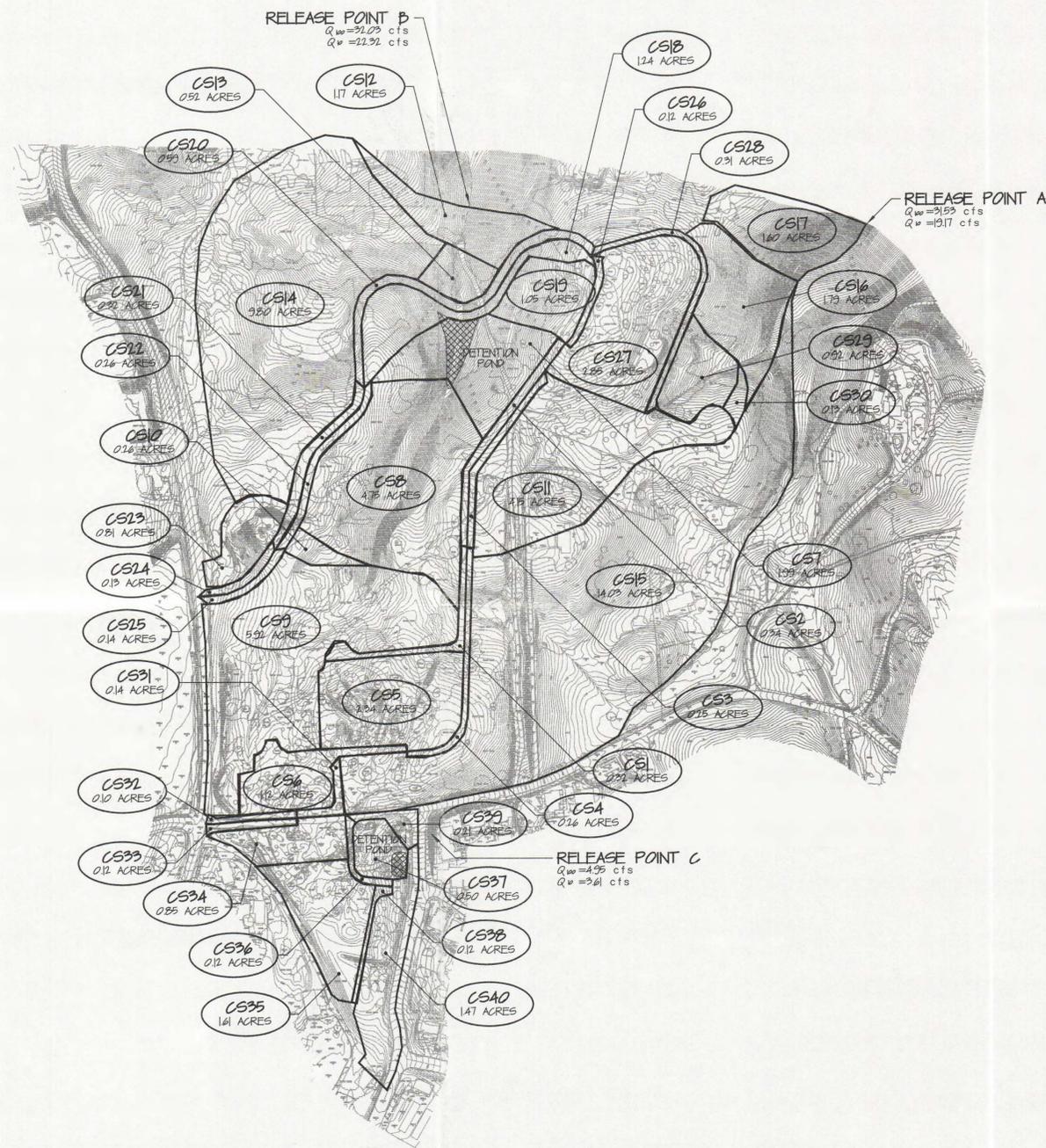
POST DEVELOPMENT DRAINAGE SHED MAP PIEDMONT OAK ESTATES

COUNTY OF EL DORADO, STATE OF CALIFORNIA



POST DEVELOPMENT DRAINAGE SHED MAP PIEDMONT OAK ESTATES

COUNTY OF EL DORADO, STATE OF CALIFORNIA





June 21, 2016

Mr. Jim Davies
854 Diablo Road
Danville, CA 94526

Subject: Review of the Piedmont Oak Estates Revised Site Plan - Per 2012 Noise Analysis

Dear Mr. Davies:

j.c. brennan & associates, Inc. conducted a Revised Environmental Noise Analysis for the Piedmont Oak Estates Project on March 6, 2013 (Revised Environmental Noise Assessment, Piedmont Oaks, El Dorado County California, Prepared for: Mr. Jim Davies, Prepared by: j.c. brennan & associates, Inc., March 6, 2013). The conclusions and recommendations for the March 2013 analysis are as follows:

A summary of the conclusions are as follows:

- 1) *The project will not be exposed to roadway traffic noise levels which exceeds the exterior and interior noise level criteria of 60 dBA Ldn and 45 dBA Ldn, respectively;*
- 2) *The project will not be exposed to noise levels from nearby light industrial and commercial uses which will exceed the noise level standards;*
- 3) *The project will not result in a significant increase in roadway traffic noise levels;*
- 4) *The proposed commercial uses on the project site may result in noise levels which exceed the El Dorado County stationary noise level criteria.*

The following mitigation measures are recommended:

- 1) *When site plans and specific uses are proposed on Lots A and B, the applicants shall provide a noise analysis to ensure compliance with the El Dorado County noise level criteria. The noise analyses shall evaluate any potential loading dock operations, truck circulation, parking lot activity and HVAC noise levels. If additional noise sources are identified, they must also be reviewed.*

ATTACHMENT 15

On June 16, 2016, you forwarded a revised site plan for the Piedmont Oak Estates dated March 2016 (See attached site plan). The revised site plan reflects the following, as compared to the site plan analyzed in March 2013:

- At the recommendation of the Planning Commissioners, you have moved the cluster lot configuration away from the northern boundary;
- Removal of 7 residential cluster lots;
- Replaced with 1 residential lot of 1/4 acre;
- Removed 1 commercial lot and replaced with 6 residential cluster lots;
- Addition of 3 residential cluster lots to the main group of cluster lots;
- Total of 107 residential lots and 1 commercial lot of 10,000 square feet;
- A net reduction of 10,000 square feet of commercial.

Based upon the 2013 noise analysis, the revised site plan does not reflect any additional noise impacts. Consistent with the previous report, when site plans and specific uses are proposed any commercial uses will require additional analyses of noise impacts to ensure compliance with the El Dorado County noise level criteria. The noise analyses shall evaluate any potential loading dock operations, truck circulation, parking lot activity and HVAC noise levels. If additional noise sources are identified, they must also be reviewed.

If you or the El Dorado County planning staff have questions, please contact me at 530-823-0960, or jbrennan@jcbrennanassoc.com.

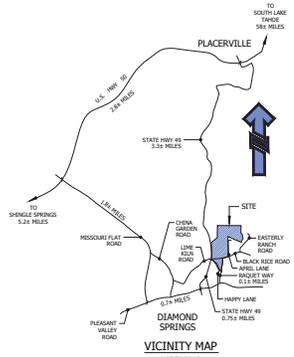
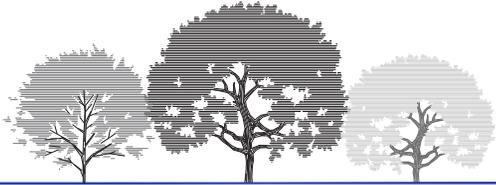
Respectfully submitted,
j.c. brennan & associates, Inc.



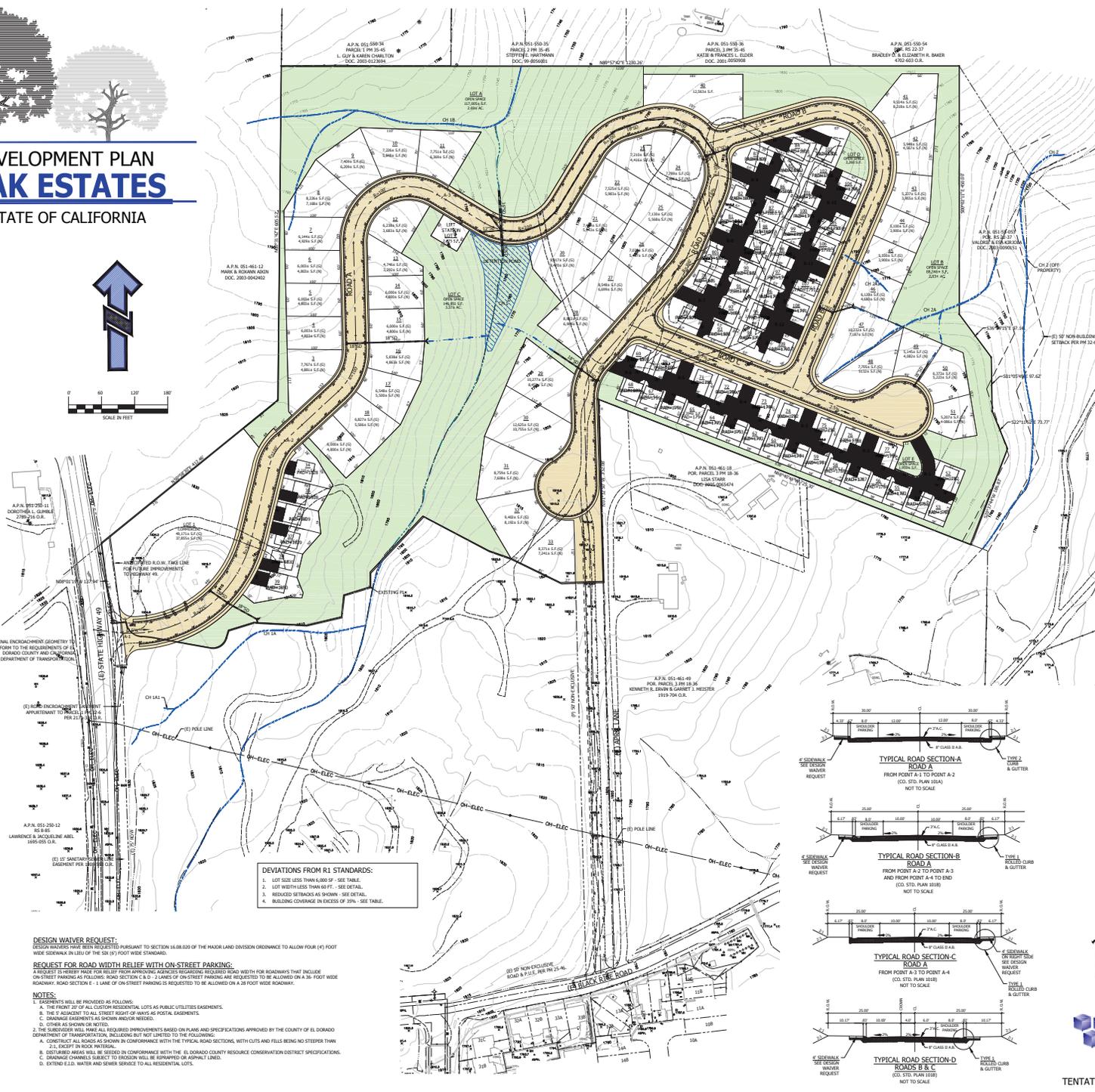
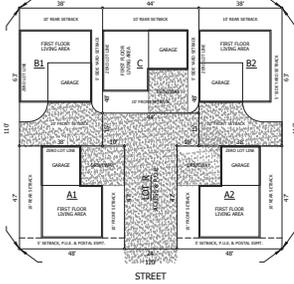
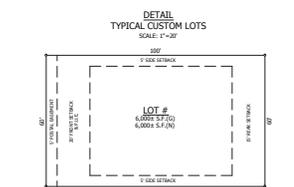
Jim Brennan
President
Member: Institute of Noise Control Engineering
File: 2012-164 Revised Site Plan Review

