APPENDIX I

Biological Resources Appendices

Special-Status Plant Survey

AECOM
2020 L Street, Suite 400
Sacramento, CA 95811
www.aecom.com

916.414.5800 tel
916.414.5850 fax

September 8, 2017

Lisa Carnahan, Parks Planner
Placer County Public Works and Facilities
Parks Division
11476 C Avenue
Auburn, CA 95603

Subject: Special-Status Plant Surveys for the Hidden Falls Regional Park Trail Expansion Project, Placer County, California

Dear Ms. Carnahan:

Placer County (County) opened the 1,200-acre Hidden Falls Regional Park (HFRP) in 2013. HFRP has approximately 30 miles of trails and two waterfall overlooks, and its popularity and usage has grown rapidly. The HFRP project was described and evaluated in a California Environmental Quality Act (CEQA) Environmental Impact Report (EIR) published by the County in 2009 (EDAW/AECOM 2009) and certified in January 2010.

The County is currently proposing to expand the HFRP trail network onto additional lands owned by the Placer Land Trust (PLT), where the County holds trail easement rights, and also onto land owned by the County. The County will prepare a Subsequent EIR (SEIR) pursuant to the State CEQA Guidelines Section 15162 to describe and evaluate the potential environmental impacts of developing the proposed new trails and access areas (proposed project).

This letter report summarizes the methods and results of the special-status plant surveys conducted in the proposed trail network expansion area (study area), which consists of the proposed trail alignments and their associated access areas. These surveys consisted of focused botanical surveys to identify occurrences of special-status plants that could be disturbed as a result of the construction of proposed trails and access areas.

PROJECT LOCATION AND STUDY AREA DESCRIPTION

The project area, which consists of the HFRP and the proposed trail expansion study area, is in western Placer County, south of the Bear River, approximately 40 miles northeast of Sacramento (Exhibit 1, Appendix A). HFRP, which encompasses approximately 1,200 acres in the Sierra Nevada foothills, consists of the properties formerly known as the Spears Ranch and Didion Ranch. The existing park has two access points, with a parking area at Mears Place and an area for a future parking lot off of Garden Bar Road.

Exhibit 2 (Appendix A) shows the existing regional park, the recently acquired parcel off of Garden Bar Road, and the boundaries of the proposed trail network expansion areas. Most of the proposed trail expansion areas are north and northeast of the existing park; they consist of the areas known as Taylor Ranch (321 acres) and Harvego Bear River Preserve (1,773 acres) and of privately owned parcels with trail easements, such as Liberty Ranch (313 acres). Harvego Bear River Preserve has a working cattle ranch, an extensive network of existing ranch roads, and some trails built by the Placer Land Trust. Liberty Ranch is a cattle ranch currently under Williamson Act contract; it has no existing trails. Trails will also cross the Kotomyan Big Hill Preserve (160 acres) and Outman Big Hill Preserve (80 acres). The Outman Big Hill Preserve has no existing trails. Trail connections are also proposed from a recently acquired parcel off of Garden Bar Road to the western end of the existing park and

from the eastern end of the park to the Taylor Ranch, through parcels either owned or held in easement by Placer County. The U.S. Bureau of Land Management (BLM) owns the area in between the two portions of the Harvego Bear River Preserve and south of the Bear River. As shown on Exhibit 2, the majority of the trail expansion area is between the existing regional park and the Bear River to the north. Access is currently constrained by limited roadways and surrounding private property. Entry to these areas is currently limited to guided tours led by the PLT. The County has trail easement rights within these properties. The lands adjacent to these areas consist of rolling hills and are primarily private lands used for agriculture, grazing, and rural residences.

METHODS

Before conducting the field surveys, AECOM biologists compiled a list of special-status plant species with potential to occur in the study area by performing database searches of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (Inventory) (CNPS 2017), the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2017), and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation project planning tool (USFWS 2017). The Gold Hill U.S. Geological Survey 7.5-minute quadrangle and its eight surrounding quads—Rocklin, Pilot Hill, Auburn, Lake Combie, Wolf, Lincoln, Roseville, and Camp Far West—were included in the database record searches.

AECOM biologists also reviewed previously prepared environmental documents that addressed biological resources at HFRP. These documents included, but are not limited to, the *Administrative Draft Special-Status Plant Report for the Hidden Falls Regional Park Project* (Placer County 2007) and *Results of Special-Status Plants Surveys for the Placer Land Trust Connectivity Study Area* (Placer County 2009).

AECOM biologists Pamela Brillante and Kristin Asmus conducted focused special-status plant surveys on May 15, 30, and 31 and June 1 and 2, 2017. The surveys, which were conducted throughout the study area, covered the proposed trail system alignments plus 50 feet on either side of the trails, stream crossing locations, staging areas, and parking areas (Exhibit 3, Appendix A). The protocols for the special-status plant surveys followed CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009) and U.S. Fish and Wildlife Service's (USFWS) *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000). These protocols involve using systematic field techniques in all habitats in the study area to ensure thorough coverage of potential impact areas. The biologists covered the entire study area, giving special attention to the habitats with greater potential for containing occurrences of target plant species. The biologist visited a reference population of Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeeae*) present within HFRP on May 15, 2017, before the special-status plant surveys were conducted, to confirm that the species was flowering, to familiarize themselves with the distinguishing characteristics and habitat requirements of this species, and to observe typical associated species. All plants encountered during the special-status plant surveys were identified to the highest taxonomic level necessary for a rare plant determination. Nomenclature used follows the *Jepson Manual: Vascular Plants of California* (Jepson Manual) (Baldwin et al. 2012).

RESULTS

Habitats

Placer County is within the California Floristic Province, which is characterized by a Mediterranean climate with cool, wet winters and hot, dry summers. The elevation of the study area ranges from approximately 600 to 1,600 feet above mean sea level. The project area has few roads and includes expansive undeveloped areas within the Coon Creek and Bear River watersheds.

The project area is dominated by blue oak woodlands interspersed with blue oak foothill pine woodland, valley foothill riparian woodland, and mixed chaparral. Annual grasslands are present in the openings of the woodland and chaparral communities.

Blue oak and blue oak foothill pine woodlands are characterized by an open to closed canopy dominated by regularly spaced blue oaks (*Quercus douglasii*). Valley oak (*Q. lobata*), coast live oak (*Q. agrifolia*), interior live oak (*Q. wislizeni*), black oak (*Q. kellogii*), canyon live oak (*Q. chrysolepis*), and foothill pine (*Pinus sabiniana*) are also present. Some pockets of blue oak foothill pine woodland also include ponderosa pine (*Pinus ponderosa*). The shrub layer is typically sparse to intermittent, with scattered toyon (*Heteromeles arbutifolia*), California buckeye (*Aesculus californica*), hoary coffeeberry (*Rhamnus tomentella*), poison oak (*Toxicodendron diversilobum*), and chaparral honeysuckle (*Lonicera interrupta*). The understory is characterized by a cover of nonnative grasses and seasonal forbs, such as bromes (*Bromus diandrus* and *B. hordeaceus*), wild oat (*Avena fatua*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), medusahead (*Taeniatherum caput-medusae*), cut-leaved geranium (*Geranium dissectum*), and Italian thistle (*Carduus pycnocephalus*).

The riparian corridors along Coon Creek and other small tributaries are dominated by valley oak (*Quercus lobata*), red willow (*Salix laevigata*), and white alder (*Alnus rhombifolia*). Understory dominants include patches of Himalayan blackberry (*Rubus discolor*), poison oak, buttonwillow (*Cephalanthus occidentalis*), and Spanish broom (*Spartium junceum*). Locally dominant species include arroyo willow (*Salix lasiolepis*), Fremont cottonwood (*Populus fremontii*), wild grape (*Vitis californicus*), horsetails (*Equisetum telmateia* ssp. *braunii*), skunkbrush (*Rhus trilobata*), rushes (*Juncus* sp.), and sedges (*Carex* sp.). Deer grass (*Muhlenbergia rigens*) and California melic (*Melica californica*) are the dominant native perennial grasses.

Mixed chaparral habitat within the project area is limited. Dominant species found within this habitat type include poison oak, chaparral honeysuckle, holly-leaf redberry, toyon, buckbrush (*Ceanothus cuneatus*), and coffeeberries (*Rhamnus tomentella* ssp. *tomentella*). Other species observed include gooseberries (*Ribes* sp.) and serviceberries (*Amelanchier* sp.). Common herbaceous species include Chinese-houses (*Collinsia heterophylla*), foothill collinsia (*Collinsia sparsiflora* var. *collina*), sessile wood-rush (*Luzula comosa* var. *subsessilis*), Henderson's shooting-star (*Dodecatheon hendersonii*), and California melic. A complete list of plant species observed during the surveys is provided in Appendix A.

Special-Status Plant Species

Searches of the CNPS and CNDDB databases identified 22 special-status plant species occurring in the vicinity of the study area, and one species not reported in the database queries was documented within the Spears Ranch portion of the HFRP in a 2007 rare plant survey (Placer County 2007). The following 20 species were identified as having no potential to occur in the study area because they are either restricted to soils and habitat types that do not exist within the study area or they are only found at elevations lower than those found in the study area:

- Stebbin's morning glory (*Calystegia stebbinsii*), chapparal sedge (*Carex xerophila*), Pine Hill ceanothus (*Ceanothus roderickii*), El Dorado bedstraw (*Galium californicum* ssp*. sierrae*), Red Hills soap root (*Chlorogalum grandiflorum*), and Layne's ragwort (*Packera layneae*) are restricted to gabrro or serpentine soils, which do not occur in the study area.

- Bisbee Peak rush-rose (*Crocanthemum suffrutescens*) and El Dorado County mule ears (*Wyethia reticulata*) are restricted to gabbro soils, which do not occur in the study area, and are not known to occur in Placer County.

- Jepson's onion (*Allium jepsonii*) and big-scale balsamroot (*Balsamorhiza macrolepis*) are found on serpentine soils, which do not occur in the study area.

- Dwarf downingia (*Downingia pusilla*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Red Bluff dwarf rush (*J. leiospermus* var. *leiospermus*), legenere (*Legenere limosa*), and pincushion navarretia (*Navarretia myersii* spp. *myersii*) occur in vernal pool habitats, which do not occur in the study area.

- Hispid bird's-beak (*Chloropyron molle* ssp. *hispidum)* is known to occur in Placer County only in damp alkaline meadows at an elevation of about 150 feet. These conditions are not present in the study area.

- Butte County fritillary (*Fritillaria eastwoodiae*) occurs primarily in the northern foothills of the Sierra Nevada and Cascade Range. The southernmost known occurrences are found north of the project area in Yuba County, where they occur at higher elevations in ponderosa pine forest.

- Dubious pea (*Lathyrus sulphureus* var. *argillaceus*) is not known to occur in Placer County. A single CNDDB occurrence in Placer County is not confirmed, has no record date, and the occurrence rank is unknown. Variety *argillaceu*s is not recognized in the Jepson Manual, and the elevation range for species *Lathyrus sulphureus* is outside the elevation range of the study area.

- Brazilian watermeal (*Wolffia brasiliensis*) is not known to occur above elevations of 330 feet, which is outside of the elevation range of the study area.

Three special-status plant species have the potential to occur within the study area and are the focus of these targeted surveys; Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeeae*, Sierra monardella (*Monardella candicans*), and oval-leaved viburnum (*Viburnum ellipticum*). Table 1 summarizes the regulatory status, habitat and blooming period, and potential for occurrence in the project area for Brandegee's clarkia, Sierra monardella, and oval-leaved viburnum. Habitat and elevation range information for these species was obtained from the CNPS Inventory and the Jepson Manual.

Brandegee's Clarkia

Brandegee's clarkia, a member of the evening primrose family, is a CNPS List 1B plant. Brandegee's clarkia is found in the central Sierra Nevada foothills between 804 and 2,904 feet above mean sea level in chaparral and woodland habitats, often on road-cuts. It is an annual herb with rose-pink flowers that blooms from May to July. The feature that distinguishes this subspecies from the other two subspecies of *Clarkia biloba* is the length of the notch at the tip of the petal. In Brandegee's clarkia, the notch is less than one-fifth of the petal length.

Table 1. Special-Status Plants with Potential to Occur in the Project Area

Species	Status [1]			Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW	CRPR		
Plants					
Brandegee's clarkia *Clarkia biloba* ssp. *brandegeeae*	—	—	4.2	Chaparral, cismontane woodland; often in road cuts; 700 to 3,000 feet elevation; blooms May to July	**Known to occur:** This species was identified in the project area during the focused botanical surveys, but was not detected in the study area.
Sierra monardella *Monardella candicans*	—	—	4	— Chaparral, lower montaine coniferous forest, cismontane, woodland, 500 to 2,600 feet elevation, blooms April to July	**Known to occur:** This species was identified in the project area during the focused botanical surveys, but was not detected in the study area.
Oval-leaved viburnum *Viburnum ellipticum*	—	—	2	Chaparral, cismontane woodland or lower montane coniferous forest; 600 to 4,000 feet elevation; blooms May to June	**Could occur:** The majority of the survey area is below the elevation range of this species where it occurs in the central foothills, but associated species and potential habitat do occur on the site; not found during focused special-status plant surveys.

Sources: Baldwin et al. 2012; CDFW 2017; CNPS 2017.
Notes:
[1] California Native Plant Society's California Rare Plant Ranks
1A = Plants presumed extinct in California
1B = Plants rare, threatened, or endangered in California and elsewhere
2 = Plants rare, threatened, or endangered in California, but more common elsewhere
3 = Plants about which we need more information - A review list
4 = Plants of Limited Distribution - A watch list

Threat Ranks:
0.1 = Seriously endangered in California (>80% of occurrences are threatened and/or high degree and immediacy of threat)
0.2 = Fairly endangered in California (20%–80% of occurrences are threatened)
0.3 = Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
— = no status
CRPR = California Rare Plant Ranks

Reference populations of Brandegee's clarkia known to occur in the HFRP to the east of the corridor study area were visited on the second day of the survey to ensure that the species was blooming and identifiable. It was confirmed that the species had been blooming over the previous 2 weeks and would have been blooming during the both survey dates. Populations of Brandegee's clarkia were abundantly distributed throughout the HFRP on north-facing slopes in openings in the black oak woodlands and along recently created trails. Brandegee's clarkia was most typically found on steep, north-facing slopes in the shade and in openings of black oak and foothill pine oak woodland, where common associate species include hedgehog dogtail (*Cynosorus echinatus*), field hedge parsley (*Torilis arvensis*), poison oak, blue wild rye (*Elymus glaucus*), and white globe lily (*Calochortus albus*).

No occurrences of Brandegee's clarkia were encountered within the study area during the special-status plant surveys.

Sierra Monardella

Sierra monardella, a member of the mint family, is a CNPS List 4 plant. It is a small, annual plant with half-inch heads of white flowers that bloom from April to July. Sierra monardella grows on sandy or gravelly soils in oak woodland, chaparral, and ponderosa pine forest throughout the Sierra Nevada foothills.

A known occurrence of Sierra monardella was observed on the second day of the survey within HFRP in openings of foothill pine-interior live oak woodland on the north side of Coon Creek, outside of the study area. Populations of Sierra monardella in this portion of the park are small, consisting of tens of individuals occurring in moderately dense annual grassland on a low-gradient, southwest-facing terrace above the creek. Associate species included species typical of the annual grassland and surrounding woodlands such as bromes , lupines (*Lupinus* sp.), smooth cat's ears (*Hypochaeris glabra*), four spot (*Clarkia purpurea*), Ithuriel's spear (*Triteleia laxa*), needleleaf navarretia (*Navarretia intertexta*), and Elegant harvest brodiaea (*Brodiaea elegans*).

No occurrences of Sierra monardella were encountered within the study area during the special-status plant survey.

Oval-leaved viburnum

Oval-leaved viburnum, a member of the honeysuckle family, is a CNPS List 2 species. It is a small- to medium-sized shrub with flat-topped, 1-inch wide, white inflorescences that bloom from May to June. Oval-leaved viburnum grows in chaparral and ponderosa pine forest, generally on north-facing slopes in the northern and central Sierra Nevada foothills and in northwestern California. Where this species occurs in the Sierra Nevada foothills, oval-leaved viburnum is typically found at higher elevations (1,100 to 3,650 feet) than at the study area. Associated species and potential habitat occur in the study area; however, the majority of the project area is below the elevation range of this species, and no populations of oval-leaved viburnum are known to occur in HFRP.

No occurrences of oval-leaved viburnum were encountered within the study area during the special-status plant surveys. The surveys were conducted when oval-leaved viburnum would have been blooming and apparent if it were present.

CONCLUSION

No populations of special-status plant species were identified during the special-status plant surveys conducted within the study area. Brandegee's clarkia and Sierra monardella were observed within the Hidden Falls Regional Park during the special-status plant surveys, but these species were not detected within or near the study area.

If you have any questions or require additional information, please do not hesitate to call us at (916) 414-5800.

Sincerely,

Kristin Asmus
Senior Botanist

cc: Susan Sanders, AECOM
Petra Unger, AECOM
Ken Koch, AECOM

Attachments:
Appendix A: Exhibits
Appendix B: Plant Species Observed Within the Surveyed Area

REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson Manual: Vascular Plants of California*. 2d ed. Berkeley, CA: University of California Press.

CDFG (California Department of Fish and Game). 2009. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. Sacramento, CA: State of California, California Natural Resources Agency, November 24.

CDFW (California Department of Fish and Wildlife). 2017. RareFind 5 (Commercial Version): An Internet Application for the Use of the California Department of Fish and Wildlife's California Natural Diversity Database. Sacramento, CA: California Department of Fish and Wildlife, Biogeographic Data Branch. Accessed August 2017. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.

CNPS (California Native Plant Society). 2017. Inventory of Rare and Endangered Plants (online ed., v8-03 0.39). Sacramento, CA: CNPS, Rare Plant Program. Accessed August 2017. http://www.rareplants.cnps.org.

EDAW/AECOM. 2009. *Final Environmental Impact Report, Hidden Falls Regional Park Project*. State Clearinghouse No. 2007062084. Prepared for Placer County Department of Facility Services, Auburn, CA. Sacramento, CA: EDAW/AECOM.

Placer County. 2007. *Administrative Draft Special-Status Plant Report for the Hidden Falls Regional Park Project*. Auburn, CA: Placer County.

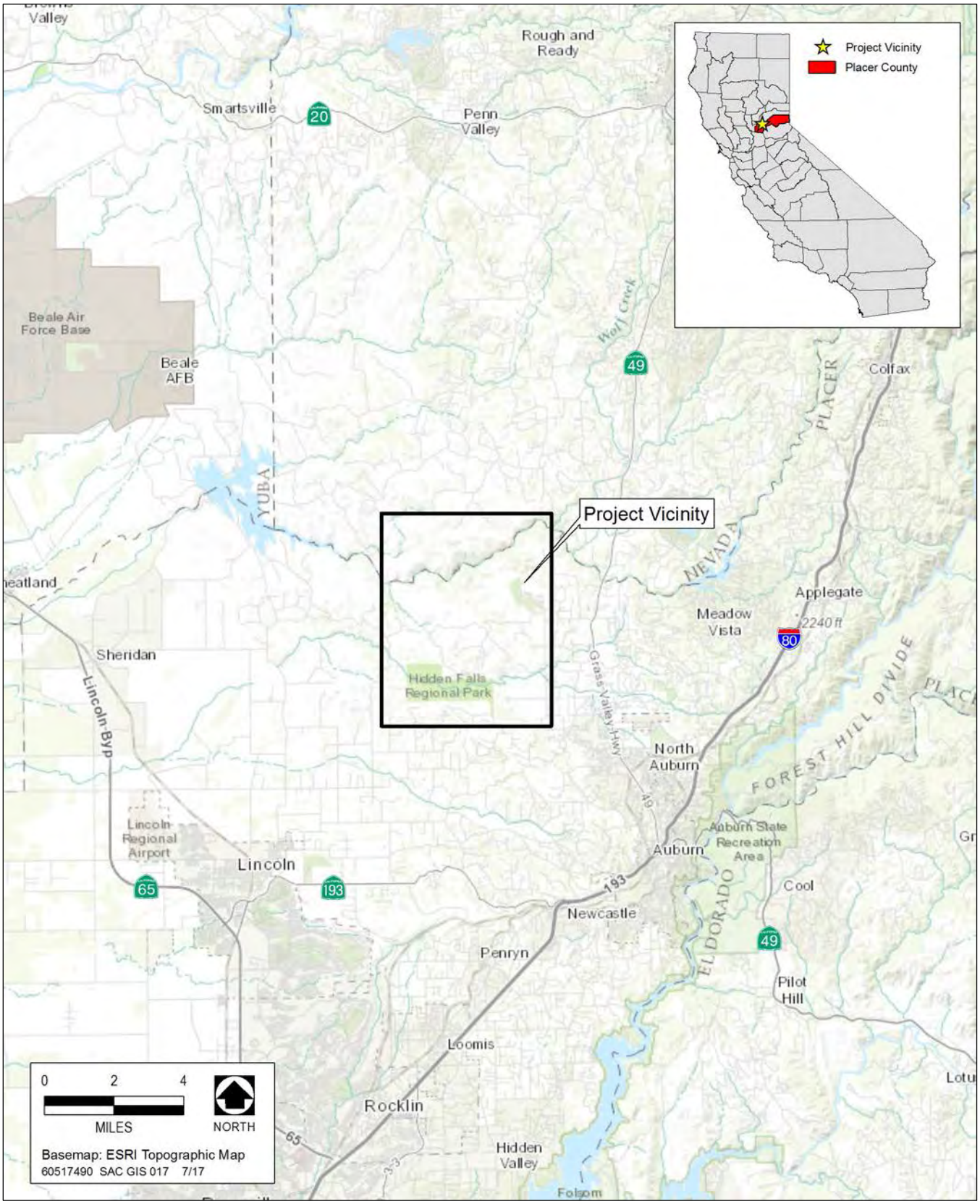
Placer County. 2009. *Results of Special-Status Plants Surveys for the Placer Land Trust Connectivity Study Area*. Auburn, CA: Placer County.

USFWS (U.S. Fish and Wildlife Service). 2000. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants.*

USFWS (U.S. Fish and Wildlife Service). 2017. Information for Planning and Consultation. Accessed May 10, 2017. http://ecos.fws.gov/ipac/.

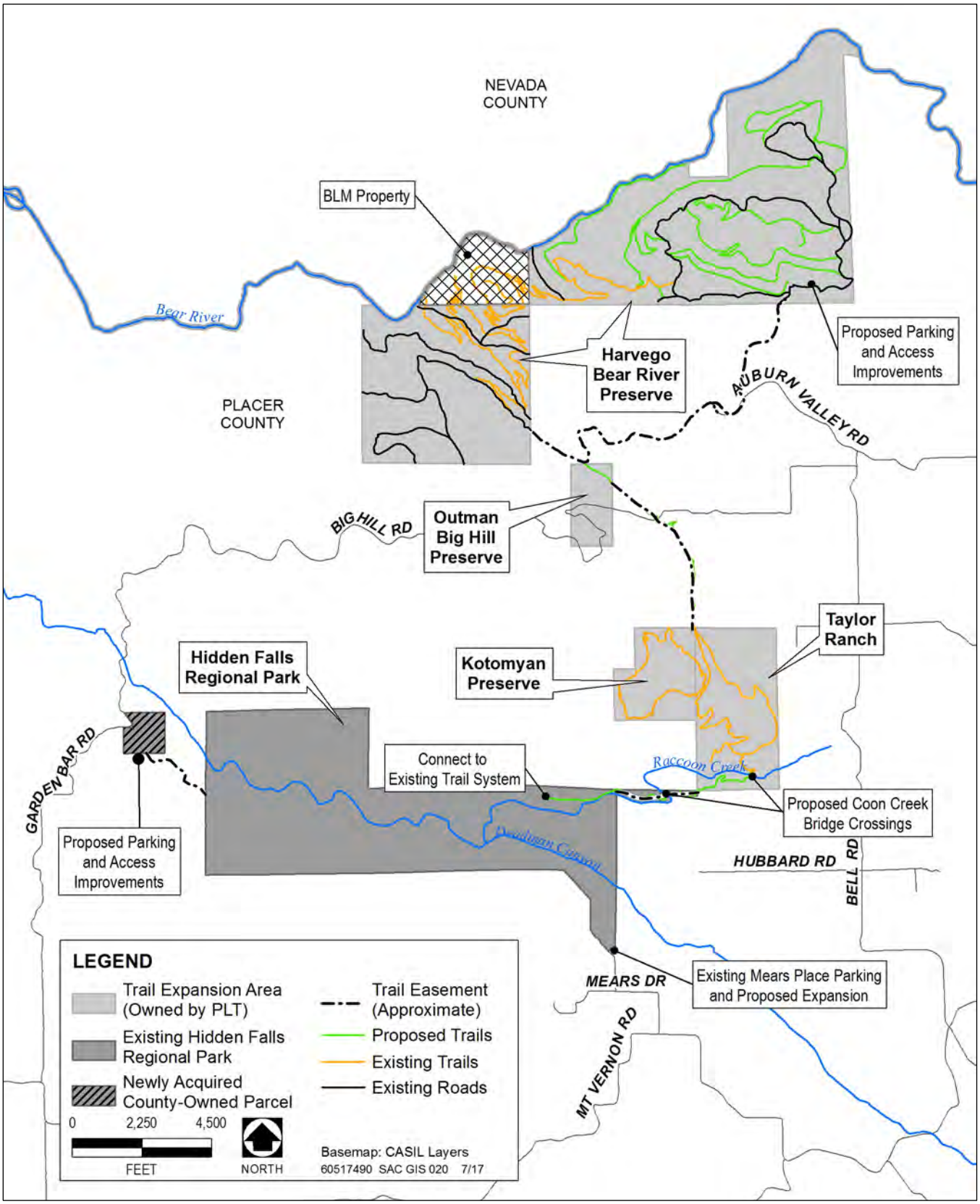
APPENDIX A

Exhibits



Source: AECOM 2017.

Exhibit 1. Project Area and Vicinity



Source: AECOM 2017.