TENTATIVE MAP & DEVELOPMENT PLAN PIEDMONT OAK ESTATES

COUNTY OF EL DORADO, STATE OF CALIFORNIA



TYPICAL LOT DATA					
LOT	LOT SIZE	RETIERS	LIVING SPACE	BUILDING COVERAGE	IMPERVIOUS SURFACE
A1	2,256 SF	2	1,668 SF	99% SF/44%	1,316 SF/60%
A2	2,256 SF	2	1,668 SF	99% SF/44%	1,316 SF/60%
B1	2,394 SF	2	1,618 SF	1,089 SF/46%	1,739 SF/73%
B2	2,394 SF	2	1,618 SF	1,089 SF/46%	1,739 SF/73%
C	2,112 SF	2	1,508 SF	912 SF/43%	1,272 SF/60%
B	1,788 SF	-	-	-	1,788 SF/100%
TOTAL	13,200 SF	-	5,882 SF/45%	9,318 SF/70%	-



OWNERS OF RECORD:
JIM DAVIES AND TERRI CHANG
CONTACT: JIM DAVIES
854 DORADO ROAD
DANVILLE, CA 95919
TEL: 925-820-8444 FAX: 925-820-7917

NAME OF APPLICANT:
JIM DAVIES AND TERRI CHANG
CONTACT: JIM DAVIES
854 DORADO ROAD
DANVILLE, CA 95919
TEL: 925-820-8444 FAX: 925-820-7917

MAP ORIGINALLY PREPARED BY:
EPCORATING, INC.
CONTACT: PETER THORNTON
PO BOX 304
SUNOL SPRINGS, CA 95862
TEL: 530-672-2316 FAX: 530-455-4722
E-MAIL: peter@epcorating.com

MAP REVISED MARCH 2016 BY:
LEBECK YOUNG ENGINEERING, P.C.
CONTACT: BARBARA "BOBBIE" LEBECK
3420 ROBIN LANE #2
CAMDEN PARK, CA 95842
TEL: 530-671-4000
E-MAIL: bobbi@lebeckyoung.com

NOTE: MARCH 2016 REVISIONS ADDRESS LOTTING ONLY, NO CHANGES TO UTILITIES OR GRADING & DRAINAGE.

SCALE:
1" = 40'

CONTOUR INTERVAL:
5' (FEET)

SOURCE OF TOPOGRAPHY:
AERIAL SURVEY

SECTION, TOWNSHIP & RANGE:
SECTION 19 & 30, T.10 N., R.11 E., M.2N. (BEING PORTIONS OF PMS 25-46, PMS 32-6, PMS 38-129 AND PMS 10-113)

ASSESSOR'S PARCEL NUMBERS:
021-000-040-01, 018-10

PRESENT/PROPOSED ZONING:
021-000-040-01, 018-10
001-550-47-11 RY CHDR1 PD, C PD
001-550-48-10 R1 PD
001-550-51-10 R1 PD

TOTAL AREA:
23.891 ACRES

TOTAL NUMBER OF PARCELS:
43 CUSTOM RESIDENTIAL LOTS
64 CLUSTERED RESIDENTIAL LOTS
1 COMMERCIAL LOTS
1 OPEN SPACE LOTS
12 ACCESS LOTS
1 ROAD LOT
1 UTILITY STATION LOT
127 TOTAL

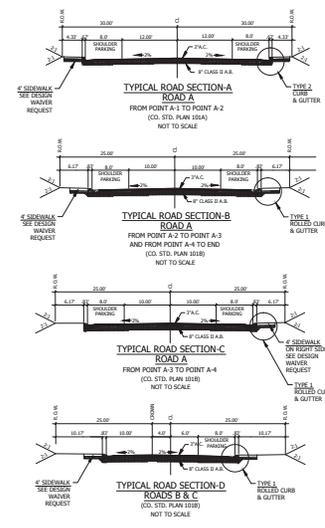
MINIMUM PARCEL AREA:
2,000 SF

WATER SUPPLY:
EL DORADO BRIGADION DISTRICT

SEWAGE DISPOSAL:
EL DORADO BRIGADION DISTRICT

PROPOSED STRUCTURAL FIRE PROTECTION:
DANVILLE SPRINGFIELD DORADO F.P.D.

DATE:
APRIL 24, 2009
REVISED: FEBRUARY 7, 2012
REVISED: FEBRUARY 2013
REVISED: MARCH 2016



PLANNING COMMISSION:
APPROVAL/DATE:

BOARD OF SUPERVISORS:
APPROVAL/DATE:

LEGEND:

- P.U.E. PUBLIC UTILITIES EASEMENT
- CH# CHANNEL NUMBER (SEE REPORT BY SYCAMORE ENVIRONMENTAL CONSULTANTS)
- DETENTION POND
- OPEN SPACE
- PAVED AREAS

LEBECK YOUNG ENGINEERING, INC.
3420 ROBIN LANE, SUITE #2
CAMDEN PARK, CA 95842
Ph. (530) 671-4000 Fax. (530) 671-4000

Revised Environmental Noise Assessment

Piedmont Oaks

El Dorado County, California

Job# 2012-164

Prepared For:

Mr. Jim Davies

854 Diablo Road
Danville, CA 94526

Prepared By:

j.c. brennan & associates, Inc.



Jim Brennan
President
Member, Institute of Noise Control Engineering

March 6, 2013

llj.c. brennan & associates
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INTRODUCTION

The proposed Piedmont Oak Estates project is generally located east of Highway 49 and north Black Rice Lane in the unincorporated area of El Dorado County, known as Diamond Springs, California. The proposed project is a mixed use development with single family large and "patio" lot residential use, and two large commercial lots. Figure 1 shows the project site and an aerial of the project location. Figure 2 shows the project site plan.

Potential noise impacts upon the site include commercial and light industrial uses to the west, and across Highway 49 from the project site, and traffic on Highway 49. The project could result in increased traffic noise along the local roadway system, and some noise from potential commercial uses on the project site.

ACOUSTIC TERMINOLOGY

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

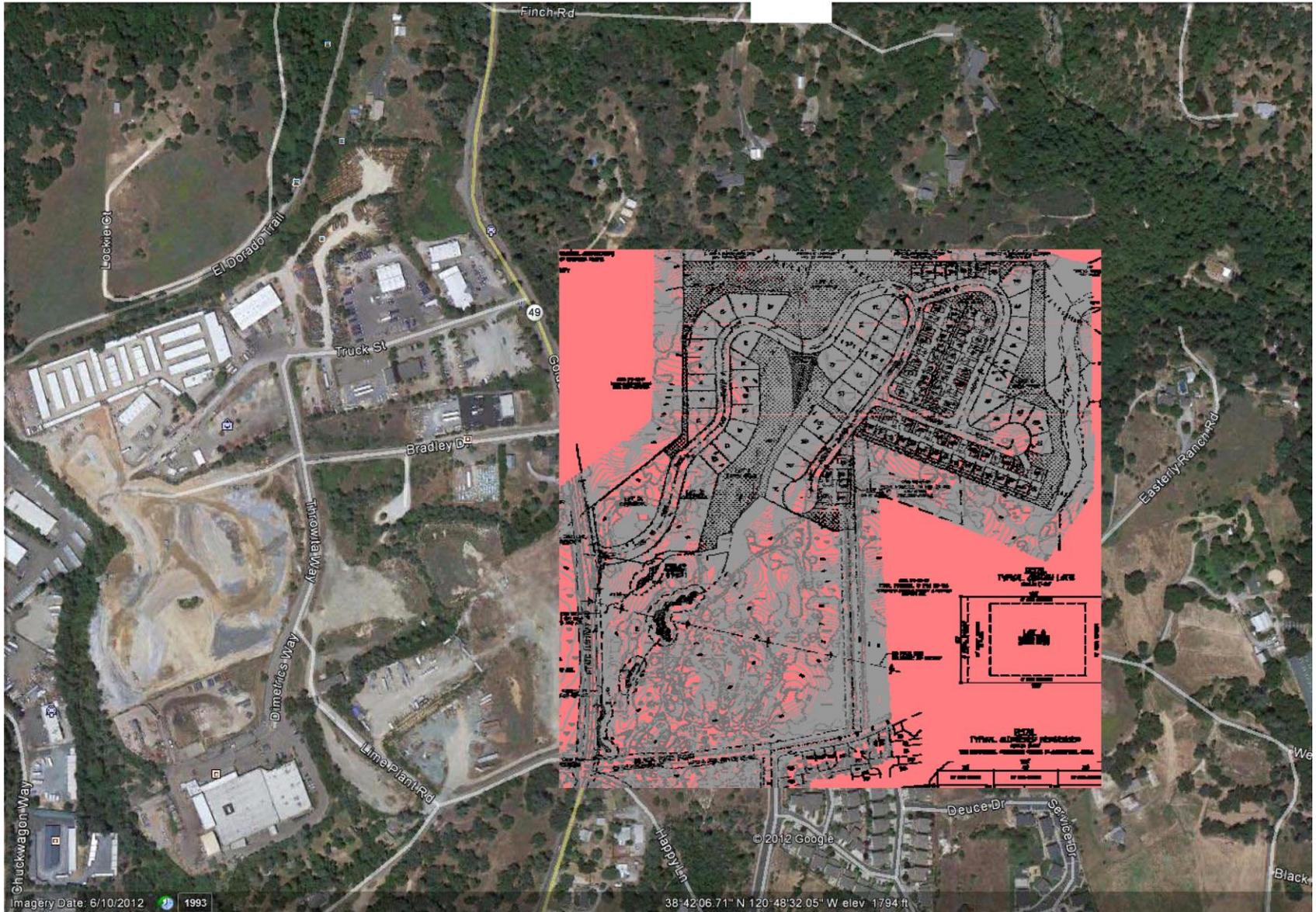
Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise can be highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

Figure 1

Project Site Location and Layout



llj.c. brennan & associates
/VV"/consultants in acoustics

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn} , and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. Appendix A provides a summary of acoustical terms used in this report.

Table 1 Typical Noise Levels		
Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing
Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. October 1998.		

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and

dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

CRITERIA FOR ACCEPTABLE NOISE EXPOSURE

Transportation Noise - (Highway 49)

The El Dorado County General Plan Noise Element establishes exterior and interior noise level standards for a variety of land uses affected by transportation noise sources. The El Dorado County Noise Element noise standards which would be applicable to this project are provided in Table 2. The criteria in Table 2 are applied at the outdoor activity area and interior spaces of residential land uses.

Table 2		
El Dorado County General Plan Noise Element Standards Applicable at Residential Land Uses for Transportation Noise Sources		
Land Use	Outdoor Activity Areas	Interior Spaces
Residential	60 dB Ldn ¹	45 dB Ldn
<p>¹For residential uses with front yards facing the identified noise source, an exterior noise level criterion of 65 dB Ldn shall be applied at the building façade, in addition to a 60 dB Ldn criterion at the outdoor activity area.</p> <p>Source: Table 6-1 of the El Dorado County General Plan.</p>		

Table 6-1 of the El Dorado County Noise Element establishes an exterior noise level criterion of 60 dB Ldn at the outdoor activity area of residential land uses impacted by transportation noise sources. Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn may be allowed provided that available exterior noise level reduction measures have been implemented. In addition, an interior noise level criterion of 45 dB Ldn is applied to all residential land uses.

Non-Transportation Noise - (*Project Generated Noise*)

The El Dorado County General Plan Noise Element also contains goals and standards for non-transportation noise affecting existing noise-sensitive receptors.

Goal 6.5: ACCEPTABLE NOISE LEVELS

Ensure that County residents are not subjected to noise beyond acceptable levels.

Objective 6.5.1 PROTECTION OF NOISE-SENSITIVE DEVELOPMENT

Protect existing noise-sensitive developments (e.g. hospitals, schools, churches and residential) from new uses that would generate noise levels incompatible with those uses and, conversely, discourage noise-sensitive uses from locating near sources of high noise levels.

Policy 6.5.1.7

Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table 6-2 for noise-sensitive uses.

Policy 6.5.1.13

When determining the significance of impacts and appropriate mitigation to reduce those impacts for new development projects, including ministerial development, the following criteria shall be taken into consideration:

- A.** In areas in which ambient noise levels are in accordance with the standards in Table 6-2, increases in ambient noise levels caused by new nontransportation noise sources that exceed 5 dBA shall be considered significant; and
- B.** In areas in which ambient noise levels are not in accordance with the standards in Table 6-2, increases in ambient noise levels caused by new nontransportation noise sources that exceed 3 dBA shall be considered significant.

**Table 3
Noise Level Performance Protection Standards For Noise Sensitive
Land Uses Affected by Non-Transportation Noise Sources**

Noise Level Descriptor	Daytime 7 a.m. - 7 p.m.		Evening 7 p.m. - 10 p.m.		Night 10 p.m. - 7 a.m.	
	Community	Rural	Community	Rural	Community	Rural
Hourly L_{eq} , dB	55	50	50	45	45	40
L_{max} , dB	70	60	60	55	55	50

Each of the noise levels specified above shall be lowered by five dB for simple noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

County can impose noise level standards which are up to 5 dB less than those specified above based upon determination of existing low ambient noise levels in the vicinity of the project site.

In Community areas the exterior noise level standard shall be applied to the property line of the receiving property. In Rural areas the exterior noise level shall be applied at a point 100 feet away from the residence.

Source: Table 6-2 of the El Dorado County General Plan.

The noise standards in Table 3 are divided into daytime hours (7 am to 7 pm), evening hours (7 pm to 10 pm), and nighttime hours (10 pm to 7 am).

EXISTING NOISE ENVIRONMENT

Existing Traffic Noise:

j.c. brennan & associates, Inc., utilizes the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) for the prediction of traffic noise levels. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

On October 12, 2012, j.c. brennan & associates, Inc. conducted short-term noise level measurements and concurrent counts of traffic on Highway 49 on the project site. The purpose of the short-term traffic noise level measurements is to determine the accuracy of the FHWA model in describing the existing traffic noise environment on the project site, while accounting for shielding from existing intervening topography, actual travel speeds, and roadway grade. Noise measurement results were compared to the FHWA model results by entering the observed traffic volume, speed, and distance as inputs to the FHWA model.

Instrumentation used for the measurements was a Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter which was calibrated in the field before use with an LDL CA200 acoustical calibrator. The sound level meter was programmed to collect all noise level

data using the A-weighting filter and slow response. The equipment meets ANSI standards for Type 1 noise measurement equipment. The results of the traffic noise calibration process, which was conducted on the project site, is shown in Table 4. Based upon Table 4, the FHWA Model considerably over-predicted the traffic noise levels at the project site by 4 dBA. The reason was that the roadway grade is considerably below the project site, and the roadway embankment shields roadway traffic. A -3 dBA adjustment will be made to the predicted future traffic noise levels.

Vehicles/Hour.				Speed (mph)	Dist. (Feet)	Measured L _{eq} , dBA	Modeled L _{eq} , dBA*
Site	Autos	Med. Trk.	Hvy.Trk.				
Highway 49							
1	237	12	4	45	100	59.5	63.7
* Acoustically "soft" site assumed							

A complete listing of FHWA Model inputs and results are shown in Appendix B.

j.c. brennan & associates, Inc. utilized the calibrated FHWA traffic noise prediction model and existing traffic volumes contained in the project applicant's traffic study to predict existing traffic noise levels at various locations on the project site, and along the primary roadways. Truck percentages on Highway 49 were obtained from Caltrans. The predicted traffic noise levels and distances to traffic noise contours are shown in Table 5. A complete listing of the FHWA Model inputs and results are provided in Appendix B.

Location	Distance	Predicted Noise Level, Ldn	Distance to Noise Contours ¹		
			70 dB Ldn	65 dB Ldn	60 dB Ldn
Highway 49					
N. of Pleasant Valley @ Project Residential	400'	54 dBA	37 feet	79 feet	272 feet
N. of Pleasant Valley Project Commercial	100'	63 dBA	37 feet	79 feet	272 feet
West of Pleasant Valley	100'	61 dBA	26 feet	56 feet	121 feet
Pleasant Valley					
East of Highway 49	100'	58 dBA	16 feet	35 feet	75 feet
Missouri Flat Road					
W. of Future Diamond Springs Parkway	100'	62 dBA	29 feet	63 feet	135 feet
Diamond Springs Parkway					
Not Applicable	---	NA	NA	NA	NA
¹ Distances are measured from the roadway centerline. Contour distances are generalized and do not account for shielding from intervening buildings. Source: j.c. brennan & associates, Inc., Caltrans, AECOM Traffic Study.					

Existing Industrial and Commercial Noise:

Existing commercial and light industrial uses to the west, and across Highway 49 include a materials recovery facility (MRF) and transfer station, auto body repair facility, mini storage facility, and a small sand and gravel operation. Each of these operations occur during the daytime hours. During the site visit, traffic noise at the residential portion of the project site was the dominant noise source, and noise from the commercial and light industrial uses were not contributing the exiting noise environment.

FUTURE NOISE ENVIRONMENT

Once again the FHWA traffic noise prediction model was used to predict Future (2025) traffic on the project site and on adjacent roadways. The project applicant's traffic study was used as direct inputs to the traffic noise prediction model. Appendix B provides the complete listing of the FHWA Model inputs. Table 6 provides the results of the analysis.

Table 6 Predicted Future (2025) Traffic Noise Levels Piedmont Oaks – El Dorado County, California					
Location	Predicted Ldn		Distance to Noise Contours ¹		
	No Project	W/Project	70 dB Ldn	65 dB Ldn	60 dB Ldn
Highway 49					
N. of Pleasant Valley @ Project Residential	55 dBA	55 dBA	41 feet	87 feet	188 feet
N. of Pleasant Valley Project Commercial	64 dBA*	64 dBA*	41 feet	87 feet	188 feet
West of Pleasant Valley	60 dBA*	60 dBA*	22 feet	47 feet	101 feet
Pleasant Valley					
East of Highway 49	60 dBA*	60 dBA*	22 feet	48 feet	103 feet
Missouri Flat Road					
W. of Future Diamond Springs Parkway	64 dBA*	65 dBA*	45 feet	96 feet	207 feet
Diamond Springs Parkway					
Not Applicable	63 dBA*	64 dBA*	38 feet	81 feet	175 feet
¹ Distances are measured from the roadway centerline. Contour distances are based upon 2025 With Project Scenario. * Indicates the predicted noise level at 100 feet from the roadway centerline. Source: j.c. brennan & associates, Inc., Caltrans, AECOM Traffic Study.					

Based upon the Table 6 data, the residential portion of the project site will comply with the exterior noise level standard of 60 dBA Ldn. The project will not contribute to a significant increase in traffic noise levels along Highway 49, Pleasant Valley Road, Missouri Flat Road and Diamond Springs Parkway.

Based upon a typical exterior to interior noise level reduction of 25 dBA, the interior noise levels at the residential portion of the project site will comply with the 45 dBA interior noise level criterion.

PROJECT NOISE GENERATION AND POTENTIAL NOISE IMPACTS

Noise impacts due to the proposed project were evaluated relative to the applicable El Dorado County noise standards. Noise generated by project-related activities was quantified through the application of accepted noise modeling techniques. Since no specific uses are proposed for the Commercially designated areas of the site, specific mitigation measures cannot be prescribed at this point.

Loading Dock Operations

Loading dock operations typically generate noise levels of approximately 63 dB Leq and 76 dB Lmax at a distance of 50 feet from the loading dock. The primary noise source associated with loading dock areas is typically heavy trucks stopping (air brakes), backing into the loading areas as necessary, and pulling out of the loading docks (revving engines) and fork lifts. The nearest proposed residential uses on the project site are Lots 2 and 18, which are directly adjacent to the commercial Lots A and B. Assuming a typical setback, the predicted noise levels would exceed the daytime noise level criteria of 55 dBA Leq and 70 dBA Lmax. Therefore, noise reduction measures could be warranted. A typical 8-foot tall wall will reduce overall noise levels by approximately 5 to 6 dBA. Therefore, a combination of a 100 foot setback from a loading dock, and an 8-foot tall property line barrier would reduce noise levels to within the daytime noise level criteria.

Parking Lot Circulation Noise Generation

Parking lots can be a source of noise. A typical SEL due to automobile arrivals and departures, including car doors slamming and people conversing is approximately 71 dB, with a maximum level of 63 dB Lmax, at a distance of 50 feet. Assuming a parking lot which has 100 spaces, and they are all utilized in one hour, the parking lot Leq noise level can be determined using the following formula:

$$\text{Peak Hour Leq} = 71 + 10 * \log(100) - 35.6, \text{ dB}$$

71 is the mean sound exposure levels (SEL) for an automobile arrival or departure, and $10 * \log(100)$ is 10 times the logarithm of the number of automobile and departures per hour, and 35.6 is 10 times the logarithm of the number seconds in an hour.