Exhibit 2. Project Map

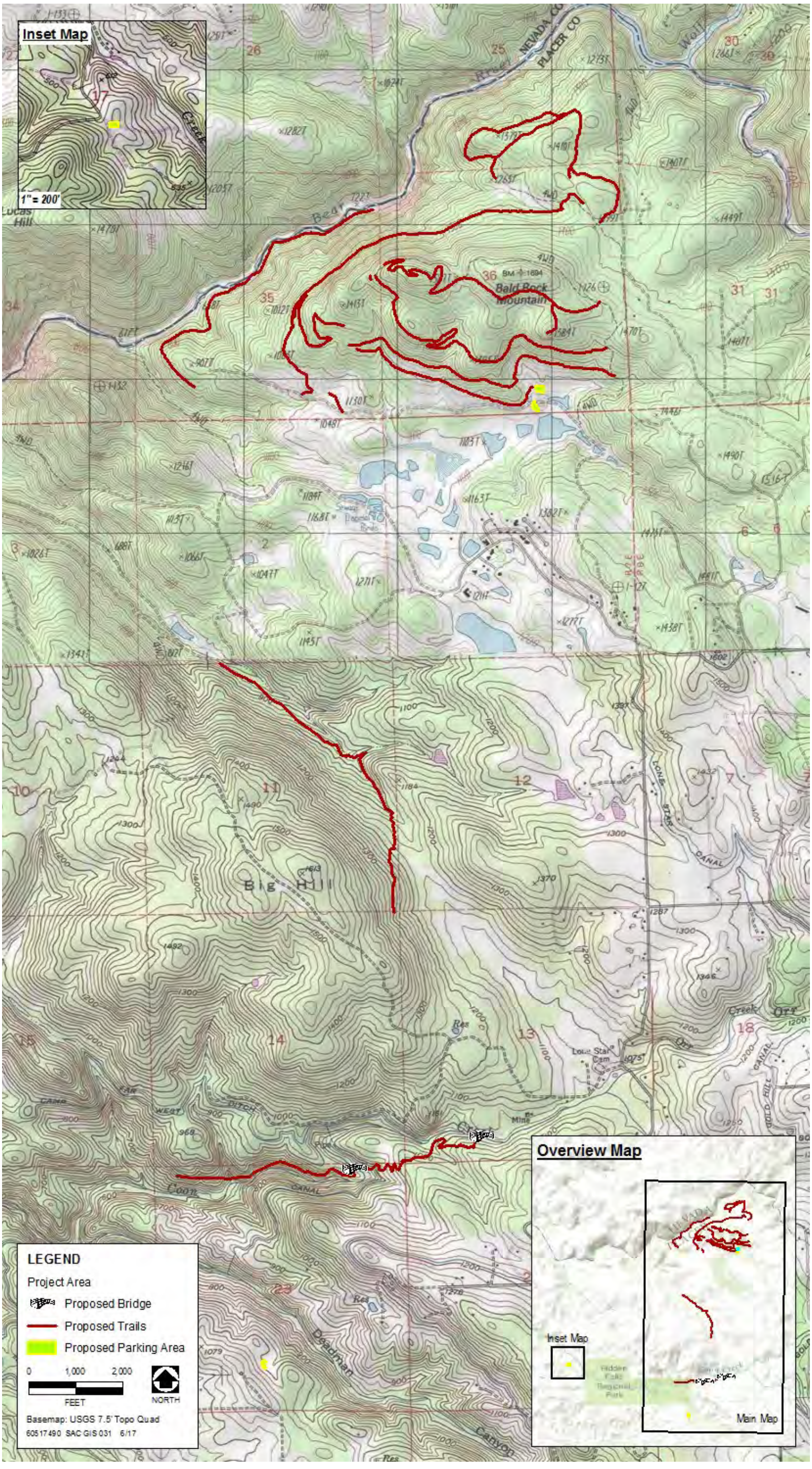


Exhibit 3. Study Area Locations

APPENDIX B

Plant Species Observed

Scientific Name	Common Name
Achillea millefolium var. *millefolium*	white yarrow
Achyrachaena mollis	blow wives
Acmispon parviflorus	hill lotus
Adiantum jordanii	California maidenhair fern
Aesculus californica	California buckeye
Aira caryophyllea	silver hairgrass
Allium peninsulare	Mexicali onion
Alnus rhombifolia	white alder
Amsinckia menziesii var. *intermedia*	fiddleneck
Artemisia douglasiana	mugwort
Asclepias cordifolia	purple milkweed
Avena barbata	slender wild oat
Avena fatua	wild oat
Baccharis pilularis	coyote brush
Bellardia trixago	Mediterranean linseed
Briza minor	little quaking grass
Brodiaea elegans ssp. *elegans*	elegant harvest brodiaea
Bromus carinatus var. *carinatus*	California brome
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft chess
Bromus laevipes	woodland brome
Bromus madritensis var. *rubens*	foxtail chess
Calochortus albus	white globelily
Calochortus superbus	yellow Mariposa lily
Calycadenia multiglandulosa	white rosin weed
Calystegia occidentalis	western morning-glory
Carduus pycnocephalus	Italian thistle
Castilleja affinis ssp. *Affinis*	paintbrush
Ceanothus integerrimus	deer brush
Ceanothus leucodermis	chapparal whitethorn
Centaurea melitensis	Maltese star-thistle
Centaurea solstitialis	yellow star-thistle
Cephalanthus occidentalis	buttonbush
Cercis occidentalis	Western redbud
Chlorogalum pomeridianum var. pomeridianum	common soap plant
Clarkia purpurea ssp. *purpurea*	purple clarkia
Clarkia purpurea ssp. *quadrivulnera*	four-spot
Clarkia unguiculata	elegant clarkia
Claytonia perfoliata	miner's lettuce
Clematis lasiantha	virgin’s bower
Croton setiger	turkey-mullein
Cynodon dactylon	Bermuda grass
Cynosurus echinatus	hedgehog dogtail
Cyperus eragrostis	umbrella-sedge
Dactylis glomerata	orchard grass
Daucus pusillus	rattlesnake weed
Dichelostemma capitatum	blue dicks
Dichelostemma volubile	snake lily

Scientific Name	Common Name
Dudleya cymosa ssp. *cymosa*	spreading live-forever
Eleocharis macrostachya	creeping spikerush
Elymus caput-medusae	medusa head
Elymus glaucus	blue wild rye
Erigeron canadensis	horseweed
Eriophyllum lanatum	woolly sunflower
Erodium botrys	broadleaf filaree
Erodium cicutarium	red-stem filaree
Eschscholzia caespitosa	foothill poppy
Eschscholzia californica	California poppy
Festuca bromoides	brome fescue
Festuca myuros	rattail sixweeks grass
Festuca perennis	rye grass
Ficus carica	edible fig
Galium aparine	bedstraw
Galium murale	yellow wall bedstraw
Geranium dissectum	cut-leaved geranium
Geranium molle	dove's foot geranium
Gilia capitata	blue head gilia
Heteromeles arbutifolia	toyon
Hordeum murinum var. *leporinum*	hare barley
Hypericum perfoliatum	St. Johnswort
Hypochaeris glabra	smooth cat's-ear
Hypochaeris radicata	rough cat's-ear
Iris pseudacorus	pale yellow iris
Juncus bufonius	toad rush
Juncus effusus	common rush
Keckiella brevifolia	gaping keckielia
Lactuca serriola	prickly lettuce
Lepidium nitidum	common peppergrass
Leptosiphon sp.	leptosiphon
Linum bienne	common flax
Lonicera hispidula	hairy honeysuckle
Lonicera interrupta	chaparral honeysuckle
Lupinus albifrons	silver bush lupine
Lupinus nanus	sky lupine
Lysimachia arvensis	scarlet pimpernel
Madia elegans ssp. *vernalis*	common tarweed
Madia glomerata	mountain tarweed
Matricaria discoidea	pineapple weed
Mentha arvensis	field mint
Micropus californicus var. *californicus*	cottontop
Microseris acuminata	microseris
Microsteris gracilis	slender phlox
Mimulus cardinalis	cardinal monkey flower
Mimulus guttatus	seep monkeyflower
Monardella odoratissima	coyote mint
Nasturtium officinale	watercress

Scientific Name	Common Name
Navarretia intertexta	needleleaved navarretia
Navarretia pubescens	downy pincushionplant
Navarretia tagetina	marigold navarretia
Osmorhiza berteroi	sweetcicely
Paspalum distichum	knot grass
Pentagramma triangularis	goldenback fern
Perideridia kelloggii	squawroot
Persicaria amphibia	water smartweed
Petrorhagia dubia	grass pink
Pinus sabiniana	foothill pine
Plagiobothrys stipitatus var. *micranthus*	stalked popcorn flower
Plantago lanceolata	English plantain
Polystichum munitum	western swordfern
Psilocarphus tenellus	slender woolly-marbles
Quercus berberidifolia	scrub oak
Quercus douglasii	blue oak
Quercus kelloggii	black oak
Quercus lobata	valley Oak
Quercus wislizeni	interior live oak
Ranunculus californicus	California buttercup
Rhamnus ilicifolia	hollyleaf redberry
Rhamnus tomentella	hoary coffeeberry
Ribes sp.	gooseberry
Rubus armeniacus	Himalayan blackberry
Rumex crispus	curly dock
Rumex pulcher	fiddledock
Salix exigua	sandbar willow
Salix laevigata	red willow
Salix lasiandra var. *lasiandra*	Pacific willow
Salix lasiolepis	arroyo willow
Scutellaria californica	California skullcap
Senecio vulgare	old-man-in-the-spring
Sherardia arvensis	field madder
Sidalcea sp.	checkerbloom
Silybum marianum	blessed milkthistle
Sisymbrium officinale	hedge mustard
Sisyrhinchium bellum	blue-eyed grass
Solanum sp.	nightshade
Stachys albens	white hedge nettle
Stellaria media	common chickweed
Symphoricarpos alba var. *laevigatus*	snowberry
Symphoricarpos mollis	creeping snowberry
Torilis arvensis	field hedge parsley
Toxicodendron diversilobum	poison oak
Tragopogon dubius ssp. *dubius*	yellow salsify
Trifolium dubium	little hop clover
Trifolium fragiferum	strawberry clover
Trifolium hirtum	red clover

Scientific Name	Common Name
Trifolium subterraneum	subterranean Clover
Trifolium willdenovii	tomcat clover
Triphysaria versicolor ssp. *faucibarbata*	yellow owl's-clover
Triteleia ixioides	golden brodiaea
Triteleia laxa	Ithuriel's spear
Tritieleia hyacinthina	white brodiaea
Typha angustifolia	narrow-leaf cattail
Urtica dioica	stinging nettle
Verbena bonariensis	South American vervain
Veronica peregrina	neckweed
Vicia sativa	spring vetch
Vitis californica	California grape
Wyethia angustifolia	narrowleaf mule ears
Zeltnera muehlenbergii	Monterey centaury

Source: AECOM 2017.

Habitat Assessment for Special-Status Wildlife

AECOM
2020 L Street, Suite 400
Sacramento, CA 95811
www.aecom.com

916.414.5800 tel
916.414.5850 fax

September 8, 2017

Lisa Carnahan, Parks Planner
Placer County Public Works and Facilities
Parks Division
11476 C Avenue
Auburn, CA 95603

Subject: Habitat Assessment for Special-Status Wildlife for the Hidden Falls Regional Park Trail Network Expansion Project, Placer County, California

Dear Ms. Carnahan:

Placer County (County) opened the 1,200-acre Hidden Falls Regional Park (HFRP) in 2013. HFRP has approximately 30 miles of trails and two waterfall overlooks, and its popularity and usage has grown rapidly. The HFRP project was described and evaluated in a California Environmental Quality Act (CEQA) Environmental Impact Report (EIR) published by the County in 2009 (EDAW/AECOM 2009) and certified in January 2010.

The County is currently proposing to expand the HFRP trail network onto additional lands owned by the Placer Land Trust (PLT), where the County holds trail easement rights, and also onto land owned by the County. The County will prepare a Subsequent EIR (SEIR) pursuant to the State CEQA Guidelines Section 15162 to describe and evaluate the potential environmental impacts of developing the proposed new trails and access areas (proposed project).

This letter report summarizes the methods and results of the biological surveys conducted in the proposed trail network expansion area (study area). These surveys consisted of reconnaissance-level wildlife surveys to assess potential habitat for special-status wildlife species. Special-status plant species and aquatic resources are addressed in separate reports.

PROJECT LOCATION AND STUDY AREA DESCRIPTION

The project area, which consists of the HFRP and the proposed trail expansion study area, is in western Placer County, south of the Bear River, approximately 40 miles northeast of Sacramento (Exhibit 1, Appendix A). HFRP, which encompasses approximately 1,200 acres in the Sierra Nevada foothills, consists of the properties formerly known as the Spears Ranch and Didion Ranch. The existing park has two access points, with a parking area at Mears Place and an area for a future parking lot off of Garden Bar Road.

Exhibit 2 (Appendix A) shows the existing regional park, the recently acquired parcel off of Garden Bar Road, and the boundaries of the proposed trail network expansion areas. Most of the proposed trail expansion areas are north and northeast of the existing park; they consist of the areas known as Taylor Ranch (321 acres) and Harvego Bear River Preserve (1,773 acres) and privately owned parcels with trail easements, such as Liberty Ranch (313 acres). Harvego Bear River Preserve has a working cattle ranch, an extensive network of existing ranch roads, and some trails built by the Placer Land Trust. Liberty Ranch is a cattle ranch currently under Williamson Act contract; it has no existing trails. Trails will also cross the Kotomyan Big Hill Preserve (160 acres) and Outman Big Hill Preserve (80 acres). The Outman Big Hill Preserve has no existing trails. Trail connections are also proposed from a recently acquired parcel off of Garden Bar Road to the western end of the existing park and from the eastern end of the park to the Taylor Ranch, through parcels either owned or held in

easement by Placer County. The U.S. Bureau of Land Management (BLM) owns the area in between the two portions of the Harvego Bear River Preserve and south of the Bear River. Two bridges will be constructed on Coon Creek as part of the proposed trail system. As shown on Exhibit 2, the majority of the trail expansion area is between the existing regional park and the Bear River to the north. Access is currently constrained by limited roadways and surrounding private property. Entry to these areas is currently limited to guided tours led by the PLT. The County has trail easement rights within these properties. The lands adjacent to these areas consist of rolling hills and are primarily private lands used for agriculture, grazing, and rural residences.

METHODS

Before the site surveys were conducted, AECOM biologists searched the following sources for records of special-status wildlife occurring within a nine-quadrangle area containing and surrounding the study area: California Natural Diversity Database (CNDDB 2017) and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation project planning tool (USFWS 2017).

AECOM biologists also referenced the following background documents from PLT: 2011-2013 Management Plan for Harvego Bear River Preserve (PLT 2011), Wetland Delineation Report for Bruin Ranch (PLT 2010), Harvego Bear River Preserve Inventory and Improved Forest Management Activities Plan (PLT 2012), Management Plan for Kotomyan Big Hill Preserve (PLT 2007a), Management Plan for Liberty Ranch Big Hill Preserve (PLT 2007b), Baseline Documentation Report for Liberty Ranch Big Hill Preserve (PLT 2007c), Baseline Documentation Report for Outman Big Hill Preserve (PLT 2013), Baseline Documentation Report for Taylor Ranch (PLT 2007d), Management Plan for Taylor Ranch (PLT 2007e), the Hidden Falls Regional Park Project Environmental Impact Report (Placer County 2009), and the Hidden Falls Regional Park Preliminary Delineation of Waters of the United States, Including Wetlands (Placer County 2008).

AECOM biologists Tammie Beyerl and Pamela Brillante conducted pedestrian surveys in the study area, which consists of the proposed trail system alignment plus 50 feet on either side of the trail system alignment, stream crossing locations, staging areas, and parking areas (Exhibit 3, Appendix A). In locations where no trail exists, the trail width was assumed to be 4 feet, and in locations where the trail would coincide with an existing road, the trail width was assumed to be the width of the road. Surveys were conducted on December 6, 7, 13, and 14, 2016, and May 30 and 31 and June 1, 2017. During the surveys, the weather conditions were partly cloudy to overcast, with temperatures in the range of mid-40 degrees to mid-50 degrees Fahrenheit and winds of 2 to 10 miles per hour in December 2016 and sunny with temperatures in the range of 70 degrees to 80 degrees Fahrenheit and winds of 4 to 15 miles per hour in May and June 2017.

Habitats in the study area were assessed to determine their potential to support special-status wildlife species at or near the study area. The biologists surveyed the forest canopy and trees at and within 200 feet from the study area boundaries to search for suitable raptor and passerine nesting sites. Habitat for special-status amphibians and reptiles was surveyed by visually scanning the water features that cross the study area for appropriate water depth and flow rate, the substrates along the bottom of the water features, bank structure, and vegetation in the water features and along the banks. The habitat survey for meso-carnivores such as foxes and ringtails was focused on an assessment of potential burrow or denning habitat within the study area. Aquatic features were also identified and delineated, the data are presented in a separate report. Floristic inventory surveys occurred concurrently with the May and June 2017 surveys; the results are presented in a separate report.

RESULTS

Habitat

Placer County is within the California Floristic Province, which is characterized by a Mediterranean climate with cool, wet winters and hot, dry summers. The elevation of the study area ranges from approximately 600 to 1,600 feet above mean sea level. The project area has few roads and includes expansive undeveloped areas within the Coon Creek and Bear River watersheds.

The project area is generally composed of gentle rolling to steep hills that are mostly covered by oak woodlands interspersed with annual grassland and riparian corridors. The habitat within the project area can be described more specifically by species composition according to the California Wildlife Habitat Relationships (CWHR) system (CDFW 2016). The following habitat types are found within the project area: blue oak woodland and blue oak-foothill pine woodland, interspersed with annual grassland, valley foothill riparian, and mixed chaparral.

Blue oak woodland is found throughout the entire project area; this habitat type is dominated by blue oak (*Quesrcus douglasii*) with a generally sparse shrub layer consisting of poison oak (*Toxicodendron diversilobum*), chaparral honeysuckle (*Lonicera interrupta*), and holly-leaf redberry (*Rhamnus ilicifolia*) that is generally restricted to rock outcrops. The herbaceous layer in the blue oak woodland is composed of nonnative annual grasses and forbs, with some widely scattered native perennial grasses.

Blue oak foothill pine woodland is also common throughout the project area. The dominant species in these stands are blue oaks, interior live oak (*Quercus wislizenii*), foothill pine (*Pinus sabiniana*), black oak (*Quercus kelloggii*), and canyon live oak (*Quercus chrysolepis*) and some pockets of this habitat also include ponderosa pine (*Pinus ponderosa*). The understory species include shrubs such as California poison oak, California buckeye (*Aesculus californica*), toyon (*Heteromeles arbutifolia*), and hoary coffeeberry (*Rhamnus tomentella*). Similar to blue oak woodland, the herbaceous layer is continuous and dense, with exposed soil generally limited to areas of disturbance from grazing or farm equipment; the layer is composed of annual grasses and forbs. This habitat type also has some open areas with an herbaceous layer that is less dense than it is in blue oak woodland and with a higher number of native species.

Rock outcrops are an important component of the blue oak woodland and blue oak foothill pine woodland habitats. Plant species associated with the rock outcrops include coyote-mint (*Monardella* sp.), small-flowered miner's lettuce (*Claytonia parviflora* ssp. *parviflora*), Bolander's woodlandstar (*Lithophragma bolanderi*), pterostegia (*Pterostegia drymarioides*), Pellaea ferns (*Pellaea* sp.), canyon dudleya (*Dudleya cymosa*), and phacelias (*Phacelia* sp.).

The CWHR system defines annual grassland habitats as open grasslands composed primarily of annual plant species, many of which also occur as understory plants in oak woodlands (CWHR 2016). Within the project area, annual grassland is dominated by annual grasses such as Mediterranean barley (*Hordeum marinum*), ripgut brome (*Bromus diandrus*), and native and nonnative forbs, including subterraneum clover (*Trifolium subterraneum*), filarees (*Erodium* sp.), rose clover (*Trifolium hirtum*), popcorm flower (*Plagiobothrys* sp.), johnnytuck (*Triphysaria eriantha*), and Douglas' violet (*Viola douglasii*). Purple needle grass (*Nassella pulchra*) and blue wild rye (*Elymus glaucus*) are the dominant native perennial grasses.

Valley foothill riparian habitat is found within the project area along Coon Creek and other smaller tributaries. This habitat is dominated by an overstory of valley oak (*Quercus lobata*), white alder (*Alnus rhombifolia*), red willow (*Salix laevigata*), and interior live oak. Understory dominants include patches of Himalayan blackberry (*Rubus discolor*), poison oak, buttonwillow (*Cephalanthus*

occidentalis), and Spanish broom (*Spartium junceum*). Locally dominant species include arroyo willow (*Salix lasiolepis*), Fremont cottonwood (*Populus fremontii*), wild grape (*Vitis californicus*), horsetails (*Equisetum telmateia* ssp. *braunii*), skunkbrush (*Rhus trilobata*), rushes (*Juncus* sp.), and sedges (*Carex* sp.). Deer grass (*Muhlenbergia rigens*) and California melic (*Melica californica*) are the dominant native perennial grasses.

Mixed chaparral habitat within the project area is limited. Dominant species found within this habitat type include poison oak, chaparral honeysuckle, holly-leaf redberry, toyon , buckbrush (*Ceanothus cuneatus*), and coffeeberries. Other species observed include common herbaceous species such as gooseberries (*Ribes* sp.) and serviceberries (*Amelanchier* sp.), Chinese-houses (*Collinsia heterophylla*), foothill collinsia (*Collinsia sparsiflora* var. *collina*), sessile wood-rush (*Luzula comosa* var. *subsessilis*), Henderson's shooting-star (*Dodecatheon hendersonii*), and California melic.

The project area is within the Coon Creek and Bear River watersheds. Coon Creek flows across Taylor Ranch and into the HFRP and crosses the project area in several locations. The Bear River abuts most of the northern boundary of the Harvego Bear River Preserve. Coon Creek within the west end of the project area is a braided channel with vegetated in-stream gravel bars. It is confined by cut banks on a gentle slope and is dominated by boulders and cobble. Coon Creek crosses the project area again farther east; in this area, Coon Creek is dominated by a bedrock channel with several cascades. The segment of Coon Creek at the easternmost proposed bridge crossing is flat and confined by a gentle slope on the north side and a moderate slope on the south side. The creek contains a main channel and a side channel dominated by boulders and cobble and separated by a cobble bar. However, past the proposed bridge this segment of the creek plunges approximately 75 feet downstream, outside of the project area.

The project area also has several perennial, intermittent, and ephemeral drainages that are tributary to Coon Creek and Bear River. The drainages within the project area vary in characteristics: some have gently sloping banks, but others have moderate to moderately steep cut banks. The drainages are generally dominated by cobble and boulder substrates, but some drainages mostly contain a bedrock channel. In addition, some drainages contain cascades, pools, braided channels, and/or cobble bars. The ordinary high water mark (OHWM) of the drainages is also variable; it ranges from 2 to 30 feet. The wetted channel averaged 4 to 5 feet wide and 10 to 24 inches deep at the time of the December 2016 surveys. Riparian and sometimes wetland vegetation occurs along most of the drainages within the project area, including Coon Creek, and some drainages have riparian vegetation rooted within the OHWM.

Special-Status Wildlife Species

Special-status wildlife species include animals in the following categories:

- Species listed by the State of California (State) or the federal government as endangered, threatened, or rare
- Candidates for State or federal listing as endangered or threatened
- Taxa (i.e., taxonomic categories or groups) that meet the criteria for listing, even if not currently included on any list, as described in California Code of Regulations Section 15380 of the CEQA Guidelines
- Species identified by the California Department of Fish and Wildlife (CDFW) as species of special concern
- Species listed as fully protected under the California Fish and Game Code

- Species afforded protection under local or regional planning documents

No confirmed special-status species were observed on or adjacent to the study area during the 2016 and 2017 surveys. However, a possible foothill yellow-legged frog (*Rana boylii*) was observed within Coon Creek during the December 2016 survey, though positive identification could not be obtained. In addition, several special-status wildlife species were documented as occurring within HFRP and several of the PLT properties. The database searches and literature review of previously prepared environmental documents identified 30 previously documented or reported special-status wildlife species in the region. Ten of these species known from the region have no potential to occur in the study area because the project area is outside of their elevation or geographical range or because suitable habitat (e.g., vernal pools, open rocky/sandy soil) is not present. For these reasons, the following species were eliminated from further evaluation in this document:

- Western burrowing owl (*Athene cunicularia hypugea*)
- Vernal pool fairy shrimp (*Branchinecta lynchi*)
- Swainson's hawk (*Buteo swainsoni*)
- Northern harrier (*Circus cyaneus*)
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)
- Delta smelt (*Hypomesus transpacificus)*
- Vernal pool tadpole shrimp (*Lepidurus packardi*)
- Song sparrow ("Modesto" population) (*Melospiza melodia*)
- Coast horned lizard (*Phrynosoma blainvillii*)
- Bank swallow (*Riparia riparia*)

Table 1 provides a list of the remaining 20 special-status wildlife species that were determined to have potential to occur in the study area based on the pre-field investigation (database and literature review). Pallid bat (*Antrozous pallidus*) is also included in Table 1 as potentially occurring in the project region based on knowledge about the habitat requirements and distribution of this species.

Table 1. Special-Status Wildlife Species Potentially Occurring in the Study Area

Special-Status Species	Regulatory Status (Federal; State) [1]	Habitat Requirements	Potential for Occurrence in the Study Area [2]
Amphibians/Reptiles			
Northwestern pond turtle *Emys marmorata*	SSC	Inhabits permanent and intermittent waters, including marshes, streams, rivers, ponds, and lakes with emergent logs or boulders for basking. Nests in sandy banks along large, slow-moving streams or upland in a variety of soils.	**Known to occur;** surveys conducted in 2005 confirmed presence along Coon Creek.
Foothill yellow-legged frog *Rana boylii*	SC	Streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands; sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools. Breeding occurs exclusively in streams and rivers and requires cobble-sized substrate for eggs and a minimum of 15 weeks of water for larval development.	**Likely to occur;** suitable aquatic habitat is present at Coon Creek and other drainages with cobble substrate. A possible foothill yellow-legged frog was observed during surveys in December 2016.

Table 1. Special-Status Wildlife Species Potentially Occurring in the Study Area

Special-Status Species	Regulatory Status (Federal; State)[1]	Habitat Requirements	Potential for Occurrence in the Study Area[2]
California red-legged frog *Rana draytonii*	FT	Sierran populations inhabit still or slow-moving water with deep (generally ≥ 2 ft) pools and emergent or overhanging vegetation. Breeds in wetlands, ponds, lakes, and slow-moving, low-gradient stream reaches. Requires a minimum of 11 to 20 weeks of water for larval development and upland refugia for aestivation if no permanent water is present.	**Not likely to occur;** suitable aquatic habitat or terrestrial non-breeding dispersal habitat is located within and adjacent to the project area. However, the nearest known population of California red-legged frog (one of seven known breeding populations scattered in the Sierra Nevada foothills) is approximately 23 miles from the project site.
Fish			
Hardhead *Mylopharadon conocephalus*	SSC	Spawning occurs in pools and side pools of rivers and creeks; juveniles rear in pools of rivers and creeks and in shallow to deeper water of lakes and reservoirs.	**Could occur;** occurs downstream in the lower Sacramento River and may occur along Coon Creek.
Central Valley steelhead *Oncorhynchus mykiss*	FT	Requires cold, freshwater streams with suitable gravel for spawning; rears in seasonally inundated floodplains, rivers, and tributaries and in the Sacramento–San Joaquin River Delta.	**Likely to occur;** surveys conducted in 2005 confirmed presence in Coon Creek within HFRP below waterfalls. Coon Creek within HFRP but outside of the project area is designated critical habitat for this species.
Chinook salmon – Central Valley spring-run, fall-run, and late-fall-run evolutionarily significant units (ESU) *Oncorhynchus tshawytscha*	FT, ST	Requires cold, freshwater streams with suitable gravel for spawning; rears in seasonally inundated floodplains, rivers, and tributaries, and in the Sacramento–San Joaquin River Delta.	**Could occur;** surveys conducted in 2005 confirmed presence within Coon Creek approximately 1 mile downstream of HFRP. However, this species is unlikely to pass waterfalls and access the segment of Coon Creek within HFRP under most flow conditions.
Sacramento splittail *Pogonichthys macrolepidotus*	SSC	Spawning and juvenile rearing from winter to early summer in shallow weedy areas inundated during seasonal flooding in the lower reaches and flood bypasses of the Sacramento River.	**Could occur;** may occur in Coon Creek but unlikely to pass waterfalls and access the segment of Coon Creek within HFRP under most flow conditions.
Birds			
Tricolored blackbird *Agelaius tricolor* (nesting)	SSC, SC	Colonial nester in cattails, bulrush, or blackberries associated with wetland or drainage habitats. Forages in grassland or cropland habitats.	**Could occur;** suitable nesting and foraging habitat present in the vicinity of the project area in marshes along Coon Creek and within Harvego Bear River Preserve (BRP).
Grasshopper sparrow *Ammodramus savannarum* (nesting)	SSC	Prefers short- to middle-height, moderately open grasslands with scattered shrubs.	**Could occur;** suitable nesting and foraging habitat is present in vicinity of project area in grasslands with scattered oak trees.
Golden eagle *Aquila chrysaetos* (year-round)	FP	Nests on cliffs and in large trees in open areas. Needs open terrain for hunting; grasslands, deserts, savannas, and early successional stages of forest and shrub habitats.	**Known to occur;** suitable habitat occurs within or adjacent to the project area. Golden eagle is known to nest in HFRP and is documented throughout the project area.

Table 1. Special-Status Wildlife Species Potentially Occurring in the Study Area

Special-Status Species	Regulatory Status (Federal; State)[1]	Habitat Requirements	Potential for Occurrence in the Study Area[2]
Long-eared owl *Asio otus* (nesting)	SSC	Requires dense cover for nesting and open areas for foraging. Nests in closed canopy conifer, oak, riparian, pinyon-juniper, and desert woodlands or open woodlands adjacent to grasslands, meadows, or shrublands.	**Could occur;** suitable nesting and foraging habitat is present in vicinity of the project area.
Yellow-breasted chat *Icteria virens* (nesting)	SSC	Forages and nests in riparian thickets of willow and other brushy thickets near streams or other watercourses.	**Known to occur;** suitable nesting and foraging habitat present in vicinity of project area on HFRP and Taylor Ranch along Coon Creek and surrounding freshwater marshes and stock ponds. Observed in HFRP and Taylor Ranch during surveys conducted in 2007–2008.
Yellow warbler *Dendroica petechial* (nesting)	SSC	Nests in trees or shrubs, particularly those with spines or thorns. Forages in open country.	**Known to occur;** suitable nesting and foraging habitat present on Harvego BRP property in vicinity of project area. Observed on Harvego BRP during surveys conducted in 2010–2013.
White-tailed kite *Elanus leacurus* (nesting)	FP	Nests in riparian corridors along streams and rivers, small woodland patches, or isolated trees in open country and forages in nearby grasslands and fields.	**Could occur;** marginally suitable foraging habitat present in vicinity of the project area in grasslands with scattered oak trees.
American peregrine falcon *Falco peregrinus anatum* (nesting)	FP	Nests in a wide variety of habitats, including woodlands, dense coniferous forest, and coastal habitats near wetlands, lakes, or rivers on high cliffs, banks, dunes, or mounds.	**Could occur;** suitable nesting habitat is present in cliffs along Coon Creek. However, closest known occurrence is 8 miles southeast of project area.
Loggerhead shrike *Lanius ludovicianus* (nesting)	SSC	Nests in trees or shrubs, particularly those with spines or thorns. Forages in open country.	**Could occur;** suitable nesting and foraging habitat is present in vicinity of project area in grasslands with scattered oak trees.
California black rail *Laterallus jamaicensis cotorniculus* (nesting)	ST	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays; requires dense vegetation for nesting.	**Known to occur;** suitable nesting and foraging habitat present in the vicinity of the project area in marshes along Coon Creek and within Harvego BRP.
Mammals			
Pallid bat *Antrozous pallidus*	SSC	Roosts in rocky outcrops, cliffs, crevices, trees, and snags. Forages over water in mixed conifer forests and conifer woodlands.	**Could occur;** likely forages in the project area, and suitable roosting habitat is present within and adjacent to the project area.
Ringtail *Bassariscus astutus*	FP	Prefers rocky habitats associated with water, including riparian canyons, caves, and mine shafts. Requires rock crevices, hollow trees, or snags for breeding or denning.	**Known to occur;** suitable habitat occurs within or adjacent to the project area. Ringtail prints were observed within the Harvego BRP during surveys conducted in 2010–2013.
Townsend's big-eared bat *Corynorhinus townsendii*	SSC	Has a variety of habitats throughout California, including coniferous forests. Requires caves, mines, tunnels, or other man-made structures.	**Could occur;** likely forages in the project area, and rock crevices within and adjacent to the project area may provide suitable roosting sites.

Table 1. Special-Status Wildlife Species Potentially Occurring in the Study Area

Special-Status Species	Regulatory Status (Federal; State)[1]	Habitat Requirements	Potential for Occurrence in the Study Area[2]
Western red bat *Lasiurus blossevillii*	SSC	Roosts primarily in trees adjacent to streams, fields, or urban areas. Forages over water edges in open areas of mixed conifer and conifer/woodlands.	**Could occur;** likely forages in the project area, and trees within and adjacent to the project area may provide suitable roosting sites.

Sources: CNDDB 2017; Placer County 2009; PLT 2007a, 2007b, 2007c, 2007d, 2007e, 2010, 2011, 2012, 2013; USFWS 2017.

Notes

[1] Regulatory status definitions

Federal Endangered Species Act (ESA):
- DPS = Distinct Population Segment
- FC = candidate
- FE = federal endangered
- FT = federal threatened
- PT = proposed threatened

California Endangered Species Act (CESA):
- FP = California fully protected
- SC = State candidate for listing
- SE = California state endangered
- SSC = California Species of Special Concern
- ST = California state threatened

[2] Potential for occurrence definitions
- Not likely to occur: Species is unlikely to be present due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.
- Could occur: Suitable habitat is available; however, there are little to no other indicators that the species might be present.
- Likely to occur: Suitable habitat is available and indicators observed that the species might be present.

Six special-status wildlife species are known to occur within or adjacent to the project area. These are northwestern pond turtle (*Emys marmorata)*, golden eagle (*Aquila chrysaetos*), yellow-breasted chat (*Icteria virens*), yellow warbler (*Dendroica petechial*), California black rail (*Laterallus jamaicensis cotorniculus*), and ringtail (*Bassariscus astutus*). In addition, foothill yellow-legged frog is likely to occur in Coon Creek and/or its perennial and intermittent tributaries and to breed within Coon Creek. Central Valley steelhead (*Oncorhynchus mykiss*) and hardhead (*Mylopharadon conocephalus*) could occur within Coon Creek. Potential additional bird species that may nest within or adjacent to the project area include tricolored blackbird (*Agelaius tricolor*), grasshopper sparrow (*Ammodramus savannarum*), long-eared owl (*Asio otus*), white-tailed kite (*Elanus leacurus*), American peregrine falcon (*Falco peregrinus anatum*), loggerhead shrike (*Lanius ludovicianus*), and other migratory birds.

Bat species have the potential to roost and forage within and adjacent to the project area, including three special-status bat species: pallid bat, Townsend's big-eared bat (*Corynorhinus townsendii*), and western red bat (*Lasiurus blossevillii*).

CONCLUSIONS AND RECOMMENDATIONS

Suitable habitat is present on or adjacent to the project area for several special-status wildlife species that occur within the Sierra Nevada foothills. The habitat within the study area along the proposed trail alignments and adjacent areas could potentially support these special-status wildlife species, particularly where proposed trails or access areas cross drainages or other aquatic habitat. Drainages and aquatic habitat are afforded specific consideration through Section 1602 of the California Fish and Game Code, Section 404 of the Clean Water Act, and the State's Porter-Cologne Act, and construction in these areas may require a Section 404 permit from the U.S. Army Corps of Engineers, a 401 certification or waiver from the Central Valley Regional Water Quality Control Board, and a Lake and Streambed Alteration Agreement from CDFW. In addition, construction activities within the waters of Coon Creek might require consultation with CDFW, USFWS, and the National Marine Fisheries Service (NMFS) to address potential impacts to listed fish species. These permits and resource agency consultations would include requirements for avoidance and minimization measures

to reduce the potential impacts of trail expansion on aquatic habitats and associated special-status wildlife species potentially occurring within the study area. The following Best Management Practices and other measures provide additional recommendations to avoid or minimize the potential adverse impacts of trail expansion activities on sensitive biological resources that may be present in the study area.

Best Management Practices to Protect Aquatic Resources

- Discharge of pollutants into storm drains or watercourses from vehicle and equipment cleaning will be prohibited.
- Maintenance and refueling areas for equipment will be located a minimum of 50 feet from active stream channels in predesignated staging areas, except at an established commercial gas station or vehicle maintenance facility.
- Spill containment kits will be maintained on-site at all times during construction operations and/or staging or fueling of equipment.
- Dust control measures will include the use of water trucks and dust palliatives to control dust in excavation and fill areas and to cover temporary stockpiles when weather conditions warrant such action.
- Coir rolls or straw wattles that do not contain plastic or synthetic monofilament netting will be installed along or at the base of slopes during construction to capture sediment.
- Permanent erosion control measures, such as biofiltration strips and swales to receive stormwater discharges from the highway or other impervious surfaces will be implemented to the maximum extent practicable.
- Access routes and limits of construction will be clearly marked before initiation of construction or grading.
- All equipment will be maintained to prevent leaks of automotive fluids, such as gasoline, oils, or solvents, and a spill response plan will be prepared.
- Hazardous materials, such as fuels, oils, and solvents, will be stored in sealable containers in a designated location that is located at least 100 feet from wetlands and aquatic habitats.

Avoidance/Minimization Measures for Foothill Yellow-Legged Frog and Northwestern Pond Turtle:

- Construction activities within any drainages crossing the proposed trails will be avoided. If avoidance is not feasible, work within all ephemeral and intermittent drainages will be conducted during the dry period (generally May 1 through October 1). If work within an ephemeral drainage cannot be conducted during the dry period, and for work within perennial drainages (i.e., Coon Creek), a qualified biologist will conduct a preconstruction clearance survey for adult foothill yellow-legged frog and northwestern pond turtle no more than 24 hours before initial ground-disturbing activities. If foothill yellow-legged frogs or pond turtles are observed during the survey, a qualified biologist, in coordination with from CDFW, will relocate turtles and frogs to the nearest area with suitable aquatic habitat that will not be disturbed by project-related construction activities.

Avoidance/Minimization Measures for Special-Status Bird Species and Bird Species Protected under the Migratory Bird Treaty Act (including golden eagle, yellow-breasted chat, yellow warbler, California black rail, tricolored blackbird, grasshopper sparrow, long-eared owl, white-tailed kite, American peregrine falcon, and loggerhead shrike):

- Construction activity will occur outside the nesting season (February 15 to August 31). Alternatively, if construction cannot avoid the nesting season, preconstruction surveys for active nests of special-status birds and other birds protected by the Migratory Bird Treaty Act will be required before commencement of any project activities. The preconstruction survey will cover an area at least 250 feet from the footprint of the proposed construction activities and will be conducted by a qualified biologist within 14 days before project construction begins. If an active nest is detected, the qualified biologist will establish a no-construction buffer around the nest until nesting is verified to be complete. The size of the buffer can range from 50 to 250 feet, depending on the species of bird, nature of the project activity, the extent of existing disturbance in the area, and other relevant circumstances, as determined by a qualified biologist in coordination with CDFW.

Avoidance/Minimization Measures for Bat Species:

- A qualified biologist will conduct a habitat assessment within the study area to determine if suitable habitat within the project area is being used as roost habitat, at least 1 year before commencement of project activities so that seasonal use of roost habitat can be determined. If potentially active bat roosts are detected within the study area that could be adversely affected by trail construction, a bat roost protection plan will be developed in coordination with CDFW and implemented during construction to avoid impacts on bat roosts potentially affected by trail expansion activities.

Avoidance/Minimization Measures for Special-Status Fish Species:

- In addition to the Best Management Practices to protect aquatic resources listed above, avoidance and minimization measures required by CDFW, USFWS, and NMFS to protect special-status fish species will be implemented. These measures might include avoiding construction activities in or adjacent to Coon Creek during months when special-status fish species and sensitive life stages are likely to be present and conducting preconstruction fish clearance surveys and monitoring before and during construction activities.

If you have any questions or require additional information, please do not hesitate to call us at (916) 414-5800.

Sincerely,

Pam Brillante
Biologist

Cc: Susan Sanders, AECOM
Petra Unger, AECOM
Ken Koch, AECOM

REFERENCES

CDFW (California Department of Fish and Wildlife). 2016. A Guide to Wildlife Habitats of California. Accessed December 2016. https://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats.

CNDDB (California Natural Diversity Database). 2017. RareFind 5 (Commercial Version): An Internet Application for the Use of the California Department of Fish and Wildlife's Natural Diversity Database. Sacramento, CA: California Department of Fish and Wildlife, Biogeographic Data Branch, February. Accessed February 28, 2017. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.

EDAW/AECOM. 2009. *Final Environmental Impact Report, Hidden Falls Regional Park Project*. State Clearinghouse No. 2007062084. Prepared for Placer County Department of Facility Services, Auburn, CA. Sacramento, CA: EDAW/AECOM.

Placer County. 2008. *Hidden Falls Regional Park Preliminary Delineation of Waters of the United States, Including Wetlands*. Prepared by AECOM. Auburn, CA: Placer County, July.

Placer County. 2009. *Hidden Falls Regional Park Project Environmental Impact Report*. Prepared by AECOM. Auburn, CA: Placer County, June.

PLT (Placer Land Trust). 2007a *Management Plan for Kotomyan Big Hill Preserve.* Auburn, CA: PLT, updated 2008.

PLT (Placer Land Trust). 2007b. *Management Plan for Liberty Ranch Big Hill Preserve.* Auburn, CA: PLT, July.

PLT (Placer Land Trust). 2007c. *Baseline Documentation Report for Liberty Ranch Big Hill Preserve.* Auburn, CA: PLT, July.

PLT (Placer Land Trust). 2007d. *Baseline Documentation Report for Taylor Ranch Big Hill Preserve.* Auburn, CA: PLT, April.

PLT (Placer Land Trust). 2007e. *Management Plan for Taylor Ranch Preserve.* Auburn, CA: PLT, April.

PLT (Placer Land Trust). 2010. *Wetland Delineation Report for Bruin Ranch.* Auburn, CA: PLT, July.

PLT (Placer Land Trust). 2011. *2011-2013 Management Plan for Harvego Bear River Preserve.* Auburn, CA: PLT, February.

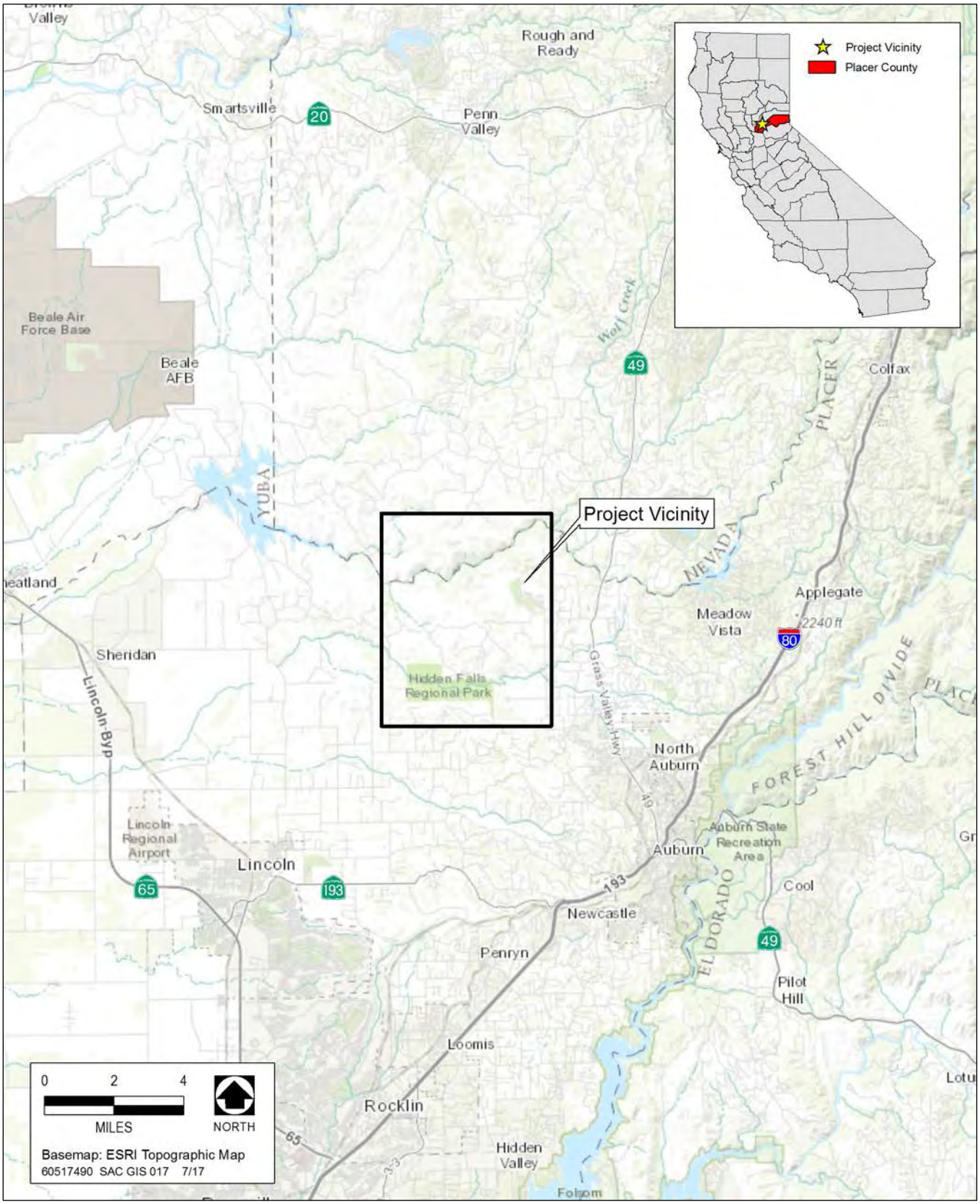
PLT (Placer Land Trust). 2012. *Harvego Bear River Preserve Inventory and Improved Forest Management Activities Plan*. Prepared by Under the Trees—Forestry and Environmental Services, Nevada City, CA. Auburn, CA: PLT, October.

PLT (Placer Land Trust). 2013. *Baseline Documentation Report for Outman Big Hill Preserve*. Auburn, CA: PLT, August.

USFWS (U.S. Fish and Wildlife Service). 2017. Information for Planning and Conservation. Accessed May 8, 2017. http://ecos.fws.gov/ipac/.

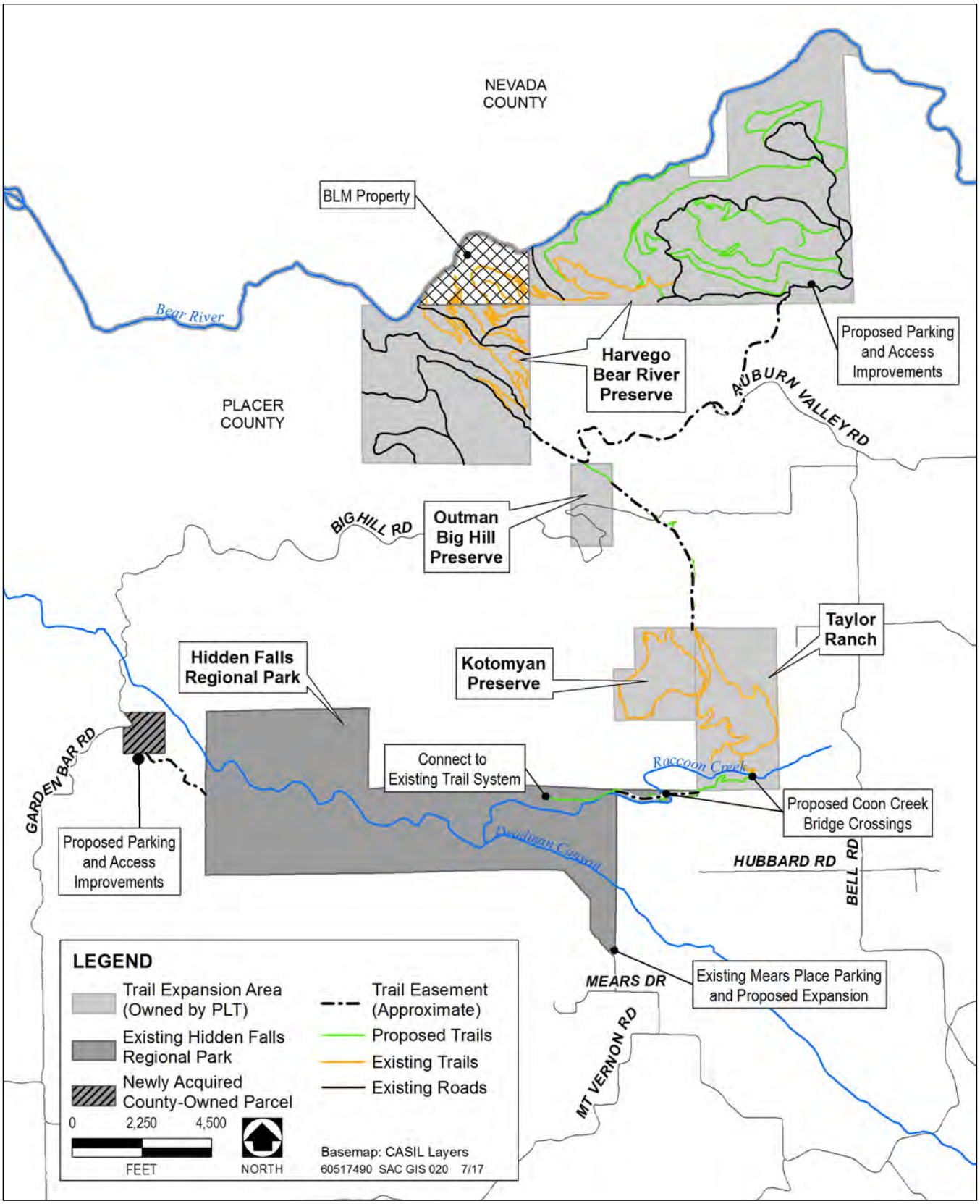
APPENDIX A

Exhibits



Source: AECOM 2017.

Exhibit 1. Project Area and Vicinity



Source: AECOM 2017.

Exhibit 2. Project Map

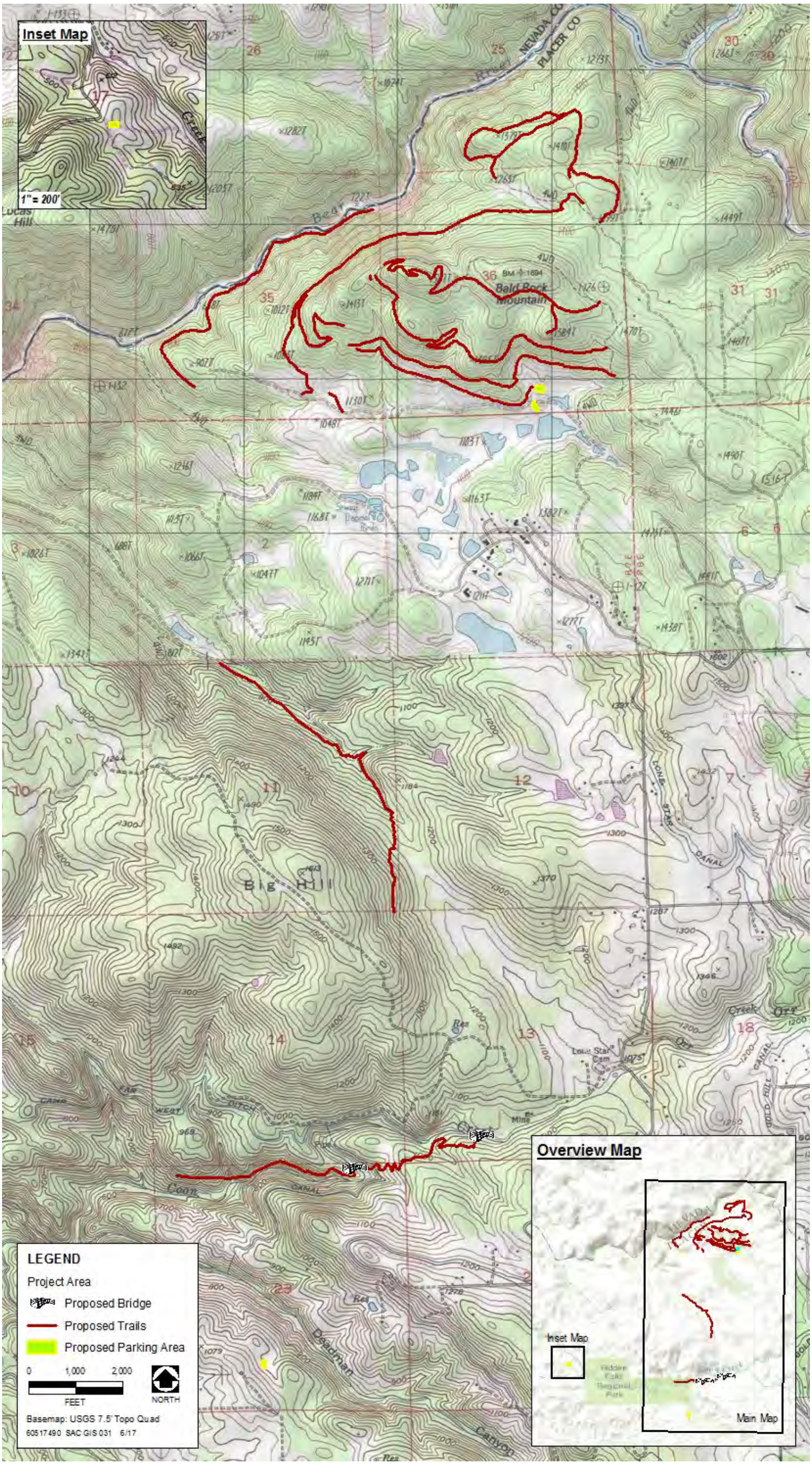


Exhibit 3. Study Area Locations

Delineation of Wetland and Other Waters of the United States

Delineation of Wetlands and Other Waters of the United States
Hidden Falls Regional Park Trail Network Expansion Project

Prepared for:

Placer County Public Works and Facilities

March 2018

Delineation of Wetlands and Other Waters of the United States

Hidden Falls Regional Park Trail Network Expansion Project

March 2018

Prepared for:

Placer County Public Works and Facilities

Parks Division
11476 C Avenue
Auburn, CA 95603

Contact:

Lisa Camahan
Parks Planner
(530) 889-6837

Prepared by:

AECOM
2020 L Street, Suite 400
Sacramento, CA 95811

Contact:

Pamela Brillante
Biologist
(916) 414-5831

Table of Contents

List of Figures

Figure **Page**

List of Tables

List of Abbreviated Terms

BRP	Bear River Preserve
County	Placer County
CWA	Clean Water Act
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
NI	no indicator
NL	not listed
NRCS	U.S. Natural Resources Conservation Service
NRPW	non–relatively permanent water
OBL	obligate
OHWM	ordinary high-water mark
project	Hidden Falls Regional Park Trail Network Expansion Project
RPW	relatively permanent water
TNW	traditional navigable water
UPL	obligate upland
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

Chapter 1. Introduction

This report presents the methods and results of a delineation of waters of the United States conducted in support of the proposed Placer County (County) Hidden Falls Regional Park Trail Network Expansion Project (project). The County proposes to expand Hidden Falls Regional Park's trail network onto additional lands owned by Placer Land Trust, where the County holds trail easement rights, and onto County-owned land. The County will prepare a subsequent environmental impact report pursuant to Section 15162 of the California Environmental Quality Act Guidelines to describe and evaluate the potential environmental impacts of developing the proposed new trails and access areas.

The project area, which consists of Hidden Falls Regional Park and the proposed trail expansion study area, is in western Placer County, south of the Bear River, approximately 40 miles northeast of Sacramento (Figure 1). The existing Hidden Falls Regional Park, which encompasses approximately 1,200 acres in the Sierra Nevada foothills, consists of the properties formerly known as the Spears Ranch and Didion Ranch. The existing regional park has three access points, with a parking area at Mears Place and areas for future parking lots off Garden Bar Road and Curtola Ranch Road.

Figure 2 shows the existing Hidden Falls Regional Park, the recently acquired parcel off Garden Bar Road, and the boundaries of the proposed trail network expansion areas. Most of the proposed trail expansion areas lie north and northeast of the existing park; they consist of the areas known as Taylor Ranch (321 acres) and Harvego Bear River Preserve (BRP) (1,773 acres) and privately owned parcels with trail easements, such as Liberty Ranch (313 acres).

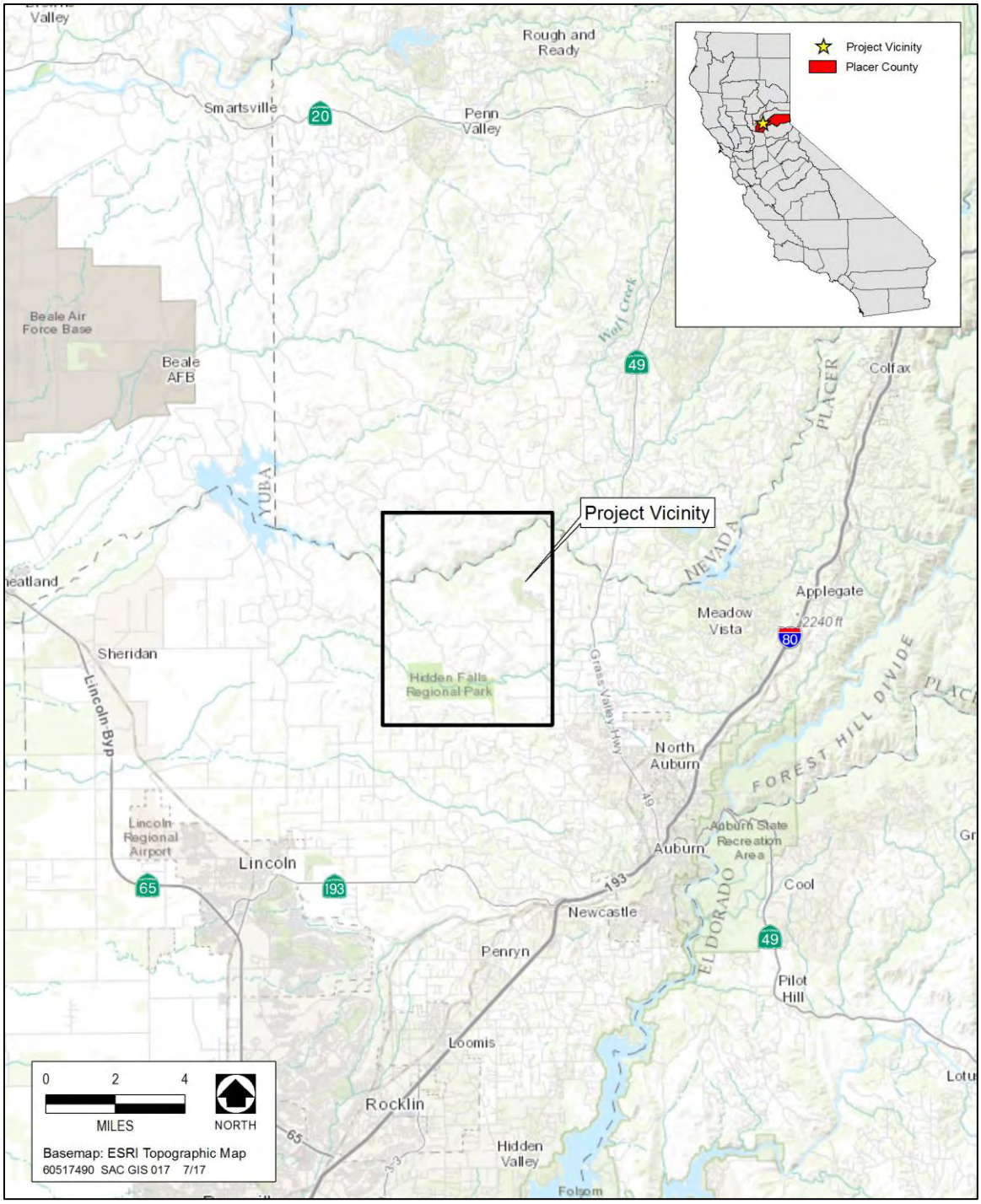
Harvego BRP has a working cattle ranch, an extensive network of existing ranch roads, and some trails built by Placer Land Trust. Liberty Ranch is a cattle ranch currently under Williamson Act contract; it has no existing trails. As part of the proposed project, trails would also cross the Kotomyan Big Hill Preserve (160 acres) and Outman Big Hill Preserve (80 acres). The Outman Big Hill Preserve has no existing trails.