Based upon the calculation above, the predicted noise level due to parking lot activities is 55 dB Leq at a reference distance of 50 feet. the maximum noise level would be 63 dBA Lmax. Therefore, a typical parking lot of 100 spaces could comply with the daytime noise level standards.

Mechanical Equipment Noise

Generally, commercial uses include packaged roof-top HVAC units. A roof-top HVAC unit will provide approximately one ton of cooling per 250 sf. of space. Therefore, the cooling load for

2,000 square feet would be eight tons of cooling. Noise levels for the roof-top HVAC units were calculated based upon typical manufacturer data for packaged HVAC units.

Manufacturer data states that the Air-Conditioning and Refrigeration Institute (ARI) sound power rating for two four ton units would likely be 88 dBA for a modern HVAC unit. The hourly average noise level for the HVAC these units is predicted to be 48 dBA Leq at a distance of 100 feet.

Assuming a 3 foot tall building parapet, noise levels would be predicted to be reduced by 5.0 dBA.

CONCLUSION

A summary of the conclusions are as follows:

- 1) The project will not be exposed to roadway traffic noise levels which exceeds the exterior and interior noise level criteria of 60 dBA Ldn and 45 dBA Ldn, respectively;
- 2) The project will not be exposed to noise levels from nearby light industrial and commercial uses which will exceed the noise level standards;
- 3) The project will not result in a significant increase in roadway traffic noise levels;
- 4) The proposed commercial uses on the project site may result in noise levels which exceed the El Dorado County stationary noise level criteria.

The following mitigation measures are recommended:

- 1) When site plans and specific uses are proposed on Lots A and B, the applicants shall provide a noise analysis to ensure compliance with the El Dorado County noise level criteria. The noise analyses shall evaluate any potential loading dock operations, truck circulation, parking lot activity and HVAC noise levels. If additional noise sources are identified, they must also be reviewed.

Appendix A

Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the AMaximum@ level, which is the highest RMS level.
RT₆₀	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.



Appendix B

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Calibration Worksheet

Project Information:

Job Number: 2012-164
Project Name: Piedmont Oaks
Roadway Tested: Hwy 49
Test Location: _____
Test Date: October 12, 2012

Weather Conditions:

Temperature (Fahrenheit): 60
Relative Humidity: Dry
Wind Speed and Direction: 5-10 from West
Cloud Cover: ptly cloudy

Sound Level Meter:

Sound Level Meter: LDL Model 820
Calibrator: LDL Model CA200
Meter Calibrated: Immediately before and after test
Meter Settings: A-weighted, slow response

Microphone:

Microphone Location: On Project Site
Distance to Centerline (feet): 100
Microphone Height: 5 feet above ground
Intervening Ground (Hard or Soft): **Soft**
Elevation Relative to Road (feet): 10

Roadway Condition:

Pavement Type Asphalt
Pavement Condition: Good
Number of Lanes: 2
Posted Maximum Speed (mph): 45

Test Parameters:

Test Time: 12:00 PM
Test Duration (minutes): 15
Observed Number Automobiles: 237
Observed Number Medium Trucks: 12
Observed Number Heavy Trucks: 4
Observed Average Speed (mph): 45

Model Calibration:

Measured Average Level (L_{eq}): 59.5
Level Predicted by FHWA Model: 63.7

***Difference:* 4.2 dB**

Conclusions:



Appendix B
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2012-164
 Description: Existing Piedmont Oaks
 Ldn/CNEL: Ldn
 Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Highway 49	Project Site Residential	15,860	85		15	7	3	45	400	-3
2	Highway 49	Project Site Commercial	15,860	85		15	7	3	45	100	-3
3	Highway 49	West of Pleasant Valley	11,210	85		15	7	3	25	100	
4	Pleasant Valley	East of Highway 49	10,870	85		15	3	1	25	100	
5	Missouri Flat	W. of Future Diamons Springs Pky	14,500	85		15	3	1	35	100	
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Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2012-164
Description: Existing Piedmont Oaks
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Highway 49	Project Site Residential	51.1	48.3	49.1	54
2	Highway 49	Project Site Commercial	60.2	57.3	58.1	63
3	Highway 49	West of Pleasant Valley	54.3	54.8	58.8	61
4	Pleasant Valley	East of Highway 49	54.4	51.0	53.9	58
5	Missouri Flat	W. of Future Diamons Springs Pky	59.9	54.5	55.0	62



Appendix B
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2012-164
 Description: Existing Piedmont Oaks
 Ldn/CNEL: Ldn
 Hard/Soft: Soft

Segment	Roadway Name	Segment Description	----- Distances to Traffic Noise Contours -----				
			75	70	65	60	55
1	Highway 49	Project Site Residential	17	37	79	171	367
2	Highway 49	Project Site Commercial	17	37	79	171	367
3	Highway 49	West of Pleasant Valley	12	26	56	121	260
4	Pleasant Valley	East of Highway 49	7	16	35	75	161
5	Missouri Flat	W. of Future Diamons Springs Pky	14	29	63	135	292



Appendix B
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2012-164
 Description: Future No Project Piedmont Oaks
 Ldn/CNEL: Ldn
 Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Highway 49	Project Site Residential	17,741	85		15	7	3	45	400	-3
2	Highway 49	Project Site Commercial	17,741	85		15	7	3	45	100	-3
3	Highway 49	West of Pleasant Valley	8,366	85		15	7	3	25	100	
4	Pleasant Valley	East of Highway 49	16,958	85		15	3	1	25	100	
5	Missouri Flat	W. of Future Diamons Springs Pky	25,122	85		15	3	1	35	100	
6	Pleasant Valley Pkwy	W. of Highway 49	19,072	85		15	3	1	35	100	
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Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2012-164
Description: Future No Project Piedmont Oaks
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Highway 49	Project Site Residential	51.6	48.8	49.6	55
2	Highway 49	Project Site Commercial	60.6	57.8	58.6	64
3	Highway 49	West of Pleasant Valley	53.0	53.6	57.5	60
4	Pleasant Valley	East of Highway 49	56.4	52.9	55.8	60
5	Missouri Flat	W. of Future Diamons Springs Pky	62.3	56.9	57.4	64
6	Pleasant Valley Pkwy	W. of Highway 49	61.1	55.7	56.2	63



Appendix B
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2012-164
 Description: Future No Project Piedmont Oaks
 Ldn/CNEL: Ldn
 Hard/Soft: Soft

Segment	Roadway Name	Segment Description	----- Distances to Traffic Noise Contours -----				
			75	70	65	60	55
1	Highway 49	Project Site Residential	18	40	85	184	396
2	Highway 49	Project Site Commercial	18	40	85	184	396
3	Highway 49	West of Pleasant Valley	10	21	46	99	214
4	Pleasant Valley	East of Highway 49	10	22	47	101	217
5	Missouri Flat	W. of Future Diamons Springs Pky	20	42	91	195	421
6	Pleasant Valley Pkwy	W. of Highway 49	16	35	75	163	350



Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2012-164
 Description: Future with Project Piedmont Oaks
 Ldn/CNEL: Ldn
 Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Highway 49	Project Site Residential	18,390	85		15	7	3	45	400	-3
2	Highway 49	Project Site Commercial	18,390	85		15	7	3	45	100	-3
3	Highway 49	West of Pleasant Valley	8,540	85		15	7	3	25	100	
4	Pleasant Valley	East of Highway 49	17,570	85		15	3	1	25	100	
5	Missouri Flat	W. of Future Diamons Springs Pky	27,350	85		15	3	1	35	100	
6	Pleasant Valley Pkwy	W. of Highway 49	21,300	85		15	3	1	35	100	
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Appendix B

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2012-164
Description: Future with Project Piedmont Oaks
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Highway 49	Project Site Residential	51.8	48.9	49.7	55
2	Highway 49	Project Site Commercial	60.8	58.0	58.8	64
3	Highway 49	West of Pleasant Valley	53.1	53.6	57.6	60
4	Pleasant Valley	East of Highway 49	56.5	53.1	56.0	60
5	Missouri Flat	W. of Future Diamons Springs Pky	62.7	57.3	57.7	65
6	Pleasant Valley Pkwy	W. of Highway 49	61.6	56.2	56.6	64



Appendix B
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2012-164
 Description: Future with Project Piedmont Oaks
 Ldn/CNEL: Ldn
 Hard/Soft: Soft

Segment	Roadway Name	Segment Description	----- Distances to Traffic Noise Contours -----				
			75	70	65	60	55
1	Highway 49	Project Site Residential	19	41	87	188	405
2	Highway 49	Project Site Commercial	19	41	87	188	405
3	Highway 49	West of Pleasant Valley	10	22	47	101	217
4	Pleasant Valley	East of Highway 49	10	22	48	103	222
5	Missouri Flat	W. of Future Diamons Springs Pky	21	45	96	207	446
6	Pleasant Valley Pkwy	W. of Highway 49	18	38	81	175	377



**Piedmont Oak Estates
Subdivision
APN:
051-550-40, 47- 48 & 51**

Wildland Fire Safe Plan

Prepared for:

Jim Davies

Prepared by:

**CDS Fire Prevention Planning
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December 6, 2012

FILE COPY

ATTACHMENT 16

Z12-0010 / PD12-0002

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15-1470 2F 228 of 245

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PLACERVILLE DEPARTMENT
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Piedmont Oak Estates

Approved by:

Rob Coombs
**Rob Coombs, Fire Chief
Fire Marshal
Diamond Springs/El Dorado
Fire Protection District**

1-22-13
Date

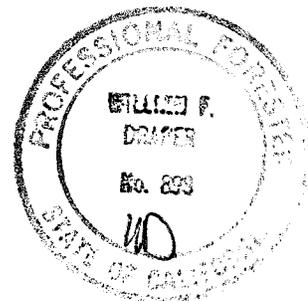
Darin McFarlin
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1-22-13
Date

Prepared by:

William F. Draper
**William F. Draper
RPF #898**

1-22-13
Date



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I. PURPOSE AND SCOPE

Communities are increasingly concerned about wildfire safety. Drought years coupled with flammable vegetation and annual periods of severe fire weather insure the potential for periodic wildfires.

The purpose of this plan is to assess the wildfire hazards and risks of the Piedmont Oak Estates, to identify measures to reduce these hazards and risks and protect the native vegetation. There are light to moderate fuel hazards and gentle topography associated with this proposed project both on and adjacent to the project.

The possibility of large fires occurring when the subdivision is complete will be greatly reduced. However, small wildfires in the open space areas and on the larger lots may occur due to the increase in public uses.

Incorporation of the fire hazard reduction measures into the design and maintenance of the future parcels will reduce the size and intensity of wildfires and help prevent catastrophic fire losses. State and County regulations provide the basic guidelines and requirements for fire safe mitigation measures and defensible space around dwellings. This plan builds on these basic rules and provides additional fire hazard reduction measures customized to the topography and vegetation of the development with special emphases on the interface of homes and wildland fuels.