Trail connections are also proposed from a recently acquired parcel off Garden Bar Road to the western end of the existing regional park and from the eastern end of the park to Taylor Ranch, through parcels either owned or held in easement by the County. The U.S. Bureau of Land Management owns the area between the two portions of the

Harvego BRP and south of the Bear River. Two bridges over Coon Creek would be constructed as part of the proposed trail system.

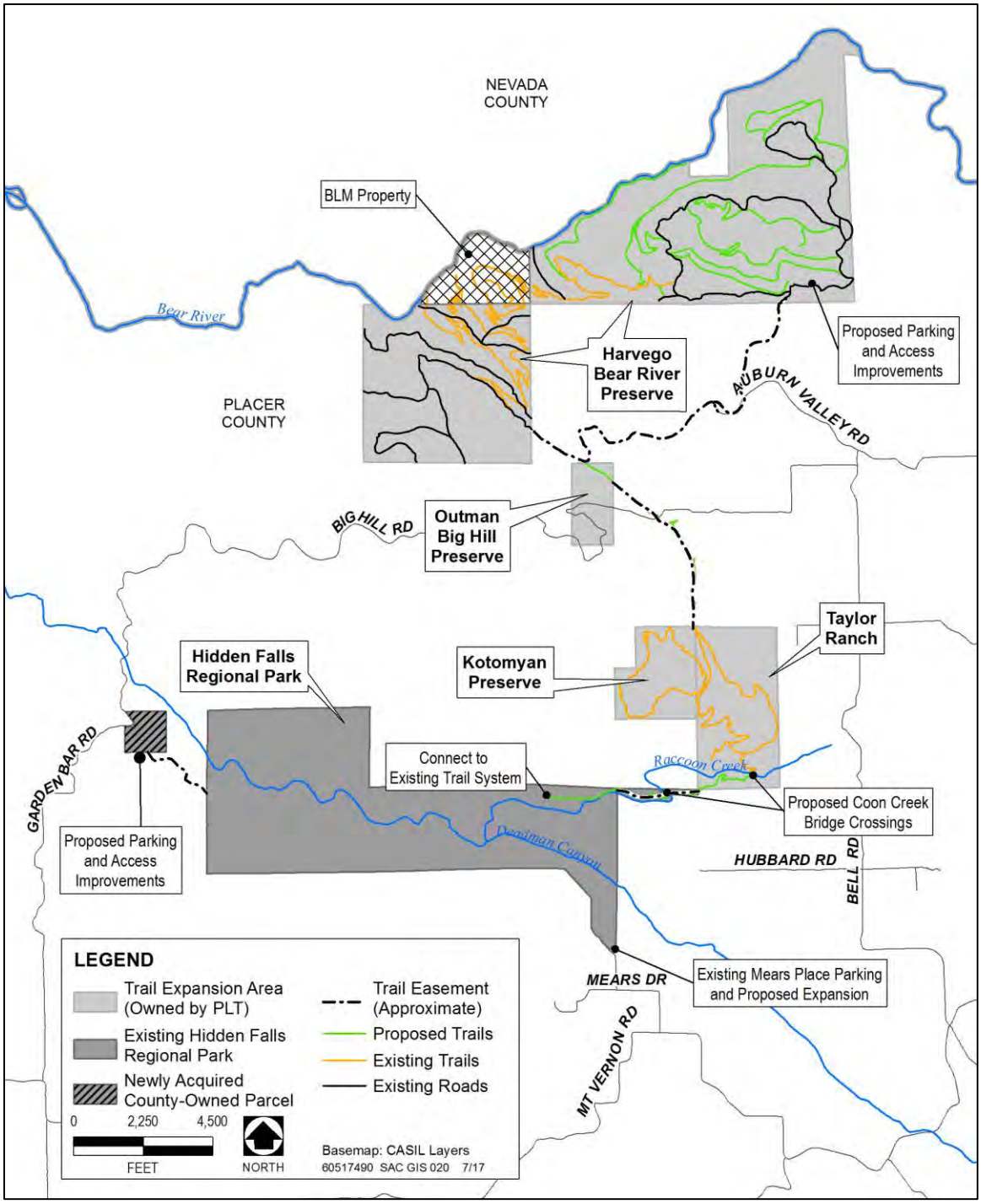
As shown in Figure 2, most of the proposed trail expansion area is located between the existing regional park and the Bear River to the north. Access to these properties is currently constrained by limited roadways and surrounding private property, and entry is limited to guided tours led by Placer Land Trust. The County has trail easement rights within these properties.

AECOM biologists conducted site visits on December 6–7 and 13–14, 2016, and May 27, May 30–31, and June 1, 2017. The delineation was conducted using the routine on-site determination methods described in the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (Environmental Laboratory 1987), supplemented by the *Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region* (USACE 2008a). Other waters of the United States were mapped and delineated in the field in accordance with the guidelines listed in USACE Regulatory Guidance Letter 05-05, *Ordinary High Water Mark Identification* (USACE 2005).



Source: Data compiled by AECOM in 2017

Figure 1. Project Vicinity



Source: Data compiled by AECOM in 2017

Figure 2. Project Map

Chapter 2. Delineation Methods

Before conducting the field delineation survey, an AECOM biologist reviewed color aerial imagery of the study area in Google Earth, as well as National Wetlands Inventory data and the U.S. Natural Resources Conservation Service (NRCS) soil survey of *Placer County, California, Western Part* (NRCS 2016), to determine areas of potential USACE jurisdiction. The wetland delineations were conducted in the study area on December 6–7 and 13–14, 2016, and May 27, May 30–31, and June 1, 2017, by AECOM biologists Pamela Brillante, Tammie Beyerl, and Kristin Asmus.

The study area consists of the proposed trail system alignment plus 50 feet on either side of the trail system alignment and parking areas (Figure 3). In locations where no trail exists, the trail was assumed to be 4 feet wide. Existing ranch roads would be used as part of the proposed trail system but would not be subject to any disturbance during construction, and were therefore not included as part of the study area for this delineation. In addition, proposed trails that overlap the study area for the Hidden Falls Regional Park Connectivity Project (Placer County 2012) were also excluded as part of the study area for this delineation, unless new aquatic features were identified in these areas during the field investigations conducted in 2016 and 2017. Aquatic features in these overlap areas that were previously delineated (Placer County 2012) are not discussed in this report. Details on these aquatic features are available in *Preliminary Delineation of Waters of the United States, Including Wetlands for the Hidden Falls Regional Park Connectivity Project* (Placer County 2012).

Two trail segments, the segment adjacent to the Bear River and the southernmost segment within the Harvego BRP, were inaccessible because of steep slopes or dense vegetation. Waters that crossed these areas were delineated based on aerial imagery, topographic maps, and geographic information system water data layers. Three proposed parking areas were surveyed; the boundary of one of these proposed parking areas was modified after the field survey and potentially contains an aquatic feature. The other parking areas lack aquatic features, and therefore are not discussed further in this report.

Weather conditions during the December 2016 field delineation were partly cloudy to overcast, with temperatures ranging from the mid-40s to mid-50s Fahrenheit and winds at 2–10 miles per hour. In May and June 2017, the weather was sunny, with temperatures of 70–80 degrees Fahrenheit and winds of 4–15 miles per hour.

The USACE 1987 wetlands delineation manual (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a) were used to delineate wetlands potentially subject to USACE jurisdiction under Section 404 of the Clean Water Act (CWA). The 1987 manual and 2008 Arid West Supplement provide technical guidelines and methods for the three-parameter approach to determining the location and boundaries of jurisdictional wetlands. This approach requires that an area support positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to be considered a jurisdictional wetland.

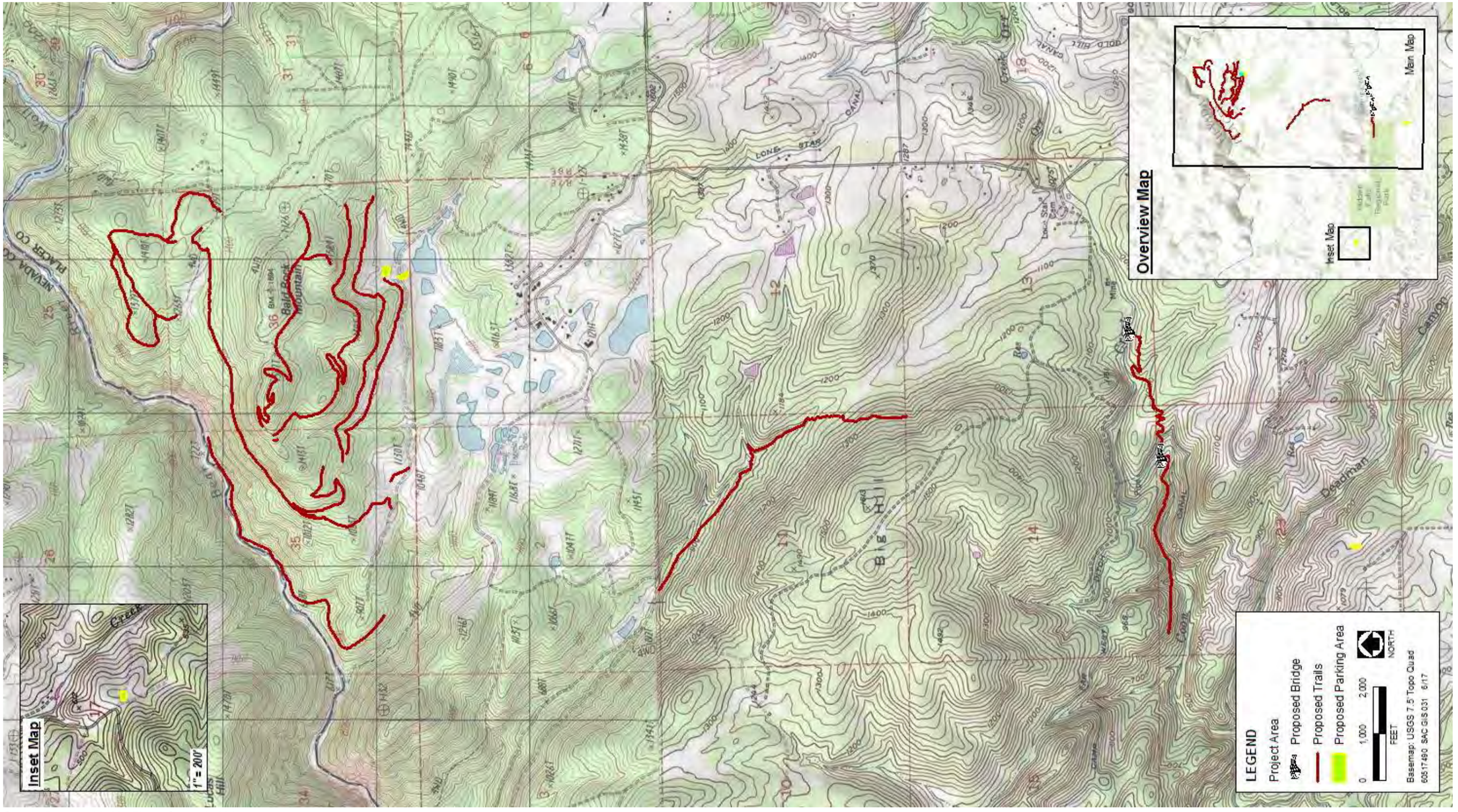
A wetland determination data form was completed for representative aquatic resources. Some of the data points were taken outside of the study area boundary because steep terrain or dense vegetation prevented direct access where the proposed trail would cross the drainage. However, the drainage structure at the location of the data point was representative of the drainage structure at the proposed trail crossing. Copies of the forms are presented in Appendix B. Potential jurisdictional areas were identified and mapped in the field and later digitized onto aerial imagery. Sample point locations were recorded digitally using a global positioning system data logger (Trimble XH) and imported onto an electronic version of the aerial photograph for each location. Global positioning system data were recorded in the North American Datum of 1983.

To determine whether the area at a sample point was dominated by hydrophytic vegetation, plant species at each sample site were recorded and the wetland indicator status was recorded for the dominant species using USACE's *National Wetlands Plant List for the Arid West Region* (Lichvar et al. 2016). A species is considered dominant when that species—individually or collectively—accounts for 50 percent of the total absolute cover in a vegetation stratum. Additional codominant species are identified if those species account for at least 20 percent of the absolute cover in a designated vegetation stratum (USACE 2008a).

Hydrophytic species include those listed as obligate (OBL), facultative wetland (FACW), or facultative (FAC) species, which correspond to a given species frequency of occurrence in wetlands. The plant indicator categories are defined as follows:

- *OBL*—greater than 99 percent occurrence in wetlands
- *FACW*—between 66 percent and 99 percent occurrence in wetlands
- *FAC*—between 33 percent and 66 percent occurrence in wetlands

For this delineation, a sample site was considered to have hydrophytic vegetation if greater than 50 percent of the dominant species had an indicator status of FAC or wetter. This report uses the following indicators to identify species not considered hydrophytic:



Source: Data provided by Placer County in 2017

Figure 3. Study Area

This page intentionally left blank.

- *Facultative upland (FACU)*—species that usually occur in nonwetlands (estimated probability of 67–99 percent) but are occasionally found in wetlands (estimated probability of 1–33 percent)
- *Obligate upland (UPL)*—species that may occur in wetlands in another region, but almost always (greater than 99 percent) occur in nonwetlands in California (Region 0) under natural conditions
- *No indicator (NI)*—species for which insufficient information was available to determine an indicator status
- *Not listed (NL)*—species not listed on the National Wetland Plant List (Lichvar et al. 2016)

Standard protocol states that a species with an NL designation should be considered UPL when the delineator completes the "Prevalence Index Worksheet" portion of the wetland delineation data form (USACE 2008a). Botanical nomenclature follows *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012).

Wetland hydrology was assessed by recording observations such as saturation, inundation, oxidized rhizospheres along living root channels, and sediment deposits. In addition, the potentially jurisdictional areas were all evaluated in terms of their status as navigable waterways or their adjacency or hydrological connection to a navigable waterway.

Waters of the United States were delineated based on the ordinary high-water mark (OHWM) using the OHWM field guide (Lichvar and McColley 2008). A drainage feature's OHWM typically corresponds with characteristics such as shelving, scour lines, and other natural linear features that define the bed and bank portion of the channel that floods under normal conditions (USACE 2005).

The NRCS soil survey of *Placer County, Western Part* (NRCS 2016) was consulted to identify soil units mapped in the project area by NRCS. These soils were cross referenced to the National Hydric Soils List (NRCS 2018) to determine whether any of the mapped soil units are listed as hydric.

The *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* was consulted to aid the preliminary determination that an area would be subject to USACE jurisdiction under CWA Section 404 (USACE and EPA 2007). The significant nexus test—outlined in a memorandum jointly authored by the

U.S. Environmental Protection Agency and USACE—was applied to each potentially jurisdictional habitat type (Grumbles and Woodley 2008). To facilitate a jurisdictional determination consistent with the guidance, each water body delineated was evaluated as a traditional navigable water (TNW), relatively permanent water (RPW), or non-RPW based on the following definitions:

- *TNWs*—all waters subject to the ebb and flow of the tide, or waters that are presently used, have been used in the past, or may be used in the future to transport interstate or foreign commerce, and all waters that are navigable in fact under federal law for any purpose
- *RPWs*—waters that flow continuously at least seasonally (typically at least 3 months of the year) and are not TNWs
- *Non-RPWs*—waters that do not have continuous flow at least seasonally

The following types of water bodies are subject to CWA jurisdiction:

- All TNWs and adjacent wetlands
- Relatively permanent tributaries of TNWs and wetlands with a continuous surface connection to such tributaries
- Non–relatively permanent tributaries of TNWs and adjacent wetlands if they have a significant nexus to a TNW

Non-RPWs and adjacent wetlands are determined to have a significant nexus to a TNW if they significantly affect the chemical, physical, or biological integrity of a downstream TNW. The conclusions of this report are consistent with the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook.*

Chapter 3. Environmental Setting

Site Conditions

The study area is located on the Wolf U.S. Geological Survey (USGS) 7.5-minute quadrangle, Mt. Diablo Meridian (1981): Township 14 North, Range 7 East, Sections 25, 35, and 36; and the Gold Hill USGS 7.5-minute quadrangle, Mt. Diablo Meridian (1981): Township 13 North, Range 7 East, Sections 11–14 and 23 (USGS 1981) (Figure 3).

The study area occupies 154.13 acres and is located within Major Land Resource Area C, the California Subtropical Fruit, Truck, and Specialty Crop Region of the United States (NRCS 2006). Specifically, the study area is located within the Sierra Nevada Foothills Major Land Resource Area.

The study area has few roads and includes expansive undeveloped areas within the Coon Creek and Bear River watersheds. The lands adjacent to the study area consist of rolling hills and are primarily private lands used for agriculture, grazing, and rural residences. The study area ranges from approximately 600 to 1,600 feet above mean sea level.

Vegetation Communities

The study area is generally composed of gentle rolling to steep hills that are mostly covered by oak woodlands, interspersed with annual grassland and riparian corridors. The habitat in the study area can be described more specifically by species composition according to the California Wildlife Habitat Relationships system (CDFW 2016). The following habitat types are found in the project area: blue oak woodland and blue oak–foothill pine woodland, interspersed with annual grassland, valley foothill riparian, and mixed chaparral.

Blue Oak Woodland

Blue oak woodland is found throughout the study area. This habitat type is dominated by blue oak (*Quercus douglasii*) (NL) with a generally sparse shrub layer consisting of poison oak (*Toxicodendron diversilobum*) (FACU), chaparral honeysuckle (*Lonicera interrupta*) (NL), and holly-leaf redberry (*Rhamnus ilicifolia*) (NL) that is generally restricted to rock outcrops. The herbaceous layer in the blue oak woodland is composed of nonnative annual grasses and seasonal forbs, such as bromes (*Bromus diandrus* [NL], *B. hordeaceus* [FACU]), wild oat (*Avena fatua*) (NL), foxtail barley (*Hordeum murinum* ssp. *leporinum*) (NL), medusahead (*Elymus caput-medusae*) (NL), cut-leaved geranium

(*Geranium dissectum*) (NL), and Italian thistle (*Carduus pycnocephalus*) (NL). There are also some widely scattered native perennial grasses.

Blue Oak–Foothill Pine Woodland

Blue oak–foothill pine woodland is also common throughout the study area. The dominant species in these stands are blue oaks, interior live oak (*Quercus wislizenii*) (NL), foothill pine (*Pinus sabiniana*) (NL), black oak (*Q. kelloggii*) (NL), and canyon live oak (*Q. chrysolepis*) (NL). Some pockets of this habitat also include ponderosa pine (*Pinus ponderosa*) (FACU). The understory species include shrubs such as California poison oak, California buckeye (*Aesculus californica*) (NL), toyon (*Heteromeles arbutifolia*) (NL), and hoary coffeeberry (*Rhamnus tomentella*) (NL). Similar to blue oak woodland, the herbaceous layer is continuous and dense, with exposed soil generally limited to areas of disturbance from grazing or farm equipment; the layer is composed of annual grasses and forbs similar to those in the blue oak woodland habitat. This habitat type also has some open areas, with an herbaceous layer that is less dense than it is in blue oak woodland and with a larger number of native species.

Annual Grassland

Annual grassland habitat in the study area is dominated by annual grasses such as those found in the herbaceous layer of blue oak and blue oak–foothill pine woodland. This habitat is also dominated by ripgut brome, and by native and nonnative forbs: subterraneum clover (*Trifolium subterraneum*) (NL), broadleaf filaree (*Erodium botrys*) (FACU) and red-stem filaree (*E. cicutarium*) (NL), rose clover (*T. hirtum*) (NL), stalked popcorn flower (*Plagiobothrys stipitatus* var. *micranthus*) (FACW), johnnytuck (*Triphysaria eriantha*) (NL), and Douglas' violet (*Viola douglasii*) (NL). Purple needle grass (*Nassella pulchra*) (NL) and blue wild rye (*Elymus glaucus*) (FACU) are the dominant native perennial grasses.

Mixed Chaparral

Mixed chaparral habitat in the study area is limited. Dominant species found in this habitat type include poison oak, chaparral honeysuckle, holly-leaf redberry, toyon, buckbrush (*Ceanothus cuneatus*) (NL), and hoary coffeeberry (*Frangula californica* ssp. *tomentella*) (NL). Other species observed include gooseberries (*Ribes* sp.) and serviceberries (*Amelanchier* sp.). Common herbaceous species include Chinese-houses (*Collinsia heterophylla*) (NL), foothill collinsia (*C. sparsiflora* var. *collina*) (NL), sessile wood-rush (*Luzula comosa* var. *subsessilis*) (FAC), Henderson's shooting-star (*Dodecatheon hendersonii*) (NL), and California melic (*Melica californica)* (NL).

Foothill Valley Riparian

The riparian corridors along Coon Creek and other small tributaries are dominated by valley oak (*Quercus lobata*) (NL), red willow (*Salix laevigata*) (FACW), and white alder (*Alnus rhombifolia*) (FACW). Understory dominants include patches of Himalayan blackberry (*Rubus armeniacus*) (FAC), poison oak, buttonbush (*Cephalanthus occidentalis*) (OBL), and Spanish broom (*Spartium junceum*) (NL). Locally dominant species include arroyo willow (*Salix lasiolepis*) (FACW), Fremont cottonwood (*Populus fremontii*) (FAC), wild grape (*Vitis californica*) (FACU), giant horsetail (*Equisetum telmateia* ssp. *braunii*) (FACW), skunkbrush (*Rhus trilobata*) (FACU), rushes (*Juncus* sp.), and sedges (*Carex* sp.). Deer grass (*Muhlenbergia rigens*) (FAC) and California melic are the dominant native perennial grasses.

Soil Survey Results

The Web Soil Survey indicates that the soils in the study area belong to three soil series: Auburn series, Sobrante series, and Boomer series. The study area contains six soil units in the Auburn series, four of which are also in the Sobrante series, and one soil unit in the Boomer series. Table 1 lists the soil unit mapped at each site in the study area and its hydric status according to the National Hydric Soils List (NRCS 2018). The soils map in Figure 4 depicts the location of each soil unit in the study area, as mapped by NRCS. Brief descriptions of each soil series are provided below.

Table 1. Soil Units Present in the Study Area

Soil Unit	Hydric Soil?
Auburn-Sobrante-Rock outcrop complex, 2 to 30 percent slopes	No
Auburn-Sobrante-Rock outcrop complex, 30 to 50 percent slopes	No
Auburn-Sobrante-Rock outcrop complex, 50 to 70 percent slopes	No
Auburn-Sobrante silt loams, 15 to 30 percent slopes	No
Auburn silt loam complex, 2 to 15 percent slopes	No
Auburn–Rock outcrop complex, 2 to 30 percent slopes, MRLA 18	Yes[1]
Boomer–Rock outcrop complex, 30 to 50 percent slopes	No
Rock outcrop	No

Notes:

MRLA = Major Land Resource Area

[1] One of the minor components (Typic Humaquepts) in this soil unit is hydric.

Sources: NRCS 2018; data compiled by AECOM in 2016–2018

Auburn Series

Auburn soils typically occur on undulating to very steep foothills. Slopes range from 2 to 75 percent at elevations of 125–3,000 feet. Auburn soils consist of shallow to moderately deep, well-drained soils derived from amphibolite schist. These soils are moist in all parts from mid-November to May and dry in all parts between depths of 8 and 20 inches or to a lithic contact from June to mid-October. They are taxonomically classified as loamy, mixed, superactive, thermic Lithic Haploxerepts.

Sobrante Series

Sobrante soils typically occur on foothills. Slopes range from 2 to 75 percent at elevations of 125–3,500 feet. Sobrante soils consist of moderately deep, well-drained soils derived from basic igneous and metamorphic rock. These soils are usually moist between depths of about 5 and 15 inches, are dry in all parts in May or early June, and remain dry until October to mid-November. They are taxonomically classified as fine-loamy, mixed, active, thermic Mollic Haploxeralfs.

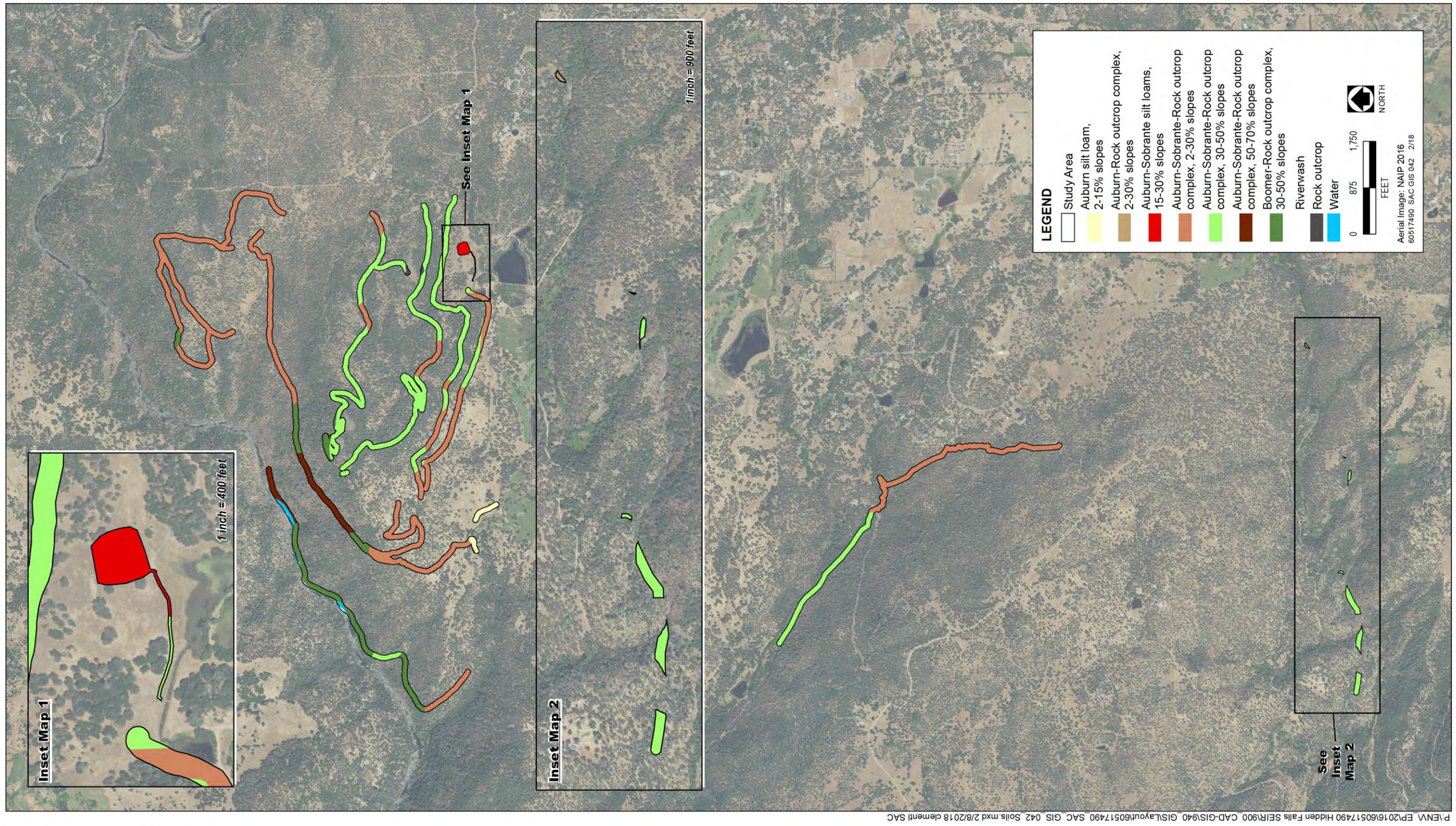
Boomer Series

Boomer soils typically occur on uplands. Slopes range from 2 to 75 percent at elevations of 500–5,000 feet. Boomer soils consist of deep and very deep, well-drained soils derived from metavolcanic rock. These soils are usually moist between depths of 6 and 20 inches and dry in all parts for about 105–130 days from mid-June to mid-October. They are taxonomically classified as fine-loamy, mixed, superactive, mesic Ultic Haploxeralfs.