The scope of the Piedmont Oak Estates Wildland Fire Safe Plan recognizes the extraordinary natural features of the area and designs wildfire safety measures which are meant to compliment and become part of the community design. The Plan contains measures for providing and maintaining defensible space around future homes and open space. Plan implementation measures must be maintained in order to assure adequate wildfire protection.

Homeowners who live in and adjacent to the wildfire environment must take primary responsibility along with the fire services for ensuring their homes have sufficient low ignitability and surrounding fuel reduction treatment. The fire services should become a community partner providing homeowners with technical assistance as well as fire response. For this to succeed it must be shared and implemented equally by homeowners and the fire services.

II. FIRE PLAN LIMITATIONS

The Wildland Fire Safe Plan for Piedmont Oak Estates does not guarantee that wildfire will not threaten, damage or destroy natural resources, homes or endanger residents. However, the full implementation of the mitigation measures will greatly reduce the exposure of homes to potential loss from wildfire and provide defensible space for firefighters and residents as well as protect the native vegetation. Specific items are listed for homeowner's attention to aid in home wildfire safety.

III. PIEDMONT OAK ESTATES WILDLAND FIRE SAFE PLAN

1. PROJECT DESCRIPTION

Piedmont Oak Estates is located east of Highway 49 and north of Black Rice Road. April Lane borders a portion of the subdivision along the east side.. A new road, Road "A", providing access to the new lots is to be constructed approximately .1 mile north of Black Rice Road and intersect Hwy 49 just south of Bradley Drive. Private property borders the project on the north, east and south. Black Rice Road, the existing road, is 18' wide of travel surface with shoulders and the necessary drainage ditches. A secondary road, Road "D", providing access from Road "A" to Black Rice Road will be built providing two way access. This road will be approximately .2 miles long. Road "D" is being proposed as a DOT 101C road (20' plus shoulders). It shall be posted with "No Parking". All roads shall have rolled curbs on one or both sides to allow for better vehicle passage. With open space to the north and south of Black Rice Road, Racquet Way should be connected to provide additional emergency access. This access is needed since the distance from Black Rice Road and Road "A" is less than ¼ mile and therefore not consistent with The Land Design Manual (LSDM). Racquet Way is currently barricaded at Black Rice Road. Interior roads "B" and "C" will connect to "A". No new road will be a dead end road over 800' without second access. Posting of the Emergency Access road is being proposed instead of a locked gate at the end of road "A". Locked gates on access roads are not acceptable to the fire agencies since this would constitute a long dead end road which would violate the County Fire Safe Regulations. The roads will be constructed to El Dorado County Department of Transportation (DOT), Fire Safe and LDMS standards. A design waiver is being proposed by the developer to allow on street parking on one side of 28' roads and parking on both sides of 36' wide roads.

- Road "A" 36' Parking on both sides, rolled curbs and fire hydrant turnouts.
- Road "B" 28' Parking on one side, rolled curb on the opposite side and posted "No Parking" with fire hydrant turnouts.
- Road "C" 28' Parking on one side, rolled curb on the opposite side and posted "No Parking" with fire hydrants turnouts.
- Road "D" 20' Posted "No Parking" rolled curb on both sides and fire hydrant turnouts.
- All driveways/alleys for the clustered units shall be posted "No Parking".

Turnouts at each fire hydrant and clustered parking at the high density housing area should be required. The turnout will conform to fire department and DOT standards. The project shall be served by El Dorado Irrigation District (EID). All fire hydrant locations and spacing shall be determined by Diamond Springs Fire and the Residential Fire Code. There is not any road work anticipated to Black Rice Road beyond the normal encroachment and clearing of a fuel hazard reduction zone. Any private gate shall meet the requirements for Diamond Springs Fire. A fuel hazard reduction zone along the entire length of the roads in and adjacent to the project and around the perimeter of the project will be needed. The project is proposing to split parcels APN: 051-550-40, 47, 48 and 51 totaling 25.89 acres into 43 custom lots, 65 clustered lots, 2 commercial lots, and 8 open space lots. All the lots shall have water provided by EID.

The clustered units will have a common alley between rows of units extending the entire block with driveways serving a 5 unit cluster (normally). Each unit has designated parking. No parking will be allowed in the alleys or driveways serving the clusters.

A tank farm of central propane tanks will serve the cluster units in this development as well as the small custom lots. Due to the setback requirements for propane tanks, the tank farm concept is the only practical way to distribute propane to all the lots with houses. Propane tanks require 10' setback from the property line and 10' from any structure. They also must have a 10' setback from any ignition source such as the electric meter. The commercial lots will have individual tanks. The

preferred system would have underground tanks inside an enclosed area for the tank farm. This area would be landscaped and maintained. Each residence would have its own gas meter.

A Lighting and Landscape District (LLD) shall be formed for the purpose of maintaining the fuel hazard reduction zones along the new roads and open spaces, interior road maintenance, landscaped areas, and signage. Annual maintenance is essential for keeping fire safe conditions viable.

The Diamond Springs/El Dorado Fire Protection District provides all fire and emergency medical services to this project. The California Department of Forestry and Fire Protection (CAL FIRE) has wildland fire responsibility in this state responsibility area (SRA).

2. PROJECT VEGETATION (FUELS)

For wildfire planning purposes the vegetation is classified as follows:

- (a) ground fuels- annual grasses, manzanita, toyon, blackberries and buckeye with downed limbs (Brush)
- (b) overstory- ponderosa pine, gray pine, liveoak with scattered black oaks.

In general, the property gently slopes to the east and west with most slopes less than 10%. Lots 11 to 17 have steeper east facing slopes up to approximately 25%. There is a seasonal drainage running through Open Space Lot F with steep slopes. Fire hazard reduction of the fuels will be extremely important around the house sites and surrounding areas. Ladder fuels in all open spaces need to be eliminated. Sprouting will bring back the problem of ladder fuels. Sprout treatment and pruning of the overstory trees will be needed to reduce the fire hazard. Limbing of trees is important to reduce their susceptibility from a ground fire. Tree spacing on the slopes is a critical component to attaining the required fire safe clearances. A separation of the brush fuels and trees are essential for creating the defensible space around the residence and along the perimeter. CDF guidelines for the 100 foot clearance requirements are attached.

3. PROBLEM STATEMENTS

A. The brush fuels on the slopes will ignite and have a rapid rate of spread.

Fire in the grass and brush fuels on the slopes is the most serious wildfire problem for this project.

B. Risk of fire starts will increase with development.

The greatest risk from fire ignition will be along roads and on large lots as human activity increases in these areas.

C. Provisions must be made to maintain all fuel treatments.

The wildfire protection values of fuel reduction are rapidly lost if not maintained. Continued review of potential ladder fuels to maintain a fire safe environment is very important. Annual maintenance by June 1 of each year is necessary.

D. Typical home design and siting often does not recognize adequate wildfire mitigation measures.

A review of many wildfires has conclusively shown that most home losses occur when: (1) there is inadequate clearing of flammable vegetation around a house, (2) roofs are not fire

resistant, (3) homes are sited in hazardous locations, (4) firebrand ignition points and heat traps are not adequately protected and (5) there is a lack of water for suppression.

4. **GOALS**

- A. Modify the continuity of high hazard vegetation fuels.
- B. Reduce the size and intensity of wildfires.
- C. Ensure defensible space is provided around all structures.
- D. Design fuel treatments to minimize tree removal.
- E. Ensure fuel treatment measures are maintained.
- F. Identify fire safe structural features.
- G. Help homeowners protect their homes from wildfire.

5. **WILDFIRE MITIGATION MEASURES**

Wildfire mitigation measures are designed to accomplish the Goals by providing and maintaining defensible space and treating high hazard fuel areas. Fire hazard severity is reduced through these mitigation measures. The Wildland Fire Safe Plan places emphasis on defensible space around structures and project perimeter.

Fuel hazard reduction zones (FHRZ) of at least 20 feet in width shall be installed around the perimeter of the project and a 10 foot fuel hazard reduction zone along both sides of the roads. All open space perimeters shall have a 20' FHRZ adjacent to backyards. Sidewalks and planted landscaping may be a part of the FHRZ. The propane tank farm shall have a 20' FHRZ around its perimeter and the interior shall be kept free of high weeds and brush. Low fuel ground cover would be a good alternative to bare ground. Any tree canopy over the roads and driveways will have 15' of vertical clearance over the roadways.

All residences shall be required to have NFPA 13D fire sprinkler systems. The project is located in a Moderate Fire Hazard Severity Zone. Implementation of Wildland-Urban Interface Fire Areas Building Standards will be required for the construction of new residences. These standards address roofing, venting, eave enclosure, windows, exterior doors, siding, and decking.

Clearance along the road and around structures is very important and necessary. Fire Safe specifications state that all trees in the fuel treatment zones shall be thinned so the crowns are not touching. Branches on remaining trees shall be pruned up 10 feet as measured on the uphill side of the tree. Brush shall be removed. Grasses shall be kept mowed to a 2 inch stubble annually by June 1. Any tree crown canopy over the driveways shall be pruned at least 15 feet up from the driveway surface.

This zone is in addition to the clearances required by state law. The State required Fire Safe clearances (PRC 4291) shall be implemented around all structures (See CDF Guideline). Clearances may be required at the time of construction by the County.

More restrictive standards may be applied by approving El Dorado County Authorities. Approval of this plan does not by itself guarantee approval of this project.

Mitigation Measures:

- Driveways shall be 12 feet wide. Driveways shall comply with the DOT weight standards.
 - a. Responsibility- homeowner
- All private driveway gates on custom lots shall be inset on the driveway at least 30 feet from the road. Gate opening shall be 2 feet wider than the driveway. Knox lock assess shall be provided to the fire department.
 - a. Responsibility- homeowner
- All homes shall have Class A listed roof covering.
 - a. Responsibility- homeowner
- Decks that are cantilevered over the natural slope shall be enclosed.
 - a. Responsibility- homeowner (See Appendix C for guidelines)
- The houses shall be constructed with exterior wall sheathing that shall be rated noncombustible.
 - a. Responsibility-developer
- Windows and glass doors on the sides of the structure shall have tempered glass and fire resistant frames.
 - a. Responsibility-builder
- Rafter tails shall be enclosed with noncombustible material on the sides of the structure.
 - a. Responsibility-builder
- Gutters and downspouts shall be noncombustible.
 - a. Responsibility-builder
- Attic and floor vents shall be covered with ¼ inch, or less, noncombustible mesh and horizontal to the ground.
 - a. Responsibility-builder

6. OTHER FIRE SAFE REQUIREMENTS

- A. New roadways, turnouts, alleys, and driveway shall be constructed only after consulting with Diamond Springs Fire, DOT and consulting El Dorado County Design Standard for specifications (See Attachment). A design waiver may be requested.
- B. Each new property owner prior to construction shall be required to contact El Dorado County Planning Services/Building Department to have the residential fire sprinklers plans approved. All fire sprinkler systems shall be designed and installed by a licensed contractor.
- C. Any new road and turnout shall be built to DOT standards. Driveways can only serve one parcel except in the clustered units.

- D. 20' fuel hazard reduction zone along the perimeter of the project, both sides of the open spaces, around the tank farm and 10' on both sides of the roads shall be installed and annually maintained by June 1 to the Fire Safe specifications. Tree canopy over the road and driveways shall be cleared up 15'.**
- E. The developer shall file with DOT to get the roads named and have the names posted at the intersections.**
- F. A Lighting and Landscape District (LLD) shall be formed for the specific purpose of maintaining the fuel hazard reduction zones along the roads, perimeter, open space and tank farm annually by June 1 in addition to other specific needs of the Fire District.**
- G. Roads shall be posted "No Parking" on both sides of the road unless a design waiver is approved. Posting on one side as determined in the design waiver.**
- H. If the parking design waiver is granted, turnouts at each fire hydrant location on roads "A", "B", "C", and "D" shall be installed and meet fire department specifications.**
- I. Rolled curbs shall be used on all roads as specified to allow for safe vehicle passage on roads narrower than fire code requirements.**
- J. A Notice of Restriction shall be filed with the final parcel map which stipulates that a Wildland Fire Safe Plan has been prepared and wildfire mitigation measures must be implemented.**
- K. The project shall meet all the Public Resource Codes 4290 as amended (the 1991 SRA Fire Safe Regulations- Article 2 Access, Article 3 Signing, Article 4 Water, Article 5 Fuels), County and Fire Department ordinances.**
- L. The home/property owners are responsible for any future fire safe or building code changes adopted by the State or local authority.**
- M. Only fire rated composite deck material, wood or non-combustibles shall be allowed for decks.**

V. Appendix

APPENDIX A

PIEDMONT OAK ESTATES

FUEL TREATMENT SPECIFICATIONS

For

OAK WOODLAND

Within The Designated Fuel Treatment Areas

1. Leave all live trees where possible.
2. Remove all dead trees.
3. Remove all brush.
4. Prune all live trees of dead branches and green branches 10 feet from the ground as measured on the uphill side of the tree, except no more than 1/3 of the live crown is removed. All slash created by pruning must be disposed of by chipping or hauling off site.
5. Annually by June 1, reduce the grass or weeds to a 2 inch stubble by mowing, chemical treatment, disking or a combination of treatments.
6. Conifers within 30 feet of a house shall be removed. Those pines in the open space shall be isolated with no brush understory within the dripline of the tree.

APPENDIX B

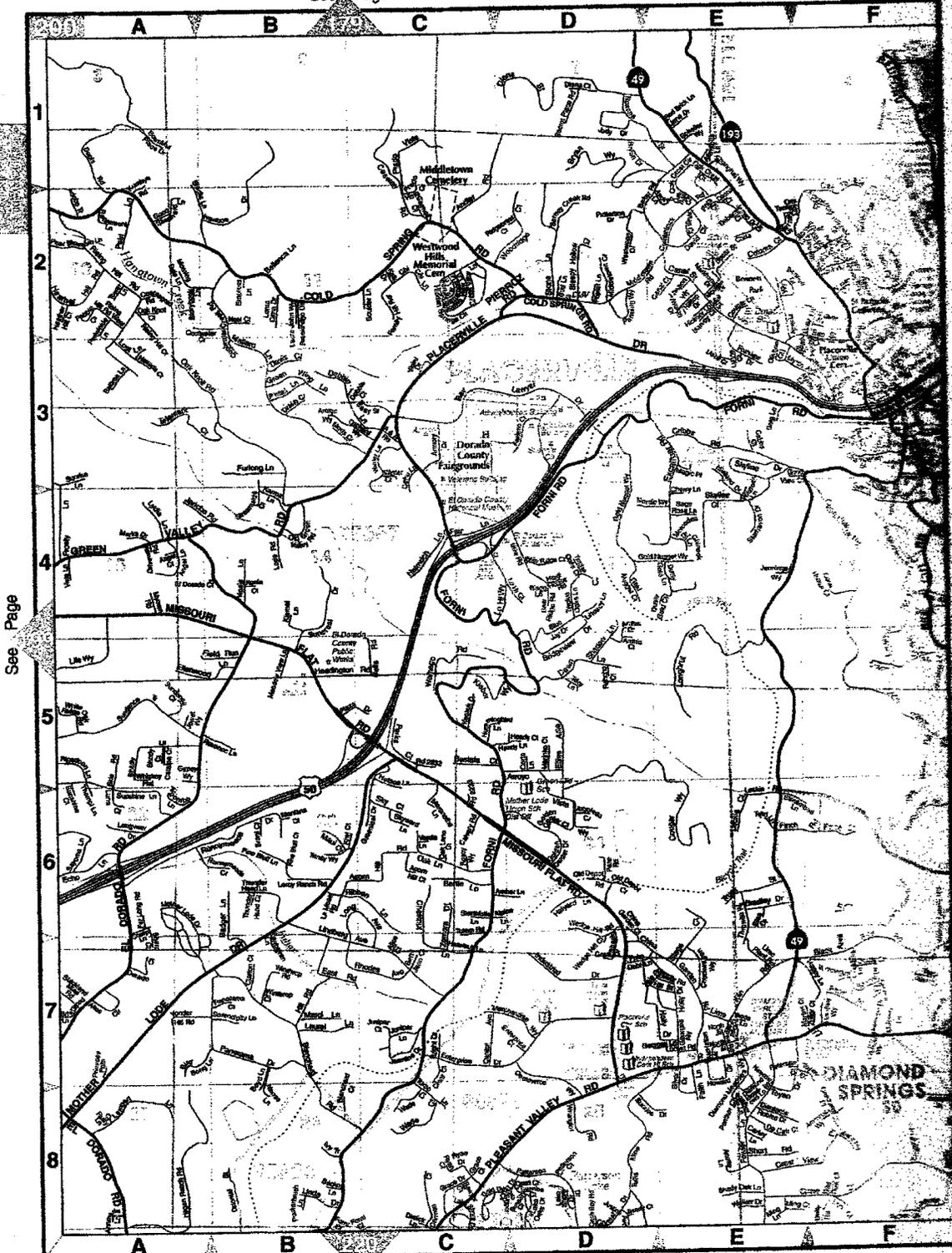
PIEDMONT OAK ESTATES

ENCLOSED DECK GUIDELINES

The purpose of enclosing the underside of decks that are cantilevered out over the natural slope is to help prevent heat traps and fire brands from a wildfire igniting the deck or fuels under the deck.

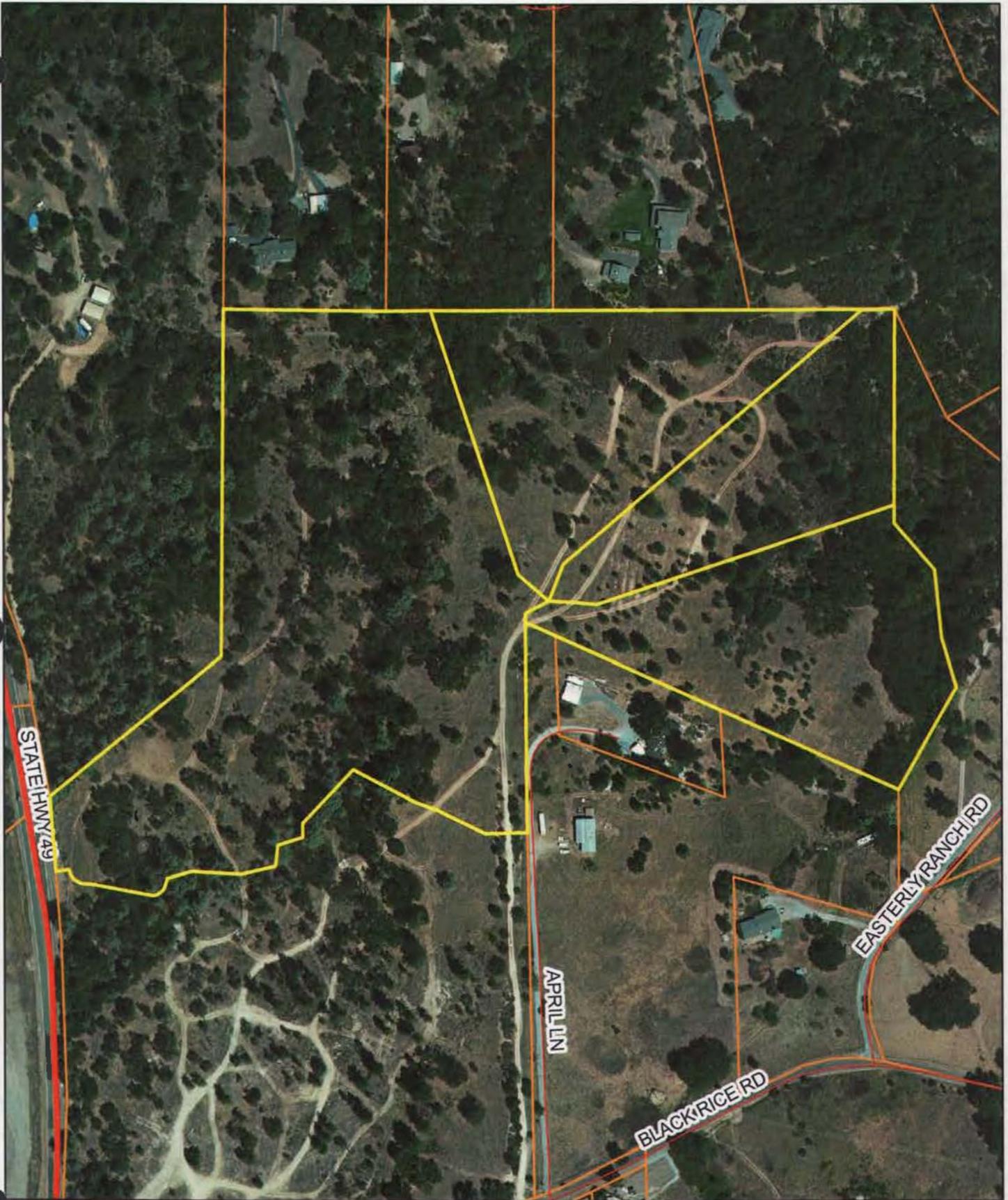
1. Does not apply to decks that are constructed using fire resistant materials such as concrete, steel, stucco etc.
2. Any deck shall not include non fire rated composite deck material.
3. This applies to decks one story or less above natural slopes.
4. Combustible material must not be stored under the deck.