Hydrologic Setting

The study area is located within the Coon Creek and Bear River watersheds, in the Deadman Canyon–Coon Creek and Camp Far West Reservoir–Bear River Hydrologic Units (USGS Hydrologic Unit Codes 180201610203 and 180201260302, respectively). Natural hydrology on the site is driven primarily by direct precipitation and associated runoff into streams and channels.

Coon Creek within the study area flows across Taylor Ranch and into Hidden Falls Regional Park and crosses the project area in several locations. The Bear River abuts most of the northern boundary of the Harvego BRP. Coon Creek and all drainages associated with Coon Creek flow to the East Side Canal, which flows into the Natomas Cross Canal to the Sacramento River, the nearest TNW (USACE 2018). The Bear River flows into Camp Far West Reservoir, then flows west into the Feather River to the Sacramento River (EPA 2017).



Source: Data compiled by AECOM in 2018

Figure 4. Soils in the Study Area

This page intentionally left blank.

Precipitation in the area falls primarily as rain. Snow events are rare. The Auburn Station's Western Regional Climate Center precipitation gauge receives an average annual precipitation of 34.39 inches; in addition, the highest amounts of rainfall occur in November–March (WRCC 2018). The climate is characterized by a hot dry season and a cool wet season. Precipitation in the Sacramento River hydrologic region as measured at Auburn was at 106 percent of historic average for the October 2016–September 2017 water year (DWR 2017).

National Wetlands Inventory

The U.S. Fish and Wildlife Service National Wetlands Inventory was queried for information regarding any wetlands previously mapped in the study area. The National Wetlands Inventory did not identify any wetlands in the study area (USFWS 2016).

Chapter 4. Delineation Results

This chapter presents the results of the delineation of waters of the United States, as defined by USACE under CWA Section 404, for the study area. These results are considered draft until verified by the USACE Sacramento District. The maps provided in Appendix A were prepared in accordance with the Draft Map and Drawing Standards for the South Pacific Regulatory Program, Special Public Notice (USACE 2016). However, the maps are at a scale of 1 inch = 300 feet. Because of the long, narrow linear nature of the study area, the scale was reduced from the map standard of 1 inch = 200 feet to reduce the number of maps in the mapbook. This map can be used by the County to obtain a preliminary jurisdictional determination from the USACE Sacramento District, as described under Regulatory Guidance Letter 08-02 (USACE 2008b).

Mapped features have been divided into their representative categories: RPW and non-relatively permanent water (NRPW). There are 24 potentially jurisdictional waters in the study area (Table 2). Appendix A shows the location and extent of each potentially jurisdictional water. Appendix B provides sample point data sheets. The table presented in Appendix C lists all features identified in this report and shown in Appendix A. Appendix D presents a habitat map and Appendix E lists plant species observed during the field delineation survey. Appendix F shows representative photographs of the delineated features.

Jurisdictional Features

A total of 2.58 acres of potentially jurisdictional features are present in the study area. These features consist of perennial stream and intermittent and ephemeral drainages (Table 2).

Table 2. Potential Jurisdictional Waters of the United States in the Study Area

Feature	Identification	Acres
Total All Relatively Permanent Waters		**2.09**
Perennial Drainages		*1.64*
Bear River	Bear River	1.15
Coon Creek	Coon Creek	0.48
Intermittent Drainages		*0.45*
Intermittent Drainage	ID1	0.13
Intermittent Drainage	ID2	0.02
Intermittent Drainage	ID3	0.09
Intermittent Drainage	ID4	0.01
Intermittent Drainage	ID5	0.19
Intermittent Drainage	ID6	0.005
Total All Non–Relatively Permanent Waters		**0.50**
Unnamed Ephemeral Drainages	ED1	0.04
Unnamed Ephemeral Drainages	ED2	0.01
Unnamed Ephemeral Drainages	ED3	0.02
Unnamed Ephemeral Drainages	ED4	0.02
Unnamed Ephemeral Drainages	ED5	0.02
Unnamed Ephemeral Drainages	ED6	0.05
Unnamed Ephemeral Drainages	ED7	0.004
Unnamed Ephemeral Drainages	ED8	0.04
Unnamed Ephemeral Drainages	ED9	0.01
Unnamed Ephemeral Drainages	ED10	0.01
Unnamed Ephemeral Drainages	ED11	0.20
Unnamed Ephemeral Drainages	ED12	0.02
Unnamed Ephemeral Drainages	ED13	0.01
Unnamed Ephemeral Drainages	ED14	0.01
Unnamed Ephemeral Drainages	ED15	0.01
Unnamed Ephemeral Drainages	ED16	0.005
Total Potentially Jurisdictional Features		**2.58**

Notes:

ED = ephemeral drainage; ID = intermittent drainage

*Total acreage reported is rounded to the hundredth place (or thousandth if less than 0.01) for reporting of total potentially jurisdictional features.

Source: Data compiled by AECOM in 2018

Relatively Permanent Waters

RPWs are tributaries to TNWs that typically have continuous flow for at least 3 months of the year. Perennial and intermittent drainages are RPWs that are subject to USACE jurisdiction pursuant to Section 404 of the CWA. Seven RPWs (five intermittent drainages and two perennial drainages) cross the study area (Appendix A).

PERENNIAL DRAINAGES

The two perennial drainages in the study area, the Bear River and Coon Creek, total 1.64 acres in the study area. The Bear River abuts most of the northern boundary of the Harvego BRP. The stretch within the study area is characterized by steep slopes with dense vegetation and a channel bed composed largely of boulder and bedrock substrate. The Bear River is a tributary of the TNW Feather River and is therefore potentially subject to USACE jurisdiction under CWA Section 404.

At the west end of the study area, Coon Creek is a braided channel with vegetated instream gravel bars. It is confined by cut banks on a gentle slope and is dominated by boulders and cobble. Coon Creek crosses the study area again farther east; in this area, Coon Creek is dominated by a bedrock channel with several cascades. The segment of Coon Creek at the easternmost proposed bridge crossing is flat and confined by a gentle slope on the north side and a moderate slope on the south side. The creek contains a main channel and a side channel dominated by boulders and cobble, which are separated by a cobble bar. However, past the proposed bridge, this segment of the creek plunges approximately 75 feet downstream, outside of the study area. Coon Creek has a direct hydrological surface connection to a TNW, the Sacramento River. Coon Creek meets the criteria for waters of the United States based on its OHWM and is potentially jurisdictional under CWA Section 404. The data forms in Appendix B provide information about Coon Creek in the study area.

INTERMITTENT DRAINAGES

There are six intermittent drainages totaling 0.45 acre in the study area. All six RPWs were delineated based on their OHWM using change in plant community, break in slope, and/or cut banks as indicators.

Three of the intermittent drainages (ID1, ID2, and ID5) convey flows to the Bear River. ID1 is a ditch with a low-flow channel and steep banks and an OHWM in the study area of 10 feet. It drains into a stock pond immediately adjacent to the study area. ID2 in the study area is dominated by boulder and cobble with upland grasses and occasionally rushes occurring within the channel. It lacks riparian vegetation and contains many small pools and has an OHWM of 5 feet. ID5 is dominated by a gravel, cobble, boulder channel bed, and cut banks and has an OHWM of 15 feet. Below the OHWM, the vegetation is composed mostly of foothill riparian with scattered alder and dense blackberry. Above the OHWM, the vegetation is composed of blue oak woodland.

The other three intermittent drainages, ID3, ID4, and ID6, are tributary to Coon Creek. All three drainages are composed of a boulder channel bed, but ID3 also has areas of

bedrock, and pockets of accumulated soil, sand, and gravel and ID6 also contains cobble. ID3 is a confined, steep channel with cascade pools and an OHWM of 30 feet. ID4 is a moderately sloped channel and has an OHWM of 5 feet. ID6 is characterized by a gentle slope and has an OHWM of 2 feet. It flows into a historic ditch that crosses the study area, following the ditch for approximately 15 feet where it then flows through a breach in the ditch down to a meadow and ultimately into Coon Creek. Both ID3 and ID4 contain foothill riparian vegetation rooted in the channel and ID6 generally lacks vegetation below the OHWM.

All six intermittent drainages in the study area have a direct surface connection to either the Bear River or Coon Creek, and therefore are potentially subject to USACE jurisdiction pursuant to CWA Section 404. The data forms in Appendix B provide information about the intermittent drainages in the study area.

Non–Relatively Permanent Waters

NRPWs are waters that convey flow for a short duration, generally a few hours or days, after a precipitation event. NRPW features in the study area include 17 ephemeral drainages (Appendix A). NRPW features are subject to jurisdiction by USACE pursuant to CWA Section 404 if a significant nexus can be established to other waters of the United States. The ephemeral drainages in the study area have a direct surface connection to tributaries of the Bear River that eventually connect to the Bear River. The Bear River is subject to USACE jurisdiction pursuant to CWA Section 404; therefore, the ephemeral drainages in the study area are potentially subject to USACE jurisdiction pursuant to Section 404.

EPHEMERAL DRAINAGES

There are 17 ephemeral drainages totaling 0.50 acre in the study area. All NRPWs were delineated based on their OHWM using change in plant community, break in slope, change in sediment, and/or cut banks as indicators.

Most of these ephemeral drainages are characterized by a gravel/cobble/boulder channel bed, but some also contain sand, clay, or mud. The OHWM of these drainages averages approximately 5 feet but ranges from 2 to 20 feet wide. Some of the ephemeral drainages contain mostly grassy channels and almost all contain moss-covered rocks. Some drainages had flowing water at the time of the delineation survey, while others were dry but contained moist areas. Gradient varies; some drainages are characterized by steep banks and moderate to steep gradients (ED11 and ED16), while others are characterized by a gentle gradient (ED7 and ED9) and shallow flow spread out over a wide area (ED8). Most ephemeral drainages in the study area contain minimal riparian vegetation and are

surrounded by blue oak woodland or foothill pine oak woodland. All 17 ephemeral drainages in the study area have a direct surface connection to the Bear River, and therefore are potentially subject to USACE jurisdiction pursuant to CWA Section 404. The data forms in Appendix B provide information about the ephemeral drainages in the study area.

Nonjurisdictional Habitats

The communities described under "Vegetation Communities" in Chapter 3 are nonjurisdictional upland features and make up approximately 151.54 acres in the study area. These habitats are considered nonjurisdictional under Section 404 of the CWA because they do not meet the three criteria for wetlands and are not located within the OHWM of a jurisdictional feature.

A proposed parking area within the Harvego BRP was added after the field surveys were conducted. Aerial imagery and topographic maps were reviewed and the proposed parking area boundaries were delineated in what appears to be a nonjurisdictional, upland area within 1.1 acres of annual grassland habitat. Based on a preliminary investigation conducted in the area during the field survey in 2017, access to the proposed parking area may cross a potentially jurisdictional seasonal wetland (wet meadow). Facultative vegetation (*Festuca perennis*) was observed to dominate this area; geomorphic position and saturation visible on aerial imagery supports potential wetland hydrology; and indicators of hydric soil were observed in the access area, although no data forms were completed at the time of the field survey. If use of the proposed parking area is pursued as part of this project, the parking area and access road may require further investigation to determine the area of potential wetland and the jurisdictional status.

Chapter 5. Discussion

The study area totals approximately 154.13 acres. Of this total, 2.58 acres are potentially jurisdictional features. Six RPWs are likely subject to USACE jurisdiction under Section 404 of the CWA: the Bear River (1.15 acres), Coon Creek (0.48 acre), six intermittent drainages (0.45 acre), and 17 ephemeral drainages (0.50 acre). These features are characterized by well-established bed, bank, and channel. They also have a clearly identifiable OHWM and are tributary to the Bear River, tributary to the TNW Feather River, or tributary to Coon Creek, which has a direct surface connection to the East Side Canal to the Natomas Cross Canal and ultimately to the TNW Sacramento River.

Blue oak woodland, blue oak–foothill pine woodland, annual grassland, mixed chaparral, and foothill valley riparian habitats lack one or more criteria that define wetlands and are located above an OHWM. These habitats are generally not regulated by USACE under CWA Section 404. A proposed parking area was added to the project area after the field survey and, based on desktop review, is located within a nonjurisdictional habitat. The access road for this proposed parking area would likely cross a potentially jurisdictional seasonal wetland. Both the proposed parking area and the access road require further investigation to determine their potential jurisdictional status. This jurisdictional determination is considered draft and contingent on verification by the USACE Sacramento District.

Chapter 6. References

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken (eds.). 2012. *The Jepson Manual: Vascular Plants of California*, 2nd Edition. Berkeley: University of California Press.

California Department of Fish and Wildlife. 2016. *A Guide to Wildlife Habitats of California.* Ed. K. E. Mayer and W. F. Laudenslayer, Jr. (1988), with online updates. Available: https://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats. Accessed December 2016.

California Department of Water Resources. 2017. California Data Exchange Center—Detailed Monthly Precipitation Summary for Water Year: 2017 Water Year Precipitation Summary. Available: http://cdec.water.ca.gov/snow_rain.html. Accessed January 2018.

CDFW. *See* California Department of Fish and Wildlife.

DWR. *See* California Department of Water Resources.

Environmental Laboratory. 1987. *U.S. Army Corps of Engineers Wetlands Delineation Manual.* (Technical Report Y-87-1.) Vicksburg, MS: U.S. Army Corps of Engineers Waterways Experiment Station.

EPA. *See* U.S. Environmental Protection Agency.

Grumbles, B. H., and J. P. Woodley, Jr. 2008 (December 2). *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in* Rapanos v. United States *and* Carabell v. United States*.* Memorandum to U.S. Environmental Protection Agency regions and U.S. Army Corps of Engineers districts. Washington, DC.

Lichvar, R. W, D. L. Banks, W. N. Kirchner, and N. C. Melvin. 2016. *The National Wetland Plant List.* ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Engineer Research and Development Center. Available: http://wetland-plants.usace.army.mil/nwpl_static/index.html. Assessed January 2018.

Lichvar, R. W., and S. M. McColley. 2008 (August). *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual.* ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Corps of Engineers, Engineer Research and Development Center.

NRCS. *See* U.S. Natural Resources Conservation Service.

Placer County. 2012 (February). *Preliminary Delineation of Waters of the United States, Including Wetlands for the Hidden Falls Regional Park Connectivity Project*. Auburn, CA. Prepared by AECOM, Sacramento, CA.

USACE. *See* U.S. Army Corps of Engineers.

USACE and EPA. *See* U.S. Army Corps of Engineers and U.S. Environmental Protection Agency.

U.S. Army Corps of Engineers. 2005 (December 7). Regulatory Guidance Letter: *Ordinary High Water Mark Identificatio*n (RGL 05-05). Available: http://www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl05-05.pdf.

———. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Vicksburg, MS: U.S. Army Corps of Engineers Waterways Experiment Station. Available: http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/trel08-28.pdf.

———. 2008b (June 26). *Jurisdictional Determinations.* Regulatory Guidance Letter No. 08-02.

———. 2016 (February). Updated Map and Drawing Standards for the South Pacific Division Regulatory Program. Special Public Notice.

———. 2018. Navigable Waterways in the Sacramento District. Available: http://www.spk.usace.army.mil/Missions/Regulatory/Jurisdiction/Navigable-Waters-of-the-US/. Accessed January 4, 2018.

U.S. Army Corps of Engineers and U.S. Environmental Protection Agency. 2007 (May 30). *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook.* Washington, DC.

U.S. Environmental Protection Agency. 2017. WATERS (Watershed Assessment, Tracking & Environmental Results System): MyWATERS mapper. Available: https://www.epa.gov/waterdata/waters-watershed-assessment-tracking-environmental-results-system. Accessed January 2018.

U.S. Fish and Wildlife Service. 2016. National Wetlands Inventory. Available: https://www.fws.gov/wetlands/data/mapper.html. Accessed December 2016.

USFWS. *See* U.S. Fish and Wildlife Service.

U.S. Geological Survey. 1981. Wolf and Gold Hill, California 1:25,000 (7.5-minute) topographic quadrangle maps.

USGS. *See* U.S. Geological Survey.

U.S. Natural Resources Conservation Service. 2006. *Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin*. U.S. Department of Agriculture Handbook 296.

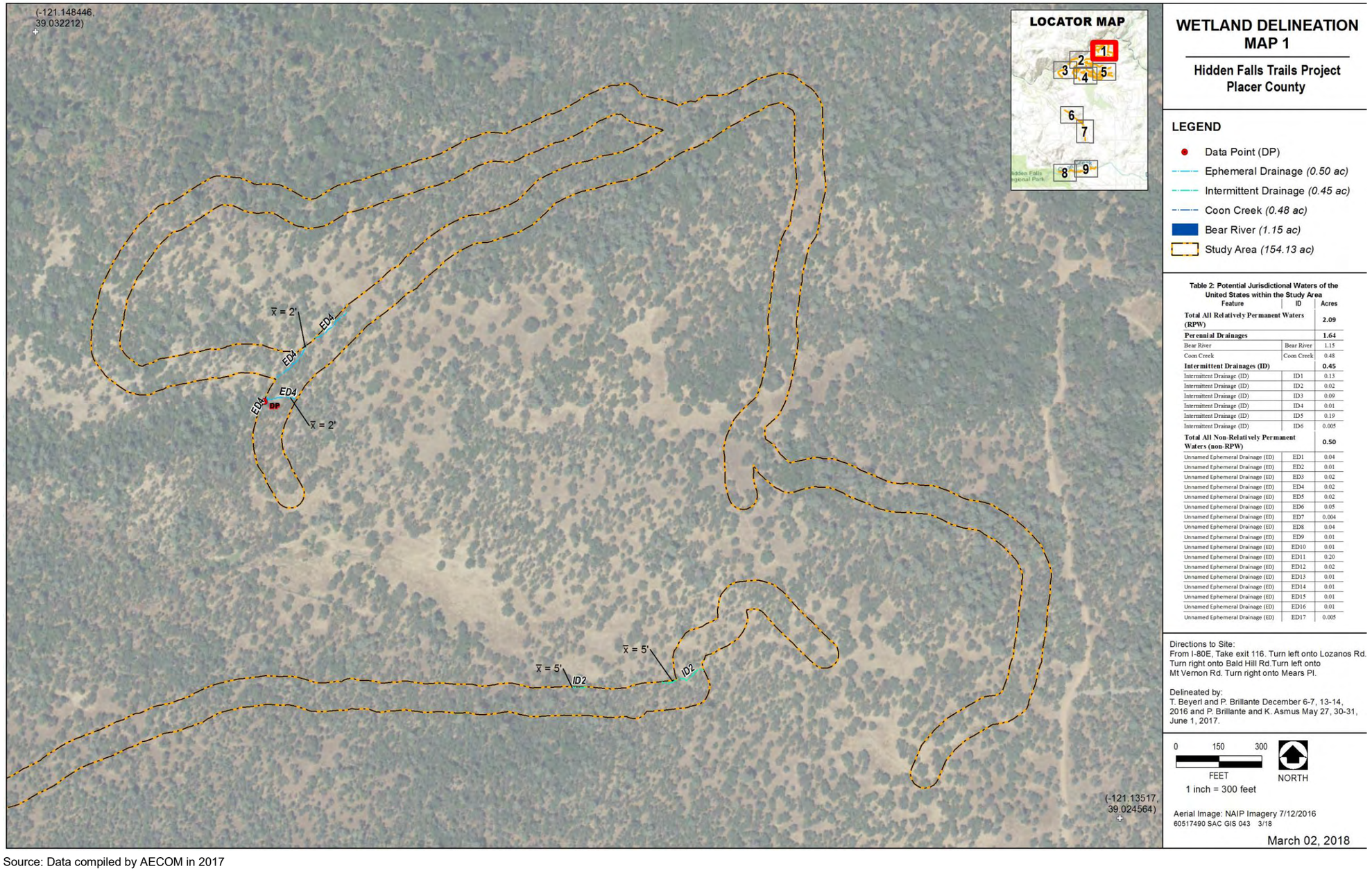
———. 2016. Web Soil Survey: *Placer County, California, Western Part*. Available: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed December 2016.

———. 2018. National Hydric Soils List. Available: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed January 4, 2018.

Western Regional Climate Center. 2018. Western U.S. Climate Historical Summaries. Climatological Data Summaries: Auburn, California (040383) Period of Record Monthly Climate Summary, Period of Record: 01/01/1905 to 06/10/2016. Available: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0383. Accessed January 4, 2018.

WRCC. *See* Western Regional Climate Center.

Appendix A Wetland Delineation Maps



WETLAND DELINEATION MAP 1

Hidden Falls Trails Project
Placer County

LEGEND

- Data Point (DP)
- Ephemeral Drainage *(0.50 ac)*
- Intermittent Drainage *(0.45 ac)*
- Coon Creek *(0.48 ac)*
- Bear River *(1.15 ac)*
- Study Area *(154.13 ac)*

Table 2: Potential Jurisdictional Waters of the United States within the Study Area

Feature	ID	Acres
Total All Relatively Permanent Waters (RPW)		**2.09**
Perennial Drainages		**1.64**
Bear River	Bear River	1.15
Coon Creek	Coon Creek	0.48
Intermittent Drainages (ID)		**0.45**
Intermittent Drainage (ID)	ID1	0.13
Intermittent Drainage (ID)	ID2	0.02
Intermittent Drainage (ID)	ID3	0.09
Intermittent Drainage (ID)	ID4	0.01
Intermittent Drainage (ID)	ID5	0.19
Intermittent Drainage (ID)	ID6	0.005
Total All Non-Relatively Permanent Waters (non-RPW)		**0.50**
Unnamed Ephemeral Drainage (ED)	ED1	0.04
Unnamed Ephemeral Drainage (ED)	ED2	0.01
Unnamed Ephemeral Drainage (ED)	ED3	0.02
Unnamed Ephemeral Drainage (ED)	ED4	0.02
Unnamed Ephemeral Drainage (ED)	ED5	0.02
Unnamed Ephemeral Drainage (ED)	ED6	0.05
Unnamed Ephemeral Drainage (ED)	ED7	0.004
Unnamed Ephemeral Drainage (ED)	ED8	0.04
Unnamed Ephemeral Drainage (ED)	ED9	0.01
Unnamed Ephemeral Drainage (ED)	ED10	0.01
Unnamed Ephemeral Drainage (ED)	ED11	0.20
Unnamed Ephemeral Drainage (ED)	ED12	0.02
Unnamed Ephemeral Drainage (ED)	ED13	0.01
Unnamed Ephemeral Drainage (ED)	ED14	0.01
Unnamed Ephemeral Drainage (ED)	ED15	0.01
Unnamed Ephemeral Drainage (ED)	ED16	0.01
Unnamed Ephemeral Drainage (ED)	ED17	0.005

Directions to Site:
From I-80E, Take exit 116. Turn left onto Lozanos Rd. Turn right onto Bald Hill Rd.Turn left onto Mt Vernon Rd. Turn right onto Mears Pl.

Delineated by:
T. Beyerl and P. Brillante December 6-7, 13-14, 2016 and P. Brillante and K. Asmus May 27, 30-31, June 1, 2017.