See Page



See Page

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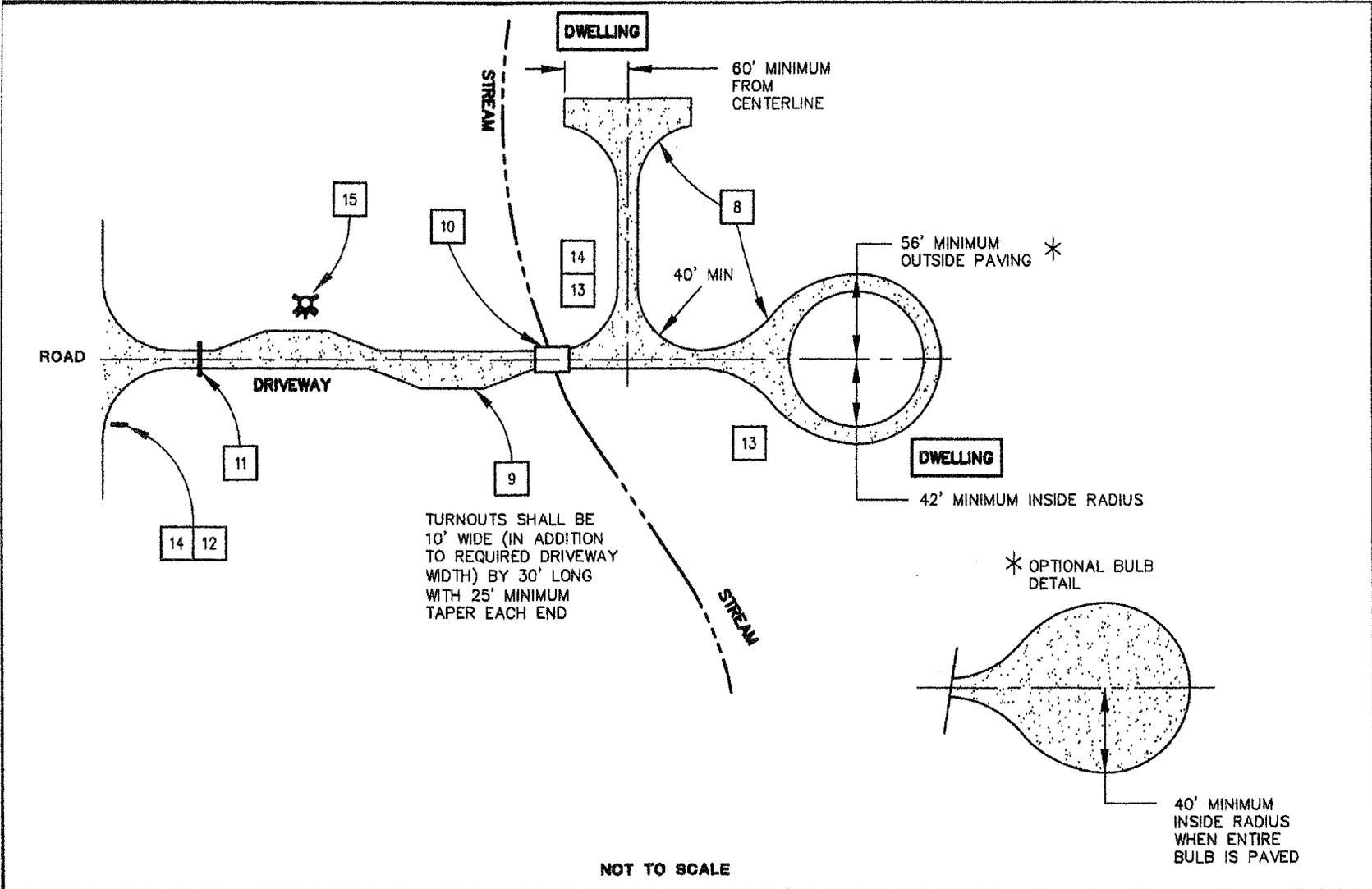


Aerials Copyright 2003,2004,2006,2007 AirPhotoUSA, LLC, All Rights Reserved

Disclaimer: This depiction was compiled from unverified public and private sources and is illustrative only. No representation is made as to accuracy of this information. Parcel boundaries are particularly unreliable. Users make use of this depiction at their own risk.

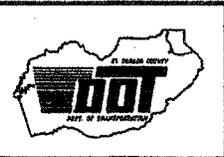


Map displayed in State Plane Coordinate System (NAD 1983 California Zone 2, feet)



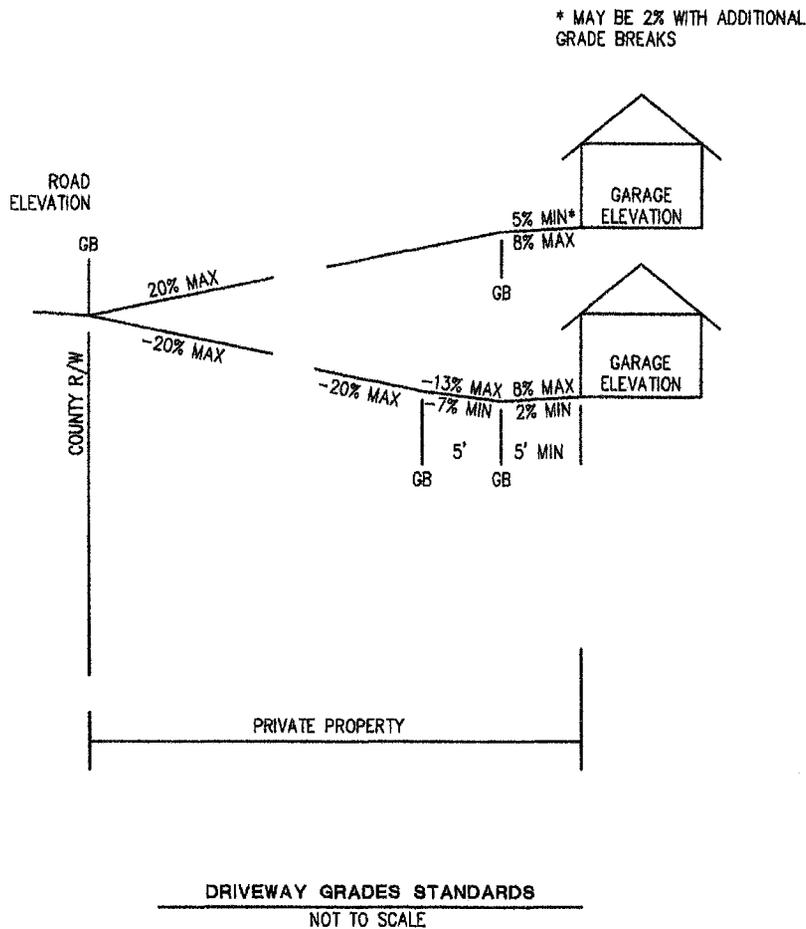
APPROVED BY: _____
 JAMES W. WARE, P.E. NO. C61036 DATE: _____
 INTERIM DIRECTOR, EL DORADO COUNTY DEPARTMENT OF TRANSPORTATION
 BOARD OF SUPERVISOR'S RESOLUTION NO. _____

EL DORADO COUNTY
 DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS



RURAL RESIDENTIAL DRIVEWAY

STD. PLAN
 RS-68
 SHT 1 OF 2



NOTES:

1. MAXIMUM 15% GRADE BREAK BETWEEN DRIVEWAY SECTIONS (I.E. AREAS IN DRIVEWAY WHERE GRADE CHANGES). ADDITIONAL GRADE BREAKS ARE ALLOWED.
2. DRIVEWAY CONNECTING TO A COUNTY MAINTAINED ROAD REQUIRES A COUNTY ISSUED ENCROACHMENT PERMIT. SEE APPLICABLE ENCROACHMENT STANDARD PLAN
3. EACH DRIVEWAY SHALL SERVE NO MORE THAN TWO BUILDINGS WITH NO MORE THAN THREE DWELLING UNITS ON A SINGLE PARCEL, AND ANY NUMBER OF ACCESSORY BUILDINGS.
4. GRADE NOT TO EXCEED 10% (DRIVEWAY GRADE MAY BE UP TO 20% WHEN PAVED). 12' WIDE MINIMUM. CENTERLINE RADIUS ON CURVES IS 50' MINIMUM. VERTICAL CLEARANCE OF 15' MINIMUM.
5. DRIVEWAY SURFACE MUST BE ALL-WEATHER AND SUPPORT 75,000 POUNDS. MINIMUM SURFACING ON 90% COMPACTED SOIL IS 6" AGGREGATE BASE. ALTERNATE SURFACING DESIGNS MAY BE PERMITTED FROM A CIVIL ENGINEER CERTIFYING THE DRIVEWAY WILL SUPPORT A 75,000 POUND LOAD AND BE ALL-WEATHER.
6. DRIVEWAYS AT OR ABOVE 3,000 FT ELEVATION: SHALL INCLUDE PARKING AREAS AS SET FORTH IN THE COUNTY'S ZONING CODE.
7. IF IN THE TAHOE BASIN, DRIVEWAY MUST MEET TRPA REQUIREMENTS, AND THE REQUIREMENTS OF THIS STANDARD PLAN WHERE THEY DO NOT CONFLICT.
8. TURN AROUNDS SHALL BE HAMMERHEAD, "T" OR PEAR SHAPED BULB. TURNAROUND WILL BE NO MORE THAN 50' FROM BUILDINGS WHEN DRIVEWAY EXCEEDS 300' IN LENGTH.
9. DRIVEWAYS EXCEEDING 150' IN LENGTH, BUT LESS THAN 800' IN LENGTH, SHALL PROVIDE A TURNOUT NEAR THE MIDPOINT OF THE DRIVEWAY. WHERE THE DRIVEWAY EXCEEDS 800', TURNOUTS SHALL BE PROVIDED NO MORE THAN 400' APART. TURNOUTS SHALL BE SURFACED SAME AS THE DRIVEWAY.
10. BRIDGES AND CULVERTS SHALL BE DESIGNED BY A CIVIL ENGINEER AND SHALL SUPPORT A MINIMUM LOAD OF 75,000 POUNDS. SIGNS SHALL BE POSTED ON BRIDGE WHICH INDICATE THE WEIGHT LIMIT, WIDTH AND HEIGHT RESTRICTIONS. SINGLE LANE BRIDGES REQUIRE TURNOUTS ON EACH SIDE OF THE BRIDGE.
11. GATES SHALL OPEN TO PROVIDE A CLEAR OPENING, AT LEAST 2 FEET WIDER THAN THE DRIVEWAY AND NOT LESS THAN 14 FEET WIDE. GATE TO BE LOCATED 30' MINIMUM FROM THE ROAD, AND OPEN AWAY FROM THE ROAD.
12. ADDRESSES TO BE 4" HIGH WITH 3/8" STROKE WIDTH LETTERS OR NUMBERS, REFLECTORIZED WITH CONTRASTING BACKGROUND AND VISIBLE FROM BOTH DIRECTIONS. MULTIPLE ADDRESSES SHALL BE ON A SINGLE POST.
13. ALL INTERSECTIONS SERVING DWELLING UNITS SHALL HAVE ADDRESS SIGNS THAT CLEARLY IDENTIFY THE LOCATION OF EACH DWELLING UNIT.
14. ADDRESS SIGNS MUST BE CLEARLY VISIBLE ABOVE SNOW HEIGHT. CONTACT THE APPLICABLE FIRE PROTECTION DISTRICT FOR SPECIFIC HEIGHT REQUIREMENTS.
15. FIRE APPARATUS SPACE SHALL BE LOCATED NEXT TO FIRE HYDRANTS, STANDPIPES OR WATER SUPPLY APERTURES.
16. VARIATIONS TO THIS STANDARD MAY ONLY BE APPROVED BY THE FIRE PROTECTION DISTRICT HAVING JURISDICTION.