0 150 300
FEET
1 inch = 300 feet

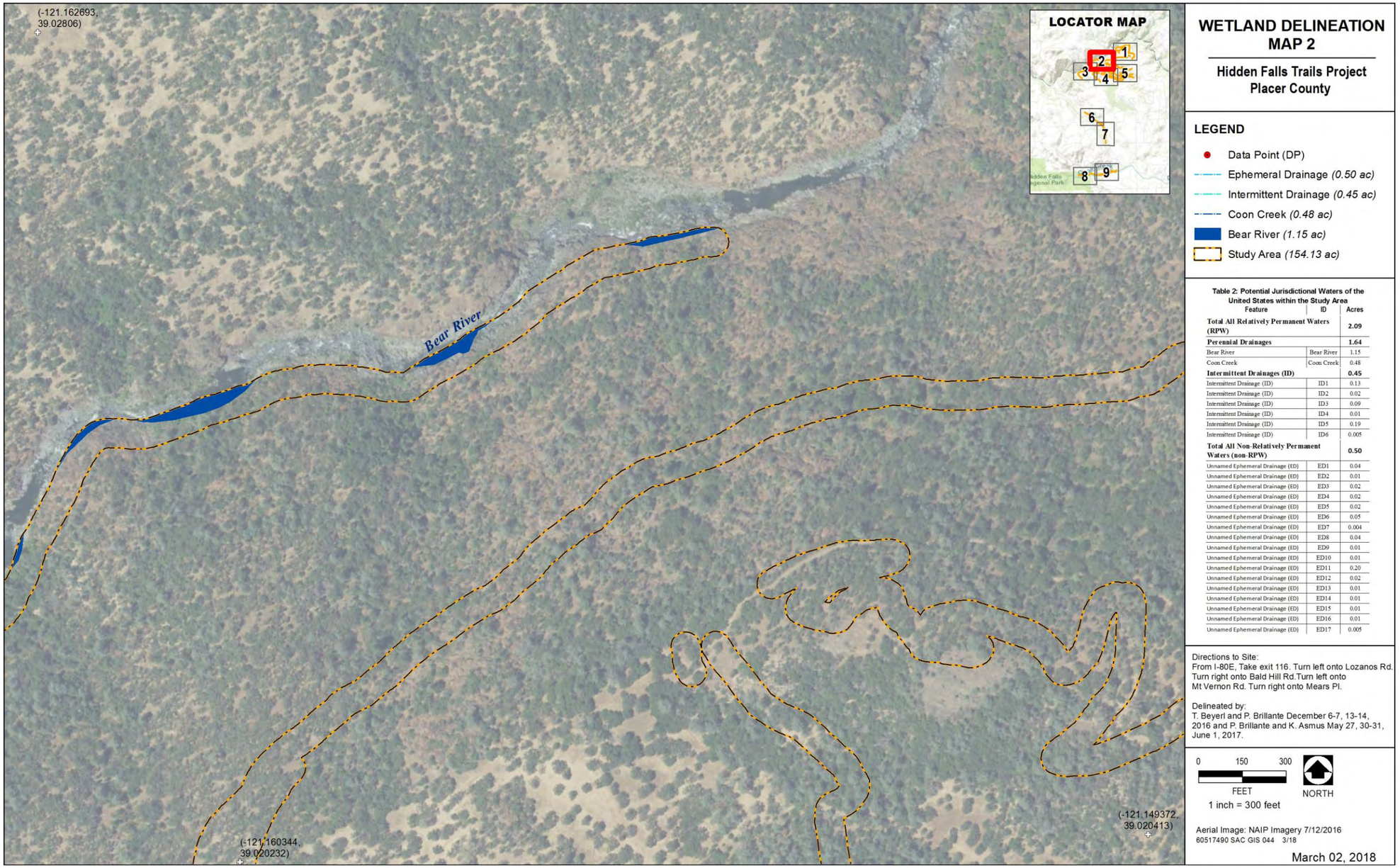
NORTH

Aerial Image: NAIP Imagery 7/12/2016
60517490 SAC GIS 043 3/18

March 02, 2018

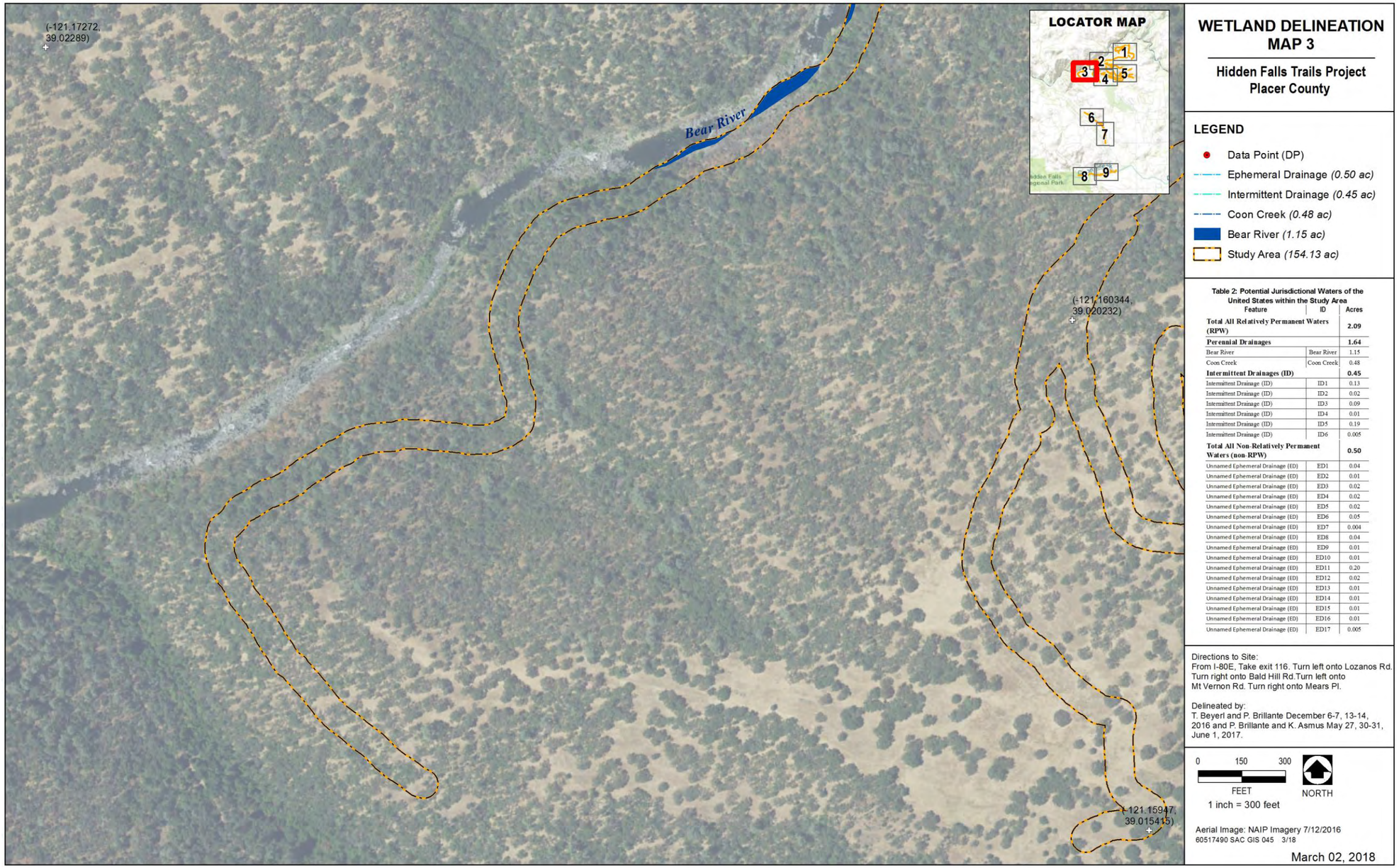
Source: Data compiled by AECOM in 2017

Figure A-1. Wetland Delineation Map



Source: Data compiled by AECOM in 2017

Figure A-2. Wetland Delineation Map



Source: Data compiled by AECOM in 2017

Figure A-3. Wetland Delineation Map

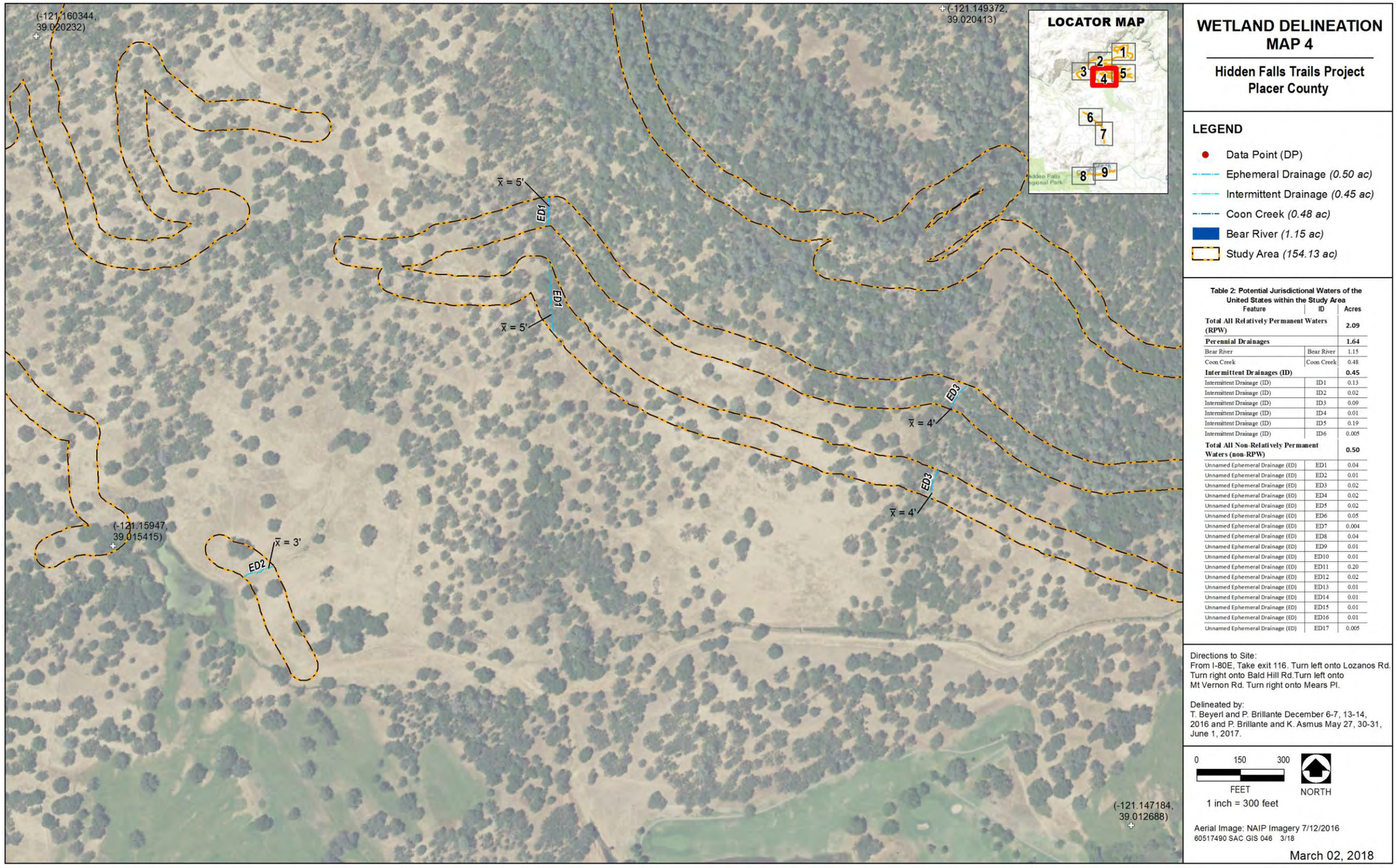
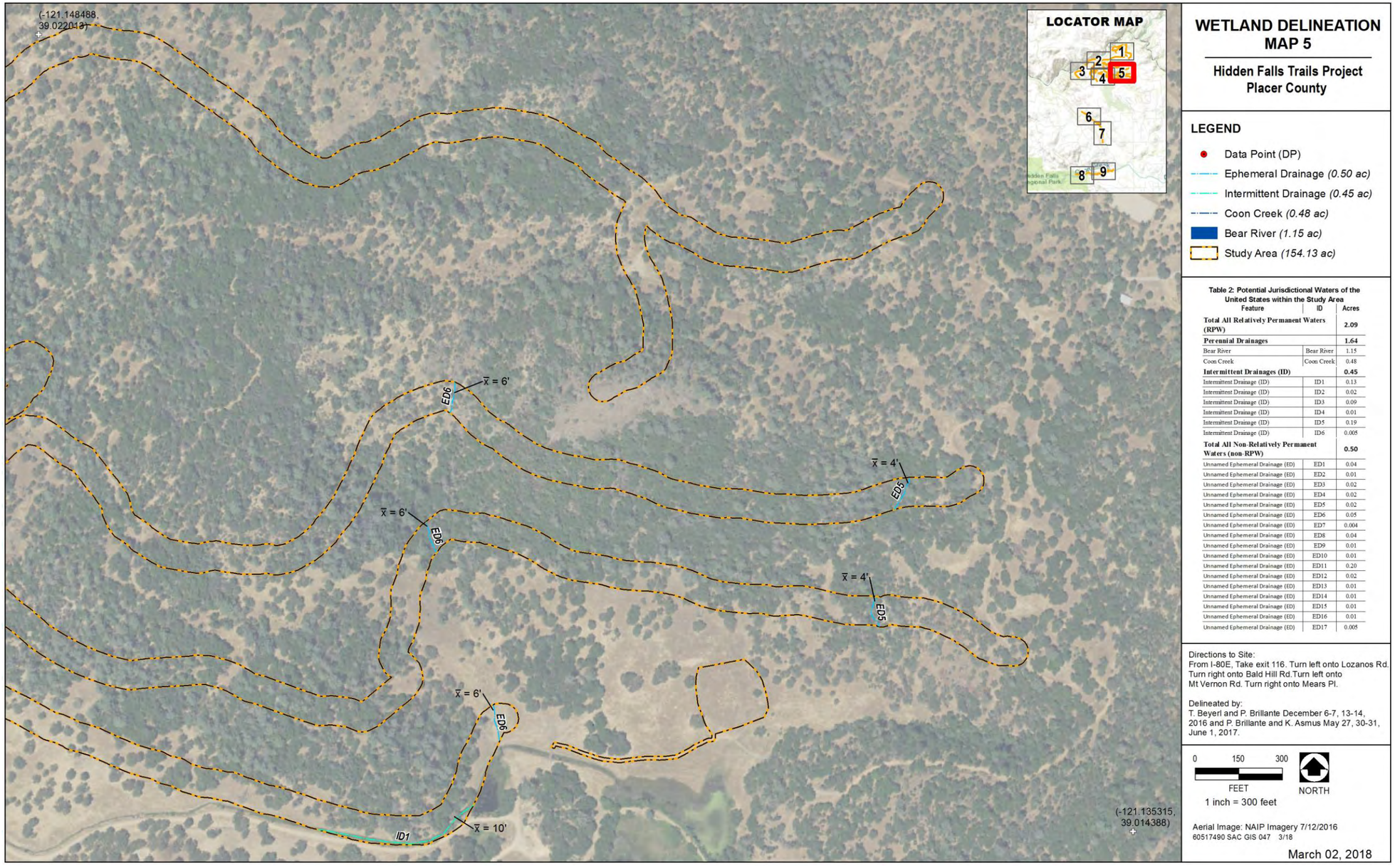


Table 2: Potential Jurisdictional Waters of the United States within the Study Area

Feature	ID	Acres
Total All Relatively Permanent Waters (RPW)		**2.09**
Perennial Drainages		**1.64**
Bear River	Bear River	1.15
Coon Creek	Coon Creek	0.48
Intermittent Drainages (ID)		**0.45**
Intermittent Drainage (ID)	ID1	0.13
Intermittent Drainage (ID)	ID2	0.02
Intermittent Drainage (ID)	ID3	0.09
Intermittent Drainage (ID)	ID4	0.01
Intermittent Drainage (ID)	ID5	0.19
Intermittent Drainage (ID)	ID6	0.005
Total All Non-Relatively Permanent Waters (non-RPW)		**0.50**
Unnamed Ephemeral Drainage (ED)	ED1	0.04
Unnamed Ephemeral Drainage (ED)	ED2	0.01
Unnamed Ephemeral Drainage (ED)	ED3	0.02
Unnamed Ephemeral Drainage (ED)	ED4	0.02
Unnamed Ephemeral Drainage (ED)	ED5	0.02
Unnamed Ephemeral Drainage (ED)	ED6	0.05
Unnamed Ephemeral Drainage (ED)	ED7	0.004
Unnamed Ephemeral Drainage (ED)	ED8	0.04
Unnamed Ephemeral Drainage (ED)	ED9	0.01
Unnamed Ephemeral Drainage (ED)	ED10	0.01
Unnamed Ephemeral Drainage (ED)	ED11	0.20
Unnamed Ephemeral Drainage (ED)	ED12	0.02
Unnamed Ephemeral Drainage (ED)	ED13	0.01
Unnamed Ephemeral Drainage (ED)	ED14	0.01
Unnamed Ephemeral Drainage (ED)	ED15	0.01
Unnamed Ephemeral Drainage (ED)	ED16	0.01
Unnamed Ephemeral Drainage (ED)	ED17	0.005

Source: Data compiled by AECOM in 2017

Figure A-4. Wetland Delineation Map



WETLAND DELINEATION MAP 5

Hidden Falls Trails Project
Placer County

LEGEND

- Data Point (DP)
- Ephemeral Drainage *(0.50 ac)*
- Intermittent Drainage *(0.45 ac)*
- Coon Creek *(0.48 ac)*
- Bear River *(1.15 ac)*
- Study Area *(154.13 ac)*

Table 2: Potential Jurisdictional Waters of the United States within the Study Area

Feature	ID	Acres
Total All Relatively Permanent Waters (RPW)		**2.09**
Perennial Drainages		**1.64**
Bear River	Bear River	1.15
Coon Creek	Coon Creek	0.48
Intermittent Drainages (ID)		**0.45**
Intermittent Drainage (ID)	ID1	0.13
Intermittent Drainage (ID)	ID2	0.02
Intermittent Drainage (ID)	ID3	0.09
Intermittent Drainage (ID)	ID4	0.01
Intermittent Drainage (ID)	ID5	0.19
Intermittent Drainage (ID)	ID6	0.005
Total All Non-Relatively Permanent Waters (non-RPW)		**0.50**
Unnamed Ephemeral Drainage (ED)	ED1	0.04
Unnamed Ephemeral Drainage (ED)	ED2	0.01
Unnamed Ephemeral Drainage (ED)	ED3	0.02
Unnamed Ephemeral Drainage (ED)	ED4	0.02
Unnamed Ephemeral Drainage (ED)	ED5	0.02
Unnamed Ephemeral Drainage (ED)	ED6	0.05
Unnamed Ephemeral Drainage (ED)	ED7	0.004
Unnamed Ephemeral Drainage (ED)	ED8	0.04
Unnamed Ephemeral Drainage (ED)	ED9	0.01
Unnamed Ephemeral Drainage (ED)	ED10	0.01
Unnamed Ephemeral Drainage (ED)	ED11	0.20
Unnamed Ephemeral Drainage (ED)	ED12	0.02
Unnamed Ephemeral Drainage (ED)	ED13	0.01
Unnamed Ephemeral Drainage (ED)	ED14	0.01
Unnamed Ephemeral Drainage (ED)	ED15	0.01
Unnamed Ephemeral Drainage (ED)	ED16	0.01
Unnamed Ephemeral Drainage (ED)	ED17	0.005

Directions to Site:
From I-80E, Take exit 116. Turn left onto Lozanos Rd. Turn right onto Bald Hill Rd.Turn left onto Mt Vernon Rd. Turn right onto Mears Pl.

Delineated by:
T. Beyerl and P. Brillante December 6-7, 13-14, 2016 and P. Brillante and K. Asmus May 27, 30-31, June 1, 2017.

0 150 300
FEET
1 inch = 300 feet

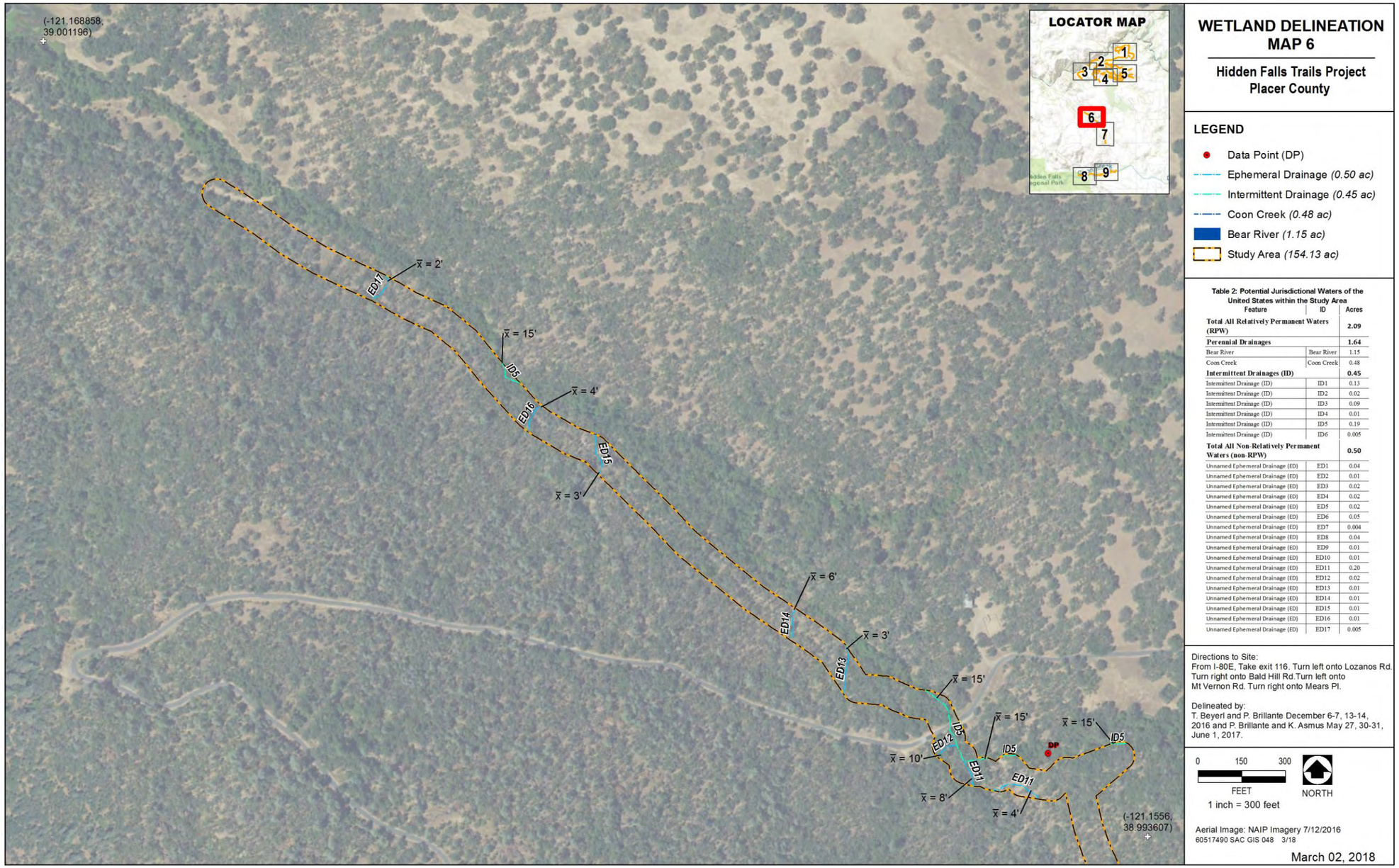
NORTH

Aerial Image: NAIP Imagery 7/12/2016
60517490 SAC GIS 047 3/18

March 02, 2018

Source: Data compiled by AECOM in 2017

Figure A-5. Wetland Delineation Map



WETLAND DELINEATION MAP 6

Hidden Falls Trails Project
Placer County

LEGEND

- Data Point (DP)
- Ephemeral Drainage *(0.50 ac)*
- Intermittent Drainage *(0.45 ac)*
- Coon Creek *(0.48 ac)*
- Bear River *(1.15 ac)*
- Study Area *(154.13 ac)*

Table 2: Potential Jurisdictional Waters of the United States within the Study Area

Feature	ID	Acres
Total All Relatively Permanent Waters (RPW)		**2.09**
Perennial Drainages		**1.64**
Bear River	Bear River	1.15
Coon Creek	Coon Creek	0.48
Intermittent Drainages (ID)		**0.45**
Intermittent Drainage (ID)	ID1	0.13
Intermittent Drainage (ID)	ID2	0.02
Intermittent Drainage (ID)	ID3	0.09
Intermittent Drainage (ID)	ID4	0.01
Intermittent Drainage (ID)	ID5	0.19
Intermittent Drainage (ID)	ID6	0.005
Total All Non-Relatively Permanent Waters (non-RPW)		**0.50**
Unnamed Ephemeral Drainage (ED)	ED1	0.04
Unnamed Ephemeral Drainage (ED)	ED2	0.01
Unnamed Ephemeral Drainage (ED)	ED3	0.02
Unnamed Ephemeral Drainage (ED)	ED4	0.02
Unnamed Ephemeral Drainage (ED)	ED5	0.02
Unnamed Ephemeral Drainage (ED)	ED6	0.05
Unnamed Ephemeral Drainage (ED)	ED7	0.004
Unnamed Ephemeral Drainage (ED)	ED8	0.04
Unnamed Ephemeral Drainage (ED)	ED9	0.01
Unnamed Ephemeral Drainage (ED)	ED10	0.01
Unnamed Ephemeral Drainage (ED)	ED11	0.20
Unnamed Ephemeral Drainage (ED)	ED12	0.02
Unnamed Ephemeral Drainage (ED)	ED13	0.01
Unnamed Ephemeral Drainage (ED)	ED14	0.01
Unnamed Ephemeral Drainage (ED)	ED15	0.01
Unnamed Ephemeral Drainage (ED)	ED16	0.01
Unnamed Ephemeral Drainage (ED)	ED17	0.005

Directions to Site:
From I-80E, Take exit 116. Turn left onto Lozanos Rd. Turn right onto Bald Hill Rd.Turn left onto Mt Vernon Rd. Turn right onto Mears Pl.

Delineated by:
T. Beyerl and P. Brillante December 6-7, 13-14, 2016 and P. Brillante and K. Asmus May 27, 30-31, June 1, 2017.

0 150 300
FEET
1 inch = 300 feet

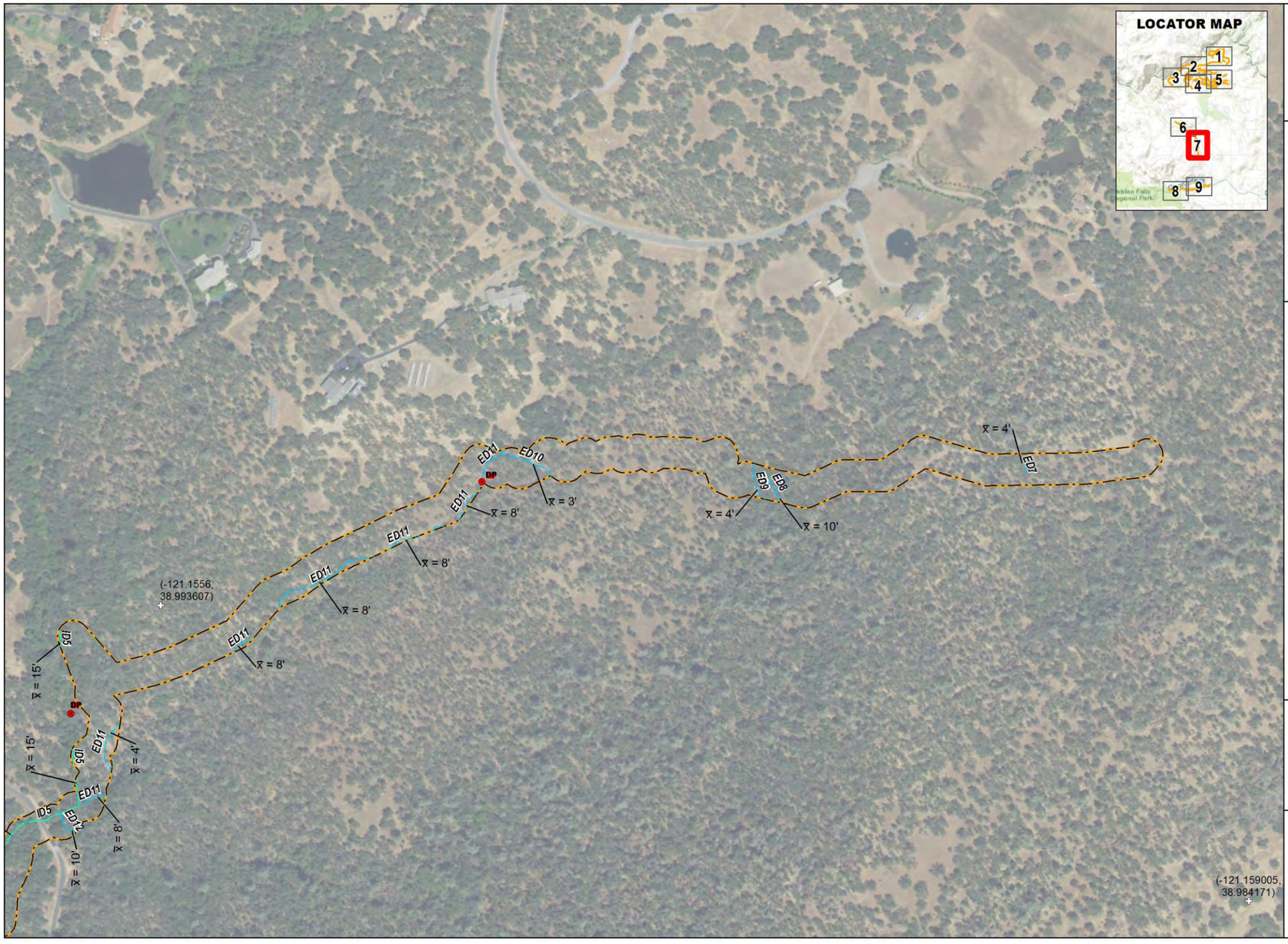
NORTH

Aerial Image: NAIP Imagery 7/12/2016
60517490 SAC GIS 048 3/18

March 02, 2018

Source: Data compiled by AECOM in 2017

Figure A-6. Wetland Delineation Map



WETLAND DELINEATION MAP 7

Hidden Falls Trails Project
Placer County

LEGEND

- Data Point (DP)
- Ephemeral Drainage *(0.50 ac)*
- Intermittent Drainage *(0.45 ac)*
- Coon Creek *(0.48 ac)*
- Bear River *(1.15 ac)*
- Study Area *(154.13 ac)*

Table 2: Potential Jurisdictional Waters of the United States within the Study Area

Feature	ID	Acres
Total All Relatively Permanent Waters (RPW)		**2.09**
Perennial Drainages		**1.64**
Bear River	Bear River	1.15
Coon Creek	Coon Creek	0.48
Intermittent Drainages (ID)		**0.45**
Intermittent Drainage (ID)	ID1	0.13
Intermittent Drainage (ID)	ID2	0.02
Intermittent Drainage (ID)	ID3	0.09
Intermittent Drainage (ID)	ID4	0.01
Intermittent Drainage (ID)	ID5	0.19
Intermittent Drainage (ID)	ID6	0.005
Total All Non-Relatively Permanent Waters (non-RPW)		**0.50**
Unnamed Ephemeral Drainage (ED)	ED1	0.04
Unnamed Ephemeral Drainage (ED)	ED2	0.01
Unnamed Ephemeral Drainage (ED)	ED3	0.02
Unnamed Ephemeral Drainage (ED)	ED4	0.02
Unnamed Ephemeral Drainage (ED)	ED5	0.02
Unnamed Ephemeral Drainage (ED)	ED6	0.05
Unnamed Ephemeral Drainage (ED)	ED7	0.004
Unnamed Ephemeral Drainage (ED)	ED8	0.04
Unnamed Ephemeral Drainage (ED)	ED9	0.01
Unnamed Ephemeral Drainage (ED)	ED10	0.01
Unnamed Ephemeral Drainage (ED)	ED11	0.20
Unnamed Ephemeral Drainage (ED)	ED12	0.02
Unnamed Ephemeral Drainage (ED)	ED13	0.01
Unnamed Ephemeral Drainage (ED)	ED14	0.01
Unnamed Ephemeral Drainage (ED)	ED15	0.01
Unnamed Ephemeral Drainage (ED)	ED16	0.01
Unnamed Ephemeral Drainage (ED)	ED17	0.005

Directions to Site:
From I-80E, Take exit 116. Turn left onto Lozanos Rd. Turn right onto Bald Hill Rd.Turn left onto Mt Vernon Rd. Turn right onto Mears Pl.