APPROVED BY:

JAMES W. WARE, P.E. NO. 061036 DATE:
INTERIM DIRECTOR, EL DORADO COUNTY DEPARTMENT OF TRANSPORTATION

BOARD OF SUPERVISOR'S RESOLUTION NO. _____

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS



RURAL
RESIDENTIAL
DRIVEWAY

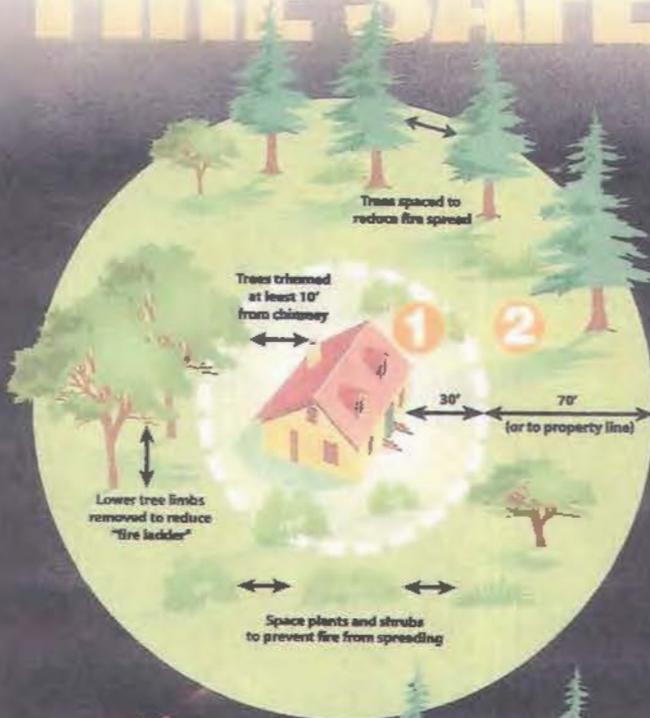
**STD.
PLAN**

RS-68

SHT 2 OF 2

CAL FIRE GUIDELINE

100' DEFENSIBLE SPACE MAKE YOUR HOME FIRE SAFE



or



Consult your local CALFire or local fire department
or Fire Safe Council for technical assistance.
www.fire.ca.gov

Why 100 Feet?

Following these simple steps can dramatically increase the chance of your home surviving a wildfire!

A **Defensible Space** of 100 feet around your home is required by law. The goal is to protect your home while providing a safe area for firefighters.

1. Clear, Clean and Green

— Clearing an area of 30 feet immediately surrounding your home is critical. This area requires the greatest reduction in flammable vegetation.

2. Reduced Fuel Zone

— The fuel reduction zone in the remaining 70 feet (or to property line) will depend on the steepness of your property and the vegetation.

Spacing between plants improves the chance of stopping a wildfire before it destroys your home. You have two options in this area:

1. Create horizontal and vertical spacing between plants. The amount of space will depend on how steep the slope is and the size of the plants.

2. Large trees do not have to be cut and removed as long as all of the plants beneath them are removed. This eliminates a vertical "fire ladder."

When clearing vegetation, use care when operating equipment such as lawnmowers. One small spark may start a fire; a string trimmer is much safer.

Remove all build-up of needles and leaves from your roof and gutters. Keep tree limbs trimmed at least 10 feet from any chimneys and remove dead limbs that hang over your home or garage. The law also requires a screen over your chimney outlet of not more than 1/2 inch mesh.

1. These regulations affect most of the grass, brush, and timber-covered private lands in the State. Some fire department jurisdictions may have additional requirements. Some activities may require permits for tree removal. Also, some activities may require special procedures for: 1) threatened and endangered species, 2) avoiding erosion, and 3) protection of water quality. Check with local officials if in doubt. Current regulations allow an insurance company to require additional clearance. The area to be treated does not extend beyond your property. The State Board of Forestry and Fire Protection has approved Guidelines to assist you in complying with the new law. Contact your local CDF office for more details.



April 2010



NOTICE OF FIRE HAZARD INSPECTION

A representative from CAL FIRE has inspected your property for fire hazards. You are hereby notified to correct the violation(s) indicated below.
Failure to correct these violations may result in a citation and fine.

Occupant:		Physical Address:			Phone #:	
Occupant Not Home: 1 st Attempt: / /	Occupant Not Home: 2 nd Attempt: / /	Refused Inspection: / /	For Questions, Contact Inspector at: () -		Battalion #:	
Roof Construction Combustible/Non-Combustible	Exterior Siding Combustible/Non-Combustible	Window Panes Single Pane/Double Pane	Eaves Enclosed/Unenclosed	Decks or Porches Masonry/Composite/Wood	Location of Structure Flat Ground/Slope/Ridge Top	

- Checked boxes indicate violations.

Recommendations.

Corrected

 - 2 3 A. Remove leaves, needles or other vegetation on roofs, gutters, decks, porches and stairways etc. PRC §4291(a)(6)
 - 2 3 B. Remove all dead trees, shrubs or other plants adjacent to or overhanging buildings. PRC §4291(a)(5)
 - 2 3 C. Remove all dead or dying branches and stems from trees, shrubs or other plants adjacent to or overhanging buildings. PRC §4291(a)(5)
 - 2 3 D. Remove all branches within 10 feet of any stovepipe or chimney outlet. PRC §4291(a)(4)
 - 2 3 E. Remove all dead or dying grass, leaves, needles or other vegetation. PRC §4291(a)(1)
 - 2 3 F. Remove or isolate live flammable ground cover and shrubs (i.e. Bear Clover, Mountain Misery, Juniper etc.). PRC §4291(a)(1)

Reduced Fuel Zone (within 30 - 100 feet of all structures or to property line):

 - 2 3 G. Mow dead or dying grass to a maximum of 4 inches in height. Trimmings may remain on the ground. PRC §4291(a)(1)
 - 2 3 H. Live flammable ground cover less than 18 inches in height (i.e. Mountain Misery, Bear Clover etc.) may remain, but overhanging and adjacent trees must be pruned up to 15 feet. PRC §4291(a)(1)
 - 2 3 I. Reduce fuels in accordance with the Continuous Tree Canopy Standard (see back). PRC §4291(a)(1)
 - 2 3 J. Reduce fuels in accordance with the Horizontal Spacing Standard (see back). PRC §4291(a)(1)

Defensible and Reduced Fuel Zone (within 100 feet of all structures or to property line):

 - 2 3 K. Logs or stumps embedded in the soil must be removed or isolated from structures and other vegetation. PRC §4291(a)(1)
 - 2 3 L. Remove all dead or dying brush, trees and branches within 15 feet of the ground. PRC §4291(a)(1)

Other Requirements:

 - 2 3 M. Clear dead, dying or flammable vegetation within 10 feet around and above propane tanks. CFC §3807.3
 - 2 3 N. Address numbers shall be displayed in contrasting colors (4" Min. Size) and readable from the street or access road. CFC §505.1

Other Recommendations:

 - Cover all chimney or stovepipe openings with a metal screen having openings no larger than 1/2 inch.
 - Clear 10 feet around and 15 feet above fuels (i.e. Woodpiles, lumber, scrap etc.). Move woodpiles as far as possible from structures.
 - Remove flammable materials stored under decks and similar overhangs of structures.
 - Clear vegetation 10 feet from sides and 15 feet above all driveways and turnaround areas.

Comments:

Additional Information on Back

Complete only if occupant contacted

1. Inspector: _____	Date: ___/___/___	A re-inspection will occur on/after: ___/___/___
2. Inspector: _____	Date: ___/___/___	A re-inspection will occur on/after: ___/___/___
3. Inspector: _____	Date: ___/___/___	

Continuous Tree Canopy Standard

To achieve defensible space while keeping a larger stand of trees with a continuous tree canopy, adhere to the guidelines below:

- Prune lower branches of trees to a height of 6 to 15 feet from the top of the vegetation below or 1/3 to 1/2 the tree height for trees under 30 feet, whichever is less.
- Remove all ground fuels greater than four inches in height. Single specimens of trees or other vegetation may be kept if they are well spaced, well pruned and create an overall condition that avoids the spread of fire to other vegetation or to structures.

Horizontal Spacing Standard

- Ideally, grass should not exceed four inches in height. In situations where these fuels are isolated from other fuels or where necessary to stabilize soil, grasses may reach a height of 18 inches.
- Clearance between shrubs should be 4 to 40 feet depending on the slope of the land and size and type of vegetation. Check the chart below for an estimation of clearance distance. Any questions regarding requirements for a specific property should be addressed to your local fire official.

Minimum Horizontal Spacing Guidelines		
Slope	Shrubs, Ground Covers & Other Ornamental Plants Space required between clumps of ground cover, plants, bushes, shrubs, seedlings or sapling trees, etc.	Trees Space required between tree canopies
Flat or gentle slope (0% to 20%)	2 times the height of the plant	10 feet
Moderate slope (20% to 40%)	4 times the height of the plant	20 feet
Steep slope (greater than 40%)	6 times the height of the plant	30 feet

PRC §4291(a) A person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material, shall at all times do all of the following:

(1) Maintain defensible space no greater than 100 feet from each side of the structure, but not beyond the property line unless allowed by state law, local ordinance, or regulation and as provided in paragraph (2). The amount of fuel modification necessary shall take into account the flammability of the structure as affected by building material, building standards, location, and type of vegetation. Fuels shall be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure. This paragraph does not apply to single specimens of trees or other vegetation that are well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a structure or from a structure to other nearby vegetation. The intensity of fuels management may vary within the 100-foot perimeter of the structure, the most intense being within the first 30 feet around the structure. Consistent with fuels management objectives, steps should be taken to minimize erosion.

(2) A greater distance than that required under paragraph (1) may be required by state law, local ordinance, rule, or regulation. Clearance beyond the property line may only be required if the state law, local ordinance, rule, or regulation includes findings that such a clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure. Clearance on adjacent property shall only be conducted following written consent by the adjacent landowner.

(3) An insurance company that insures an occupied dwelling or occupied structure may require a greater distance than that required under paragraph (1) if a fire expert, designated by the director, provides findings that such a clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure. The greater distance may not be beyond the property line unless allowed by state law, local ordinance, rule, or regulation.

(4) Remove that portion of any tree that extends within 10 feet of the outlet of a chimney or stovepipe.

(5) Maintain any tree, shrub, or other plant adjacent to or overhanging a building free of dead or dying wood.

(6) Maintain the roof of a structure free of leaves, needles, or other vegetative materials.

For additional information on how to comply with defensible space clearance requirements, please visit:

WWW.FIRE.CA.GOV