Delineated by:
T. Beyerl and P. Brillante December 6-7, 13-14, 2016 and P. Brillante and K. Asmus May 27, 30-31, June 1, 2017.

0 150 300
FEET
1 inch = 300 feet

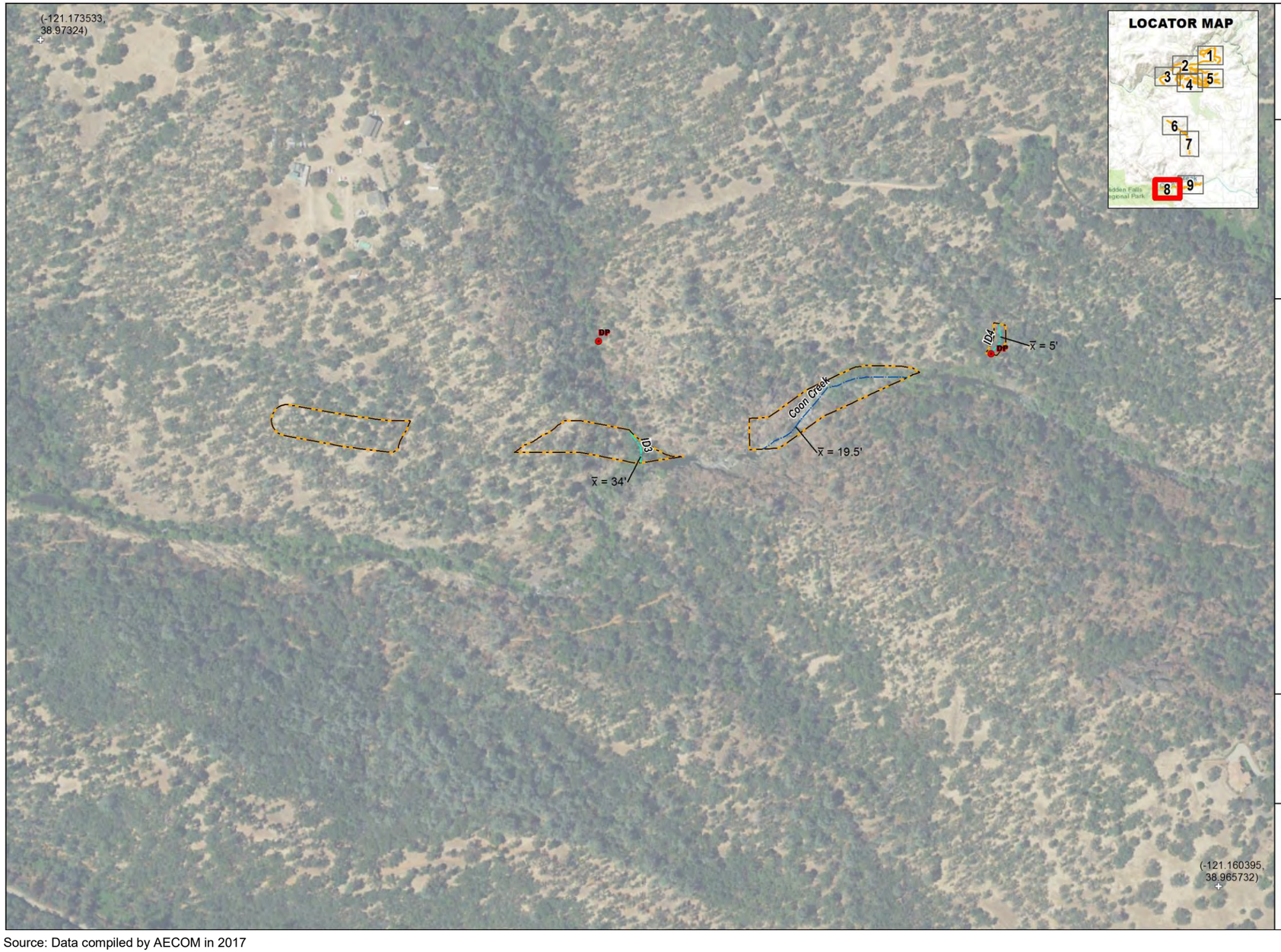
NORTH

Aerial Image: NAIP Imagery 7/12/2016
60517490 SAC GIS 049 3/18

March 02, 2018

Source: Data compiled by AECOM in 2017

Figure A-7. Wetland Delineation Map



WETLAND DELINEATION MAP 8

Hidden Falls Trails Project
Placer County

LEGEND

- Data Point (DP)
- Ephemeral Drainage *(0.50 ac)*
- Intermittent Drainage *(0.45 ac)*
- Coon Creek *(0.48 ac)*
- Bear River *(1.15 ac)*
- Study Area *(154.13 ac)*

Table 2: Potential Jurisdictional Waters of the United States within the Study Area

Feature	ID	Acres
Total All Relatively Permanent Waters (RPW)		**2.09**
Perennial Drainages		**1.64**
Bear River	Bear River	1.15
Coon Creek	Coon Creek	0.48
Intermittent Drainages (ID)		**0.45**
Intermittent Drainage (ID)	ID1	0.13
Intermittent Drainage (ID)	ID2	0.02
Intermittent Drainage (ID)	ID3	0.09
Intermittent Drainage (ID)	ID4	0.01
Intermittent Drainage (ID)	ID5	0.19
Intermittent Drainage (ID)	ID6	0.005
Total All Non-Relatively Permanent Waters (non-RPW)		**0.50**
Unnamed Ephemeral Drainage (ED)	ED1	0.04
Unnamed Ephemeral Drainage (ED)	ED2	0.01
Unnamed Ephemeral Drainage (ED)	ED3	0.02
Unnamed Ephemeral Drainage (ED)	ED4	0.02
Unnamed Ephemeral Drainage (ED)	ED5	0.02
Unnamed Ephemeral Drainage (ED)	ED6	0.05
Unnamed Ephemeral Drainage (ED)	ED7	0.004
Unnamed Ephemeral Drainage (ED)	ED8	0.04
Unnamed Ephemeral Drainage (ED)	ED9	0.01
Unnamed Ephemeral Drainage (ED)	ED10	0.01
Unnamed Ephemeral Drainage (ED)	ED11	0.20
Unnamed Ephemeral Drainage (ED)	ED12	0.02
Unnamed Ephemeral Drainage (ED)	ED13	0.01
Unnamed Ephemeral Drainage (ED)	ED14	0.01
Unnamed Ephemeral Drainage (ED)	ED15	0.01
Unnamed Ephemeral Drainage (ED)	ED16	0.01
Unnamed Ephemeral Drainage (ED)	ED17	0.005

Directions to Site:
From I-80E, Take exit 116. Turn left onto Lozanos Rd. Turn right onto Bald Hill Rd.Turn left onto Mt Vernon Rd. Turn right onto Mears Pl.

Delineated by:
T. Beyerl and P. Brillante December 6-7, 13-14, 2016 and P. Brillante and K. Asmus May 27, 30-31, June 1, 2017.

0 150 300
FEET
1 inch = 300 feet
NORTH

Aerial Image: NAIP Imagery 7/12/2016
60517490 SAC GIS 050 3/18

March 02, 2018

Source: Data compiled by AECOM in 2017

Figure A-8. Wetland Delineation Map

WETLAND DELINEATION MAP 9

Hidden Falls Trails Project
Placer County

LEGEND

- Data Point (DP)
- Ephemeral Drainage *(0.50 ac)*
- Intermittent Drainage *(0.45 ac)*
- Coon Creek *(0.48 ac)*
- Bear River *(1.15 ac)*
- Study Area *(154.13 ac)*

Table 2: Potential Jurisdictional Waters of the United States within the Study Area

Feature	ID	Acres
Total All Relatively Permanent Waters (RPW)		**2.09**
Perennial Drainages		**1.64**
Bear River	Bear River	1.15
Coon Creek	Coon Creek	0.48
Intermittent Drainages (ID)		**0.45**
Intermittent Drainage (ID)	ID1	0.13
Intermittent Drainage (ID)	ID2	0.02
Intermittent Drainage (ID)	ID3	0.09
Intermittent Drainage (ID)	ID4	0.01
Intermittent Drainage (ID)	ID5	0.19
Intermittent Drainage (ID)	ID6	0.005
Total All Non-Relatively Permanent Waters (non-RPW)		**0.50**
Unnamed Ephemeral Drainage (ED)	ED1	0.04
Unnamed Ephemeral Drainage (ED)	ED2	0.01
Unnamed Ephemeral Drainage (ED)	ED3	0.02
Unnamed Ephemeral Drainage (ED)	ED4	0.02
Unnamed Ephemeral Drainage (ED)	ED5	0.02
Unnamed Ephemeral Drainage (ED)	ED6	0.05
Unnamed Ephemeral Drainage (ED)	ED7	0.004
Unnamed Ephemeral Drainage (ED)	ED8	0.04
Unnamed Ephemeral Drainage (ED)	ED9	0.01
Unnamed Ephemeral Drainage (ED)	ED10	0.01
Unnamed Ephemeral Drainage (ED)	ED11	0.20
Unnamed Ephemeral Drainage (ED)	ED12	0.02
Unnamed Ephemeral Drainage (ED)	ED13	0.01
Unnamed Ephemeral Drainage (ED)	ED14	0.01
Unnamed Ephemeral Drainage (ED)	ED15	0.01
Unnamed Ephemeral Drainage (ED)	ED16	0.01
Unnamed Ephemeral Drainage (ED)	ED17	0.005

Directions to Site:
From I-80E, Take exit 116. Turn left onto Lozanos Rd. Turn right onto Bald Hill Rd.Turn left onto Mt Vernon Rd. Turn right onto Mears Pl.

Delineated by:
T. Beyerl and P. Brillante December 6-7, 13-14, 2016 and P. Brillante and K. Asmus May 27, 30-31, June 1, 2017.

0 150 300
FEET
1 inch = 300 feet
NORTH

Aerial Image: NAIP Imagery 7/12/2016
60517490 SAC GIS 051 3/18

March 02, 2018

Source: Data compiled by AECOM in 2017

Figure A-9. Wetland Delineation Map

Appendix B Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Hidden Falls Expansion City/County: Placer Sampling Date: 12/6/16

Applicant/Owner: Placer County State: CA Sampling Point: ID1

Investigator(s): T. Beyerl, P. Brillante Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No _____
Hydric Soil Present?	Yes _____ No _____	
Wetland Hydrology Present?	Yes _____ No _____	

Remarks: Ponded area at convergence of ID2 and ED3

Pam's Photos 4:02, 4:03, 4:11, 4:13

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. Salix laevigata	1	Y	FACW
2.			
3.			
4.			
	1 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: _____)			
1. Eleocharis macrostachya	70	Y	OBL
2. Cyperus eragrostis	10	N	FACW
3. Paspalum probably dilatatum FAC	10	N	FAC/FACW
4. Rumex pulcher no a, -er	2	N	FAC
5. Other	3	N	NL/UPL
6.			
7.			
8.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

__ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

US Army Corps of Engineers Arid West – Version 2.0

SOIL

Sampling Point: ID1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: No soil pit - point is a wetland/ponded area within the OHWM of an intermittent stream at convergence of an ephemeral stream

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ____ Depth (inches): 24"

Water Table Present? Yes ____ No ____ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Downstream of ED3 convergence, OHWM = 20ft and is currently ponded to about 24" deep. At convergence, an area of wetland veg as noted on front. upstream of convergence, water in low-flow channel = 6ft wide & up to 10" deep, OHWM = 10 ft.

US Army Corps of Engineers

Arid West – Version 2.0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Hidden Falls Expansion City/County: Placer County Sampling Date: 12/7/16

Applicant/Owner: Placer County State: _____ Sampling Point: ED4

Investigator(s): T. Beyerl, P. Brillante Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No _____	
Wetland Hydrology Present?	Yes _____ No _____	

Remarks:
Ephemeral Drainage OHWM = 2ft 12:13 looking upstream from fork
Pan's Photos 12:12 looking downstream from fork, 12:13 upstream

4213111

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. Quercus douglasii	3	Y	NL/UPL
2. Quercus wislizenii	1	Y	NL/UPL
3.			
4.			
	4	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. Toxicodendron diversiloba	2	Y	FACU
2.			
3.			
4.			
5.			
	2	= Total Cover	
Herb Stratum (Plot size: _____)			
1. Cynosurus echinatus	25	Y	NL/UPL
2. Geranium molle	30	Y	NL/UPL
3. Torilis	10	N	NL/UPL
4. Bromus diandrus	15	N	NL/UPL
5. Avena	5	N	NL/UPL
6. Ranunculus californicus	3	N	FACU
7. Vicia sativa	2	N	FACU
8. Stellaria media	5	N	FACU
	95	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:
Grassy channel

US Army Corps of Engineers Arid West – Version 2.0

SOIL

Sampling Point: ED4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: No soil pit - feature is an ephemeral drainage delineated by OHWM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ✓ Drift Deposits (B3) **(Riverine)**
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Substrate boulder & mud

US Army Corps of Engineers

Arid West – Version 2.0

OHWM Delineation Cover Sheet Page 1 of 2

Project: Hidden Falls **Date:** 12/13/16

Location: Placer County **Investigator(s):** T. Beyerl, P. Brillante

Project Description: Coon Creek

Describe the river or stream's condition (disturbances, in-stream structures, etc.):
Braided channel with ox bow, in-stream gravel bars vegetated with blackberry, willow, alder, grape

Off-site Information

Remotely sensed image(s) acquired? ☒ **Yes** ☐ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:
aerial imagery

Hydrologic/hydraulic information acquired? ☐ **Yes** ☐ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:
Photos: Pam 11:20 (a) looking south (b) looking downstream

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # Coon Creek **OHWM Delineation Datasheet** Page 2 of 2

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☒ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	50	30	5	5	10	
Below OHWM	0	5	20	35	40	

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	35	10	95	5
Below OHWM	10	45	5	40

Notes/Description: Below OHWM is a foothill riparian assemblage of alder, willow grape, blackberry, verbena, and very sparse Bermuda grass. Above OHWM is blue oak woodland with Toyon, live oak, Ceanothus, Bromus, Avena, Torilis

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Bank cutting, exposed roots, leaning vegetation

OHWM Delineation Cover Sheet Page 1 of 2

Project: Hidden Falls **Date:** 12/13/16

Location: Placer County **Investigator(s):** T. Beyerl, P. Brillante

Project Description: ID3

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Off-site Information

Remotely sensed image(s) acquired? ☐ **Yes** ☐ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ **Yes** ☐ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

Photos: 12:21 (2) upstream & downstream

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # ID3 **OHWM Delineation Datasheet** Page 2 of 2

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

OHWM ≈ 30 ft

Break in Slope at OHWM: ☐ Sharp (> 60°) | ☒ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description: Channel is steep with cascade pools and confined

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	~~5~~70	15	~~20~~ 10	~~10~~ 2	~~80~~ 3	
Below OHWM	5	15	20	10	50	

Notes/Description: Boulder/bedrock channel with pocket of accumulated soil, sand, gravel by steep slopes on each side

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	10	25	~~5~~	35
Below OHWM	15	10	2	73

Notes/Description: Foothill riparian rooted in channel; fig, alder, willow, blackberry, sparse grasses & ferns & moss on rocks
Live oak woodland above OHWM

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Cut banks

OHWM Delineation Cover Sheet Page 1 of 2

Project: Hidden Falls Expansion **Date:** 12/13/16

Location: Placer County **Investigator(s):** T. Beyerl, P. Brillante

Project Description: ID4

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Off-site Information

Remotely sensed image(s) acquired? ☐ **Yes** ☐ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ **Yes** ☐ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

Photos: 1:44 upstream & downstream

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # ID4 **OHWM Delineation Datasheet** Page 2 of 2

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

2 Photos 1:44

Break in Slope at OHWM: ☐ Sharp (> 60°) | ☒ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	55	5	15	10	15	
Below OHWM	0	2	18	30	60	

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	35	20	55	45
Below OHWM	5	35	5	55

Notes/Description: Blackberry, willow, cyperus, conyza in channel

live oak, toyon, blue oak, poison oak, grasses, torilis above OHWM

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

OHWM Delineation Cover Sheet Page 1 of 2

Project: Hidden Falls Expansion **Date:** 12/14/16

Location: Placer County **Investigator(s):** T. Beyerl, P. Brillante

Project Description: ED11

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Wide ephemeral drainage in moderately steep topography between two slopes

Off-site Information

Remotely sensed image(s) acquired? ☒ **Yes** ☐ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

aerial imagery

Hydrologic/hydraulic information acquired? ☐ **Yes** ☐ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

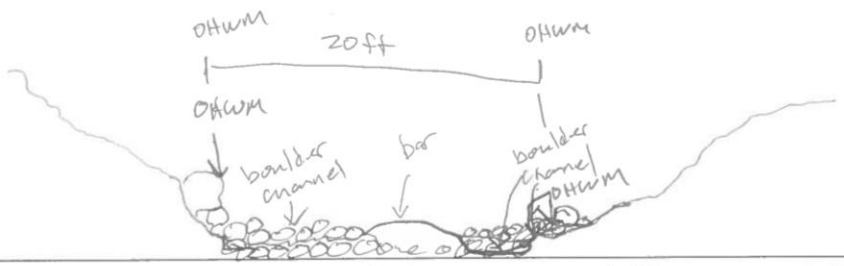
List and describe any other supporting information received/acquired:

Photos: 1:52 (2) upstream & downstream

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # ED11 **OHWM Delineation Datasheet** Page 2 of 2

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☐ Sharp (> 60°) | ☒ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	10	20	40	10	20	
Below OHWM	—	10	20	30	40	

Notes/Description: cascading bedrock/boulder channel

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	25	10	85	15
Below OHWM	15	10	30	70

Notes/Description:
Upland blue oak woodland vegetation above and below OHWM

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

OHWM Delineation Cover Sheet Page 1 of 2

Project: Hidden Falls Expansion **Date:** 12/14/16

Location: Placer County **Investigator(s):** T. Beyerl, P. Brillante

Project Description: ID5

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Off-site Information

Remotely sensed image(s) acquired? ☐ **Yes** ☐ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ **Yes** ☐ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

Photos: Mike 2:19 upstream & downstream
Pam's 2:09 upstream 2:10 downstream

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # ID5 **OHWM Delineation Datasheet** Page 2 of 2

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

Break in Slope at OHWM: ☐ Sharp (> 60°) | ☒ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None
Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	40	15	25	10	10	
Below OHWM	0	5	45	20	30	

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	40	15	90	10
Below OHWM	10	40	5	95

Notes/Description:
Foothill riparian below OHWM with scattered alder and dense blackberry. Above OHWM is blue oak woodland.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation
Cut banks

OHWM Delineation Cover Sheet Page 1 of 2

Project: Hidden Falls Expansion **Date:** 6/2/17

Location: Placer County, Coon Creek Trib **Investigator(s):** K. ASMUS

Project Description:

#1D6

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

see notes other side

Off-site Information

Remotely sensed image(s) acquired? ☒ **Yes** ☐ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Viewable on Google Earth. Feature itself is obscured by vegetation

Hydrologic/hydraulic information acquired? ☐ **Yes** ☐ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

Photos taken

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # 1D 6 **OHWM Delineation Datasheet** Page 2 of 2

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☒ Gentle (< 30°) | ☐ None
Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	/	/	/	/	5	Y
Below OHWM	5	/	5	5	85	N

Notes/Description:
Cobble & boulder channel. Head starts in boundary, above but is swale. Drains into historic ditch. Breeches 20' away

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	75	15	95	5
Below OHWM	75	15	5	95

Annual dissipates into sheet flow down to Coon Creek

Notes/Description:
Buckeye, button willow / herb layer typ. of oak woodland elsewhere

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation
Water stains, sediment, slight break from bed to bank

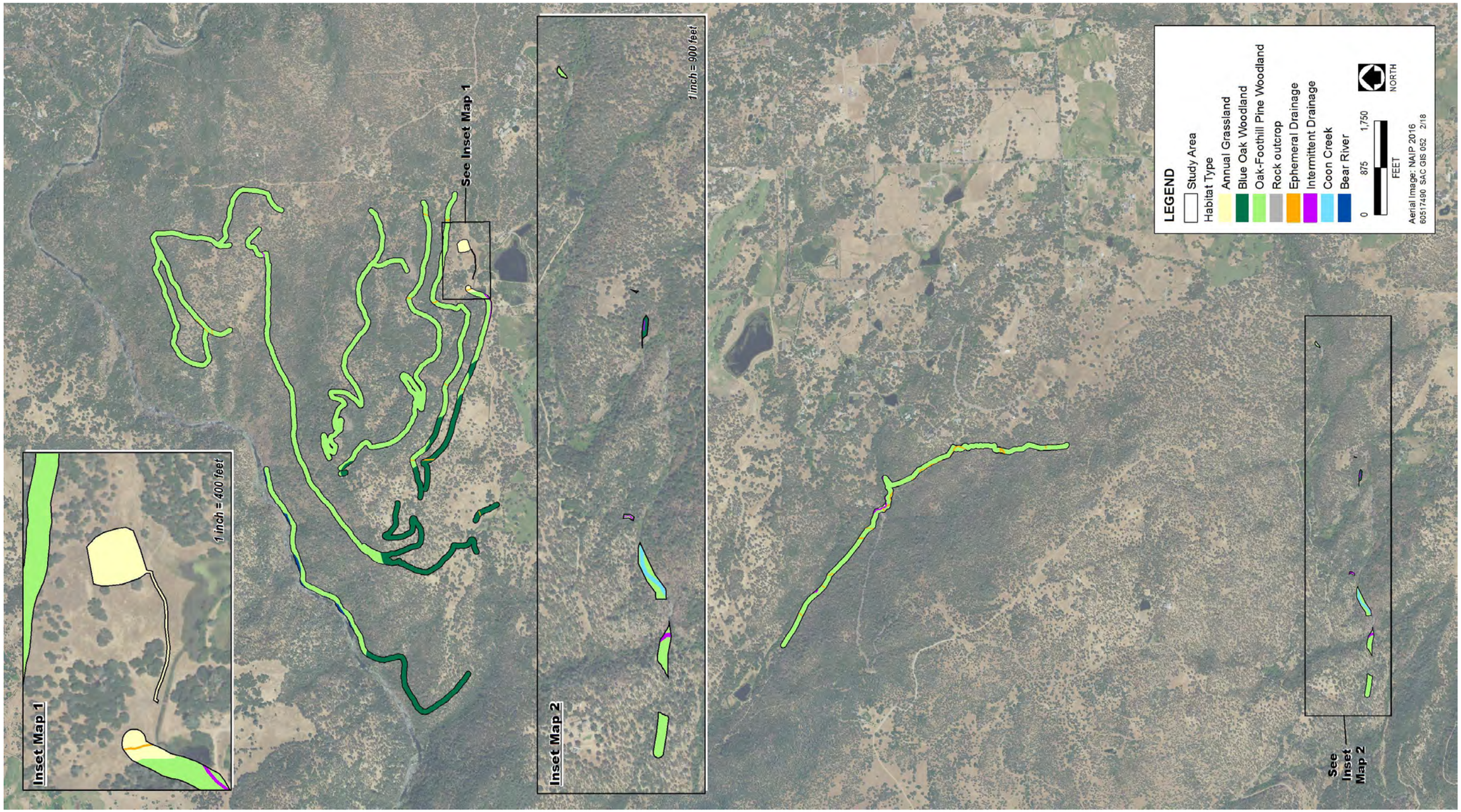
Appendix C Aquatic Resources Table

Table C-1. Aquatic Resources Table

Waters Name	Cowardin Code	HGM Code	Measurement Type	Amount	Units Area	Units Linear	Waters Type	Latitude	Longitude
ED1	CALIFORNIA	R4SB	RIVERINE	Area	0.04	ACRE	NRPW	39.01772	-121.15415
ED2	CALIFORNIA	R4SB	RIVERINE	Area	0.01	ACRE	NRPW	39.015156	-121.157716
ED3	CALIFORNIA	R4SB	RIVERINE	Area	0.02	ACRE	NRPW	39.016748	-121.149229
ED4	CALIFORNIA	R4SB	RIVERINE	Area	0.02	ACRE	NRPW	39.029006	-121.145312
ED5	CALIFORNIA	R4SB	RIVERINE	Area	0.02	ACRE	NRPW	39.017592	-121.138068
ED6	CALIFORNIA	R4SB	RIVERINE	Area	0.05	ACRE	NRPW	39.017224	-121.1438
ED7	CALIFORNIA	R4SB	RIVERINE	Area	0.00	ACRE	NRPW	38.986088	-121.154144
ED8	CALIFORNIA	R4SB	RIVERINE	Area	0.04	ACRE	NRPW	38.988288	-121.154329
ED9	CALIFORNIA	R4SB	RIVERINE	Area	0.01	ACRE	NRPW	38.988414	-121.154291
ED10	CALIFORNIA	R4SB	RIVERINE	Area	0.01	ACRE	NRPW	38.990396	-121.154048
ED11	CALIFORNIA	R4SB	RIVERINE	Area	0.20	ACRE	NRPW	38.992193	-121.155318
ED12	CALIFORNIA	R4SB	RIVERINE	Area	0.02	ACRE	NRPW	38.994437	-121.158043
ED13	CALIFORNIA	R4SB	RIVERINE	Area	0.01	ACRE	NRPW	38.995201	-121.159232
ED14	CALIFORNIA	R4SB	RIVERINE	Area	0.01	ACRE	NRPW	38.995639	-121.159872
ED15	CALIFORNIA	R4SB	RIVERINE	Area	0.01	ACRE	NRPW	38.997246	-121.162208
ED16	CALIFORNIA	R4SB	RIVERINE	Area	0.01	ACRE	NRPW	38.997607	-121.162989
ED17	CALIFORNIA	R4SB	RIVERINE	Area	0.005	ACRE	NRPW	38.998833	-121.164784
ID1	CALIFORNIA	R4SB	RIVERINE	Area	0.13	ACRE	RPW	39.014431	-121.144197
ID2	CALIFORNIA	R4SB	RIVERINE	Area	0.02	ACRE	RPW	39.025947	-121.140538
ID3	CALIFORNIA	R4SB	RIVERINE	Area	0.09	ACRE	RPW	38.96963	-121.166886
ID4	CALIFORNIA	R4SB	RIVERINE	Area	0.01	ACRE	RPW	38.970533	-121.162821
ID5	CALIFORNIA	R4SB	RIVERINE	Area	0.19	ACRE	RPW	38.994615	-121.157936
ID6	CALIFORNIA	R4SB	RIVERINE	Area	0.005	ACRE	RPW	38.970029	-121.156348
Coon Creek	CALIFORNIA	R3RB	RIVERINE	Area	0.48	ACRE	RPW	38.970009	-121.16471
Bear River	CALIFORNIA	R3RB	RIVERINE	Area	1.15	ACRE	TNWRPW	39.02453	-121.160766

Notes:
ED = ephemeral drainage; ID = intermittent drainage; NRPW = Non-RPWs that flow directly or indirectly into TNWs; RPW = Relatively Permanent Waters (RPWs) that flow directly or indirectly into TNWs; TNWRPW = Tributary consisting of both RPWs and non-RPWs

Appendix D Habitat Map



Source: Data compiled by AECOM in 2018

Figure D-1. Habitat Map

This page intentionally left blank.

Appendix E Plant Species Observed List

Table E-1. Plant List

Scientific Name	Common Name	Indicator Status
Achillea millefolium var. *millefolium*	white yarrow	FACU
Achyrachaena mollis	blow wives	FAC
Acmispon parviflorus	hill lotus	NL
Adiantum jordanii	California maidenhair fern	FAC
Aesculus californica	California buckeye	NL
Aira caryophyllea	silver hairgrass	FACU
Allium peninsulare	Mexicali onion	NL
Alnus rhombifolia	white alder	FACW
Amelanchier sp.	serviceberry	NL
Amsinckia menziesii var. *intermedia*	fiddleneck	NL
Artemisia douglasiana	mugwort	FAC
Asclepias cordifolia	purple milkweed	NL
Avena barbata	slender wild oat	NL
Avena fatua	wild oat	NL
Baccharis pilularis	coyote brush	NL
Bellardia trixago	Mediterranean linseed	NL
Briza minor	little quaking grass	FAC
Brodiaea elegans ssp. *elegans*	elegant harvest brodiaea	FACU
Bromus carinatus var. *carinatus*	California brome	NL
Bromus diandrus	ripgut brome	NL
Bromus hordeaceus	soft chess	FACU
Bromus laevipes	woodland brome	NL
Bromus madritensis var. *rubens*	foxtail chess	UPL
Calochortus albus	white globelily	NL
Calochortus superbus	yellow Mariposa lily	NL
Calycadenia multiglandulosa	white rosin weed	NL
Calystegia occidentalis	western morning-glory	NL
Carduus pycnocephalus	Italian thistle	NL
Castilleja affinis ssp. *affinis*	paintbrush	NL
Ceanothus integerrimus	deer brush	NL
Ceanothus leucodermis	chapparal whitethorn	NL
Centaurea melitensis	Maltese star-thistle	NL
Centaurea solstitialis	yellow star-thistle	NL
Cephalanthus occidentalis	buttonbush	OBL
Cercis occidentalis	Western redbud	NL
Chlorogalum pomeridianum var. *pomeridianum*	common soap plant	NL
Clarkia purpurea ssp. *purpurea*	purple clarkia	NL
Clarkia purpurea ssp. *quadrivulnera*	four-spot	NL

Table E-1. Plant List

Scientific Name	Common Name	Indicator Status
Clarkia unguiculata	elegant clarkia	NL
Claytonia perfoliata	miner's lettuce	NL
Clematis lasiantha	virgin's bower	NL
Collinsia heterophylla	Chinese-houses	NL
Collinsia sparsiflora var. *collina*	foothill collinsia	NL
Croton setiger	turkey-mullein	NL
Cynodon dactylon	Bermuda grass	FACU
Cynosurus echinatus	hedgehog dogtail	NL
Cyperus eragrostis	umbrella-sedge	FACW
Dactylis glomerata	orchard grass	FACU
Daucus pusillus	rattlesnake weed	NL
Dichelostemma capitatum	blue dicks	FACU
Dichelostemma volubile	snake lily	NL
Dodecatheon hendersonii	Henderson's shooting-star	NL
Dudleya cymosa ssp. *cymosa*	spreading live-forever	NL
Eleocharis macrostachya	creeping spikerush	OBL
Elymus caput-medusae	medusa head	NL
Elymus glaucus	blue wild rye	FACU
Equisetum telmateia ssp. *braunii*	giant horsetail	FACW
Erigeron canadensis	horseweed	FACU
Eriophyllum lanatum	woolly sunflower	NL
Erodium botrys	broadleaf filaree	FACU
Erodium cicutarium	red-stem filaree	NL
Eschscholzia caespitosa	foothill poppy	NL
Eschscholzia californica	California poppy	NL
Festuca bromoides	brome fescue	FACU
Festuca myuros	rattail sixweeks grass	FACU
Festuca perennis	rye grass	FAC
Ficus carica	edible fig	FACU
Frangula californica ssp. *tomentella*	hoary coffeeberry	NL
Galium aparine	bedstraw	FACU
Galium murale	yellow wall bedstraw	NL
Geranium dissectum	cut-leaved geranium	NL
Geranium molle	dove's foot geranium	NL
Gilia capitata	blue head gilia	NL
Heteromeles arbutifolia	toyon	NL
Hordeum murinum ssp. *leporinum*	foxtail barley	NL
Hypericum perfoliatum	St. Johnswort	FACU

Table E-1. Plant List

Scientific Name	Common Name	Indicator Status
Hypochaeris glabra	smooth cat's-ear	NL
Hypochaeris radicata	rough cat's-ear	FACU
Iris pseudacorus	pale yellow iris	OBL
Juncus bufonius	toad rush	FACW
Juncus effusus	common rush	FACW
Keckiella brevifolia	gaping keckielia	NL
Lactuca serriola	prickly lettuce	FACU
Lepidium nitidum	common peppergrass	FAC
Leptosiphon sp.	leptosiphon	–
Linum bienne	common flax	NL
Lonicera hispidula	hairy honeysuckle	FACU
Lonicera interrupta	chaparral honeysuckle	NL
Lupinus albifrons	silver bush lupine	NL
Lupinus nanus	sky lupine	NL
Luzula comosa var. *subsessilis*	sessile wood-rush	NL
Lysimachia arvensis	scarlet pimpernel	FAC
Madia elegans ssp. *vernalis*	common tarweed	NL
Madia glomerata	mountain tarweed	NL
Matricaria discoidea	pineapple weed	FACU
Melica californica	California melicgrass	NL
Mentha arvensis	field mint	FACW
Micropus californicus var. *californicus*	cottontop	FACU
Microseris acuminata	microseris	NL
Microsteris gracilis	slender phlox	NL
Mimulus cardinalis	cardinal monkey flower	FACW
Mimulus guttatus	seep monkeyflower	OBL
Monardella odoratissima	coyote mint	FACU
Muhlenbergia rigens	deer grass	FAC
Nasella pulchra	purple needle grass	NL
Nasturtium officinale	watercress	OBL
Navarretia intertexta	needleleaved navarretia	FACW
Navarretia pubescens	downy pincushionplant	NL
Navarretia tagetina	marigold navarretia	FACW
Osmorhiza berteroi	sweetcicely	FACU
Paspalum distichum	knot grass	FACW
Pentagramma triangularis	goldenback fern	NL
Perideridia kelloggii	squawroot	NL
Persicaria amphibia	water smartweed	OBL

Table E-1. Plant List

Scientific Name	Common Name	Indicator Status
Petrorhagia dubia	grass pink	NL
Pinus ponderosa	ponderosa pine	FACU
Pinus sabiniana	foothill pine	NL
Plagiobothrys stipitatus var. *micranthus*	stalked popcorn flower	FACW
Plantago lanceolata	English plantain	FAC
Polystichum munitum	western swordfern	FACU
Populus fremontii	Fremont cottonwood	FAC
Psilocarphus tenellus	slender woolly-marbles	OBL
Quercus berberidifolia	scrub oak	NL
Quercus chrysolepis	canyon live oak	NL
Quercus douglasii	blue oak	NL
Quercus kelloggii	black oak	NL
Quercus lobata	valley oak	NL
Quercus wislizeni	interior live oak	NL
Ranunculus californicus	California buttercup	FACU
Rhamnus ilicifolia	hollyleaf redberry	NL
Rhus trilobata	skunkbrush	FACU
Ribes sp.	gooseberry	–
Rubus armeniacus	Himalayan blackberry	FAC
Rumex crispus	curly dock	FAC
Rumex pulcher	fiddledock	FAC
Salix exigua	sandbar willow	FACW
Salix laevigata	red willow	FACW
Salix lasiandra var. *lasiandra*	Pacific willow	FACW
Salix lasiolepis	arroyo willow	FACW
Scutellaria californica	California skullcap	NL
Senecio vulgare	old-man-in-the-spring	FACU
Sherardia arvensis	field madder	NL
Sidalcea sp.	checkerbloom	–
Silybum marianum	blessed milkthistle	NL
Sisymbrium officinale	hedge mustard	NL
Sisyrhinchium bellum	blue-eyed grass	FACW
Solanum sp.	nightshade	–
Spartium junceum	Spanish broom	NL
Stachys albens	white hedge nettle	OBL
Stellaria media	common chickweed	FACU
Symphoricarpos alba var. *laevigatus*	snowberry	FACU
Symphoricarpos mollis	creeping snowberry	FACU

Table E-1. Plant List

Scientific Name	Common Name	Indicator Status
Torilis arvensis	field hedge parsley	NL
Toxicodendron diversilobum	poison oak	FACU
Tragopogon dubius ssp. *dubius*	yellow salsify	NL
Trifolium dubium	little hop clover	UPL
Trifolium fragiferum	strawberry clover	FAC
Trifolium hirtum	red clover	NL
Trifolium subterraneum	subterranean clover	NL
Trifolium willdenovii	tomcat clover	FACW
Triphysaria eriantha	johnnytuck	NL
Triphysaria versicolor ssp. *faucibarbata*	yellow owl's-clover	NL
Triteleia ixioides	golden brodiaea	FAC
Triteleia laxa	Ithuriel's spear	NL
Tritieleia hyacinthina	white brodiaea	NL
Typha angustifolia	narrow-leaf cattail	OBL
Urtica dioica	stinging nettle	FAC
Verbena bonariensis	South American vervain	FACW
Veronica peregrina	neckweed	FAC
Vicia sativa	spring vetch	FACU
Viola douglasii	Douglas' violet	NL
Vitis californica	California grape	FACU
Wyethia angustifolia	narrowleaf mule ears	FACU
Zeltnera muehlenbergii	Monterey centaury	FAC

Notes:

[1] Wetland indicator status based on the 2017 National Wetland Plant list for the Arid West Region (Lichvar et al. 2016)

OBL = Obligate Wetland—occurs with an estimated 99% probability in wetlands.

FACW = Facultative Wetland—estimated 67–99% probability of occurrence in wetlands.

FAC = Facultative—equally likely to occur in wetlands and nonwetlands (34–66% probability).

FACU = Facultative Upland—67–99% probability in nonwetlands, 1–33% in wetlands.

UPL = Obligate Upland—>99% probability in nonwetlands in this region.

NL = Species not listed.

– = Species could not be taxonomically identified below genus level.

Sources: Lichvar et al. 2016; compiled by AECOM in 2017–2018

Appendix F Representative Photographs

Representative photograph of an NRPW (ED1) in the study area, December 6, 2016. Facing upstream.

Representative photograph of an NRPW (ED11) in the study area, December 14, 2016. Facing upstream.

Appendix F. Representative Photographs

Representative photograph of an RPW (ID2) in the study area, December 6, 2016. Facing upstream.

Representative photograph of an RPW (ID5) in the study area, December 14, 2016. Facing downstream.

Appendix F. Representative Photographs

Coon Creek at eastern proposed bridge crossing in the project area, main channel, December 14, 2016. Facing upstream.

Coon Creek at eastern proposed bridge crossing within the project area, side channel, December 14, 2016. Facing upstream.

Appendix F. Representative Photographs

Access road to proposed parking area at the Harvego BRP, May 15, 2017. Facing east.

Representative photograph of blue oak woodland habitat, December 7, 2016. Facing northwest.

Appendix F. Representative Photographs

Addendum to Special-Status Plant Surveys–Twilight Parcel

AECOM
2020 L Street, Suite 400
Sacramento, CA 95811
www.aecom.com

916.414.5800 tel
916.414.5850 fax

October 9, 2018

Lisa Carnahan, Parks Planner
Placer County Public Works and Facilities
Parks Division
11476 C Avenue
Auburn, CA 95603

Subject: Addendum to Special-Status Plant Surveys for the Hidden Falls Regional Park Trail Expansion Project – Twilight Parcel, Placer County, California

Dear Ms. Carnahan:

This letter report is an addendum to the *Special-Status Plant Surveys for the Hidden Falls Regional Park Trail Expansion Project, Placer County, California* report prepared by AECOM in September 2017 for the Placer County Public Works and Facilities Parks Division (AECOM 2017). In spring of 2018, AECOM conducted biological surveys for additional proposed new parking and trailhead access areas in the recently-acquired Twilight Ride property. This letter summarizes the methods and results of the special-status plant surveys. These surveys consisted of focused botanical surveys to identify occurrences of special-status plants that could be disturbed as a result of proposed improvments and construction. Special-status wildlife and aquatic resources are addressed in separate addendum letter reports.

PROJECT LOCATION AND PROPERTY DESCRIPTION

The property is in western Placer County, south of the Bear River, approximately 40 miles northeast of Sacramento (Exhibit 1, Appendix A). The Placer Land Trust owns several preserves in the vicinity, including the Harvego Bear River and Outman Big Hill Preserves to the north, and the Kotomyan and Taylor Ranch Preserves to the west (Exhibit 2, Appendix A). As part of the Placer County Hidden Falls Regional Park (HFRP) Trails Network Expansion Project, the County is proposing parking and trailhead access from the Twilight Ride property (a.k.a. Twilight Parcel) on Bell Road to an existing trail system within the adjacent Taylor Ranch Preserve (Exhibit 2, Appendix A). The property is used as a private residence and pasture for goats and cattle. Existing features include an approximately 600-foot driveway, two rural residences, low-voltage power lines, barbed wire fencing, vehicle/equipment storage areas, several small outbuildings, and an excavated stock pond. Surrounding lands are primarily privately-owned and used for agriculture, grazing, and rural residences. The proposed project will involve enhancements to the existing driveway, and construction of parking facilities for vehicles and horse trailers. An additional area may be used for horse boarding/pasture. Proposed activities consist of road improvements (including two stream crossings) for the driveway, and preparation/grading of the areas to be used for parking (Exhibit 3, Appendix A).

METHODS

Before conducting the field surveys, AECOM biologists compiled a list of special-status plant species with potential to occur on the property by performing database searches of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (Inventory) (CNPS 2018), the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2018), and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation project planning tool (USFWS 2018). The Gold Hill U.S. Geological Survey 7.5-minute

quadrangle and its eight surrounding quads—Rocklin, Pilot Hill, Auburn, Lake Combie, Wolf, Lincoln, Roseville, and Camp Far West—were included in the database record searches. A list of referenced background documents as well as the regulatory and environmental background for the project can be found in the *Special-Status Plant Surveys for the Hidden Falls Regional Park Trail Expansion Project, Placer County, California* report (AECOM 2017).

AECOM biologists Petra Unger and Kristin Asmus conducted focused special-status plant surveys on May 15, 2018. The surveys were focused on the proposed driveway improvements, drainage crossing, and potential parking and horse trailer areas (Exhibit 3, Appendix A). The protocols for the special-status plant surveys followed CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009) and U.S. Fish and Wildlife Service's (USFWS) *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000). All plants encountered during the special-status plant surveys were identified to the highest taxonomic level necessary for a rare plant determination. Nomenclature used follows the *Jepson Manual: Vascular Plants of California* (Jepson Manual) (Baldwin et al. 2012). Aquatic features were also identified and delineated and the data are presented in a separate report. Wildlife habitat assessment surveys occurred concurrently with the May 2018 floristic survey and those results are also presented in a separate report.

RESULTS

Habitats

Placer County is within the California Floristic Province, which is characterized by a Mediterranean climate with cool, wet winters and hot, dry summers. The elevation of the property ranges from approximately 1,075 to 1,240 feet above mean sea level along gently sloping topography from southwest to northeast. The property lies within the Coon Creek watershed and is approximately 0.25 mile north of Coon Creek (USGS 2018).

Soil types within the property consist mostly of either Auburn-Sobrante-Rock outcrop complex, 2 to 30 percent slopes, or Auburn silt loam, 2 to 15 percent slopes, with a small section of Auburn-Argonaut-Rock outcrop complex, 2 to 15 percent slopes, in the southeast corner (NRCS 2018a). The Auburn series soil units are characterized by shallow to moderately deep, well-drained soils formed in material weathered from metabasic or metasedimentary rock, such as amphibolite schist, greenstone schist, or diabase. Depth to bedrock ranges from 10 to 28 inches, and rock outcrops are common. Runoff varies from low to very high (NRCS 2018b). Associated soils include the Sobrante and Argonaut series, which are weathered from igneous/metamorphic and meta-andesite rocks, respectively (NRCS 2018b). Only the Auburn-Argonaut-Rock outcrop complex, 2 to 15 percent slopes, is considered a hydric soil (NRCS 2014).

The property is dominated by annual grasslands with scattered blue oak (*Quercus douglasii*) and patches of blue oak woodland. Full descriptions of these habitats are available in the *Special-Status Plant Surveys for the Hidden Falls Regional Park Trail Expansion Project, Placer County, California* report (AECOM 2017). A complete list of plant species observed on the property is provided in Appendix B.

Special-Status Plant Species

Searches of the CNPS and CNDDB databases identified 23 special-status plant species occurring in the vicinity of the property, and one species not reported in the database queries was documented within the Spears Ranch portion of the HFRP in a 2007 rare plant survey (Placer County 2007). The following 21 species were identified as having no potential to occur on the property because they are

either restricted to soils and habitat types that do not exist on the property or they are only found at elevations lower than those found on the property:

- Stebbin's morning glory (*Calystegia stebbinsii*), chapparal sedge (*Carex xerophila*), Pine Hill ceanothus (*Ceanothus roderickii*), Red Hills soap root (*Chlorogalum grandiflorum*), and Layne's ragwort (*Packera layneae*) are restricted to gabrro or serpentine soils, which do not occur on the property.

- Bisbee Peak rush-rose (*Crocanthemum suffrutescens*), El Dorado bedstraw (*Galium californicum* ssp*. sierrae*), and El Dorado County mule ears (*Wyethia reticulata*) are restricted to gabbro soils, which do not occur on the property, and are not known to occur in Placer County.

- Jepson's onion (*Allium jepsonii*) and big-scale balsamroot (*Balsamorhiza macrolepis*) are found on serpentine soils, which do not occur on the property.

- Dwarf downingia (*Downingia pusilla*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Red Bluff dwarf rush (*J. leiospermus* var. *leiospermus*), legenere (*Legenere limosa*), and pincushion navarretia (*Navarretia myersii* spp. *myersii*) occur in vernal pool habitats, which do not occur on the property.

- Hispid bird's-beak (*Chloropyron molle* ssp. *hispidum)* is known to occur in Placer County only in damp alkaline meadows at an elevation of about 150 feet. These conditions are not present on the property.

- Butte County fritillary (*Fritillaria eastwoodiae*) occurs primarily in the northern foothills of the Sierra Nevada and Cascade Range. The southernmost known occurrences are found north of the property in Yuba County, where they occur at higher elevations in ponderosa pine forest.

- Dubious pea (*Lathyrus sulphureus* var. *argillaceus*) is not known to occur in Placer County. A single CNDDB occurrence in Placer County is not confirmed, has no record date, and the occurrence rank is unknown. Variety *argillaceu*s is not recognized in the Jepson Manual, and the elevation range for species *Lathyrus sulphureus* is outside the elevation range of the property.

- Mexican mosquito fern (*Azolla microphylla*) and Brazilian watermeal (*Wolffia brasiliensis*) are not known to occur above elevations of 330 feet, which is outside of the elevation range of the property.

A total of 3 special-status plant species have the potential to occur on the property and were the focus of these targeted surveys; Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeeae*), Sierra monardella (*Monardella candicans*), and oval-leaved viburnum (*Viburnum ellipticum*). Table 1 summarizes the regulatory status, habitat and blooming period, and potential for occurrence on the property for Brandegee's clarkia, Sierra monardella, and oval-leaved viburnum. Habitat and elevation range information for these species was obtained from the CNPS Inventory and the Jepson Manual.

Table 1. Special-Status Plants with Potential to Occur on the Twilight Ride Property - Hidden Falls Regional Park Trail Expansion Project – Twilight Parcel, Placer County, California

Species		Status [1]			Habitat and Blooming Period	Potential for Occurrence
Common Name	Scientific Name	USFWS	CDFW	CRPR		
Brandegee's clarkia	*Clarkia biloba* ssp. *brandegeeae*	—	—	4.2	Chaparral, cismontane woodland; often in road cuts; 700 to 3,000 feet elevation; blooms May to July	**Could Occur:** suitable habitat occurs on the property; not found during focused special-status plant surveys.
Sierra monardella	*Monardella candicans*	—	—	4.3	Chaparral, lower montane coniferous forest, cismontane woodland, 500 to 2,600 feet elevation; blooms April to July	**Could Occur:** suitable habitat occurs on the property; not found during focused special-status plant surveys.
Oval-leaved viburnum	*Viburnum ellipticum*	—	—	2B.3	Chaparral, cismontane woodland or lower montane coniferous forest; 600 to 4,000 feet elevation; blooms May to June	**Could Occur:** suitable habitat occurs on the property; not found during focused special-status plant surveys.

Sources: Baldwin et al. 2012; CDFW 2018; CNPS 2018.

Notes

[1] California Native Plant Society's California Rare Plant Ranks (CRPR):

2B = Plants rare, threatened, or endangered in California, but more common elsewhere

4 = Plants of Limited Distribution - A watch list

Threat Ranks:

0.2 = Fairly endangered in California (20%–80% of occurrences are threatened)

0.3 = Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Brandegee's Clarkia

Brandegee's clarkia, a member of the evening primrose family. Prior to 2017 this species was listed as a CRPR 1B.2 plant. However, determined to be more common than was once known, it is now listed as CRPR 4.2. Brandegee's clarkia is found in the central Sierra Nevada foothills between 804 and 2,904 feet above mean sea level in chaparral and woodland habitats, often on road-cuts. It is an annual herb with rose-pink flowers that blooms from May to July. The feature that distinguishes this subspecies from the other two subspecies of *Clarkia biloba* is the length of the notch at the tip of the petal. In Brandegee's clarkia, the notch is less than one-fifth of the petal length.

In spring 2017, populations of Brandegee's clarkia were abundantly distributed throughout the HFRP on north-facing slopes in openings in the black oak woodlands and along recently created trails (AECOM 2017). Brandegee's clarkia was most typically found on steep, north-facing slopes in the shade and in openings of black oak and foothill pine oak woodland, where common associate species include hedgehog dogtail (*Cynosorus echinatus*), field hedge parsley (*Torilis arvensis*), poison oak, blue wild rye (*Elymus glaucus*), and white globe lily (*Calochortus albus*).

No occurrences of Brandegee's clarkia were encountered on the property during the special-status plant surveys.

Sierra Monardella

Sierra monardella, a member of the mint family, is a CRPR List 4.3 plant. It is a small, annual plant with half-inch heads of white flowers that bloom from April to July. Sierra monardella grows on sandy or gravelly soils in oak woodland, chaparral, and ponderosa pine forest throughout the Sierra Nevada foothills.

A known occurrence of Sierra monardella was observed within HFRP in spring 2017 within openings of foothill pine-interior live oak woodland on the north side of Coon Creek. Populations consisted of tens of individuals occurring in moderately dense annual grassland on a low-gradient, southwest-facing terrace above the creek. Associate species included species typical of the annual grassland and surrounding woodlands such as bromes, lupines (*Lupinus* sp.), smooth cat's ears (*Hypochaeris glabra*), four spot (*Clarkia purpurea*), Ithuriel's spear (*Triteleia laxa*), needleleaf navarretia (*Navarretia intertexta*), and elegant harvest brodiaea (*Brodiaea elegans*).

No occurrences of Sierra monardella were encountered on the property during the special-status plant survey.

Oval-leaved viburnum

Oval-leaved viburnum, a member of the honeysuckle family, is a CRPR List 2B.3 species. It is a small- to medium-sized shrub with flat-topped, 1-inch wide, white inflorescences that bloom from May to June. Oval-leaved viburnum grows in chaparral, cismontane woodland, and ponderosa pine forest, generally on north-facing slopes in the northern and central Sierra Nevada foothills and in northwestern California. No populations of oval-leaved viburnum are known to occur in HFRP.

No occurrences of oval-leaved viburnum were encountered on the property during the special-status plant surveys. The surveys were conducted when oval-leaved viburnum would have been blooming and apparent if it were present.

CONCLUSION

No populations of special-status plant species were identified during the special-status plant surveys conducted on the property. Brandegee's clarkia and Sierra monardella were observed within the Hidden Falls Regional Park during the special-status plant surveys in 2017, but these species were not detected on the Twilight Ride property.

If you have any questions or require additional information, please do not hesitate to call us at (916) 414-5800.

Sincerely,

Kristin Asmus
Senior Biologist

Attachments:
Appendix A: Exhibits
Appendix B: Plant Species Observed

REFERENCES

AECOM. 2017. *Special-Status Plant Surveys for the Hidden Falls Regional Park Trail Expansion Project, Placer County, California*. Prepared for Placer County Public Works and Facilities Parks Division, September 2017.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson Manual: Vascular Plants of California*. 2d ed. Berkeley, CA: University of California Press.

CDFG (California Department of Fish and Game). 2009. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. Sacramento, CA: State of California, California Natural Resources Agency, November 24.

CDFW (California Department of Fish and Wildlife). 2018. RareFind 5 (Commercial Version): An Internet Application for the Use of the California Department of Fish and Wildlife's California Natural Diversity Database. Sacramento, CA: California Department of Fish and Wildlife, Biogeographic Data Branch. Accessed August 2018. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 02 August 2018].

NRCS (U.S. Natural Resources Conservation Service). 2014. *National Hydric Soils List*. March. Available: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed July 24, 2018.

NRCS (U.S. Natural Resources Conservation Service). 2018a. Web Soil Survey (Version 3.1). Available: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed August 2, 2018.

NRCS (U.S. Natural Resources Conservation Service). 2018b. Official Soil Series Descriptions. Available: http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/soils/survey/class/data/?cid=nrcs142p2_053587. Accessed August 2, 2018.

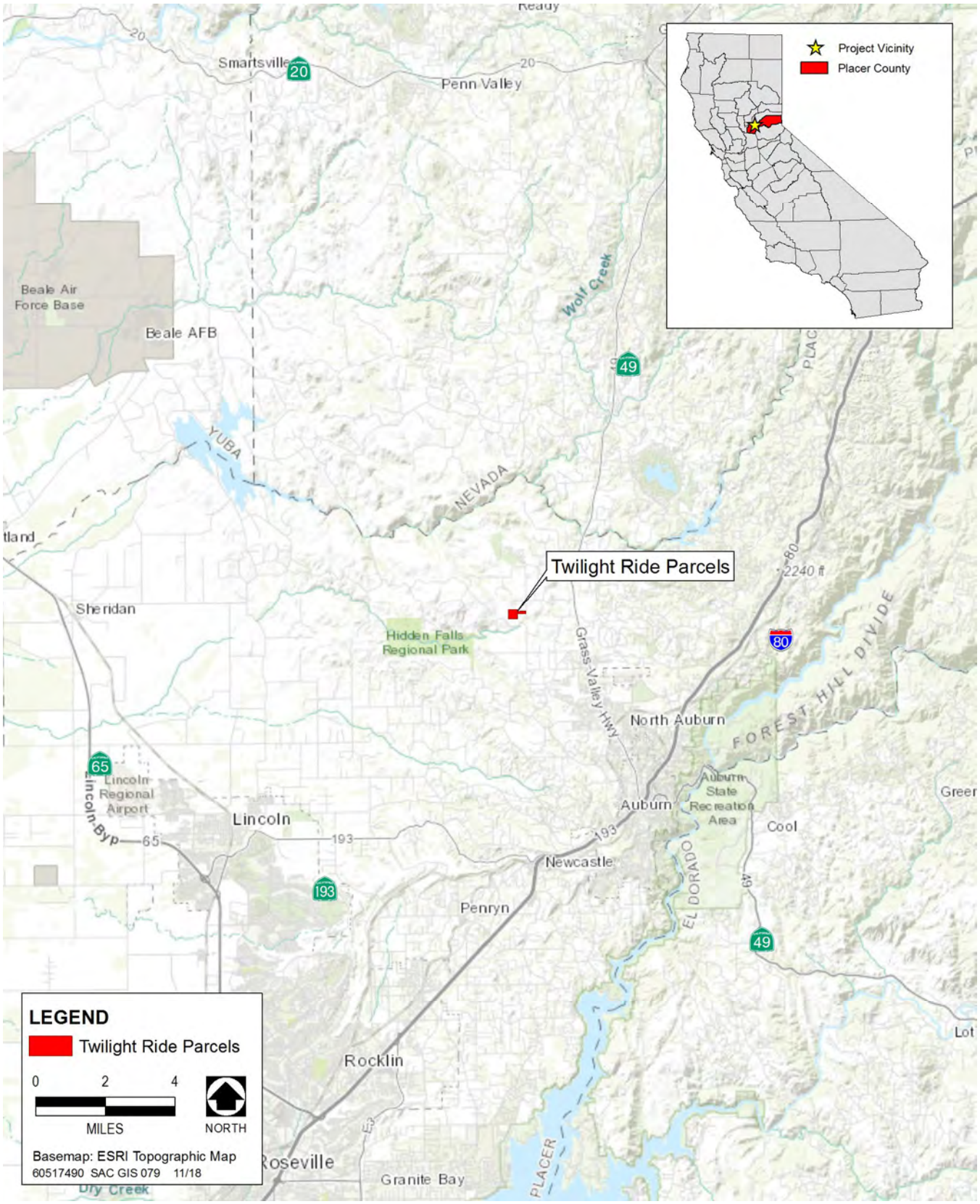
USGS (U.S. Geological Survey). 2018. The National Map Viewer. Hydrography, Watershed Data Boundary Set. Available: http://nationalmap.gov/hydro.html. Last updated April 5, 2018. Accessed July 24, 2018.

USFWS (U.S. Fish and Wildlife Service). 2000. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants.*

USFWS (U.S. Fish and Wildlife Service). 2018. Information for Planning and Consultation. Accessed August 2018. http://ecos.fws.gov/ipac/.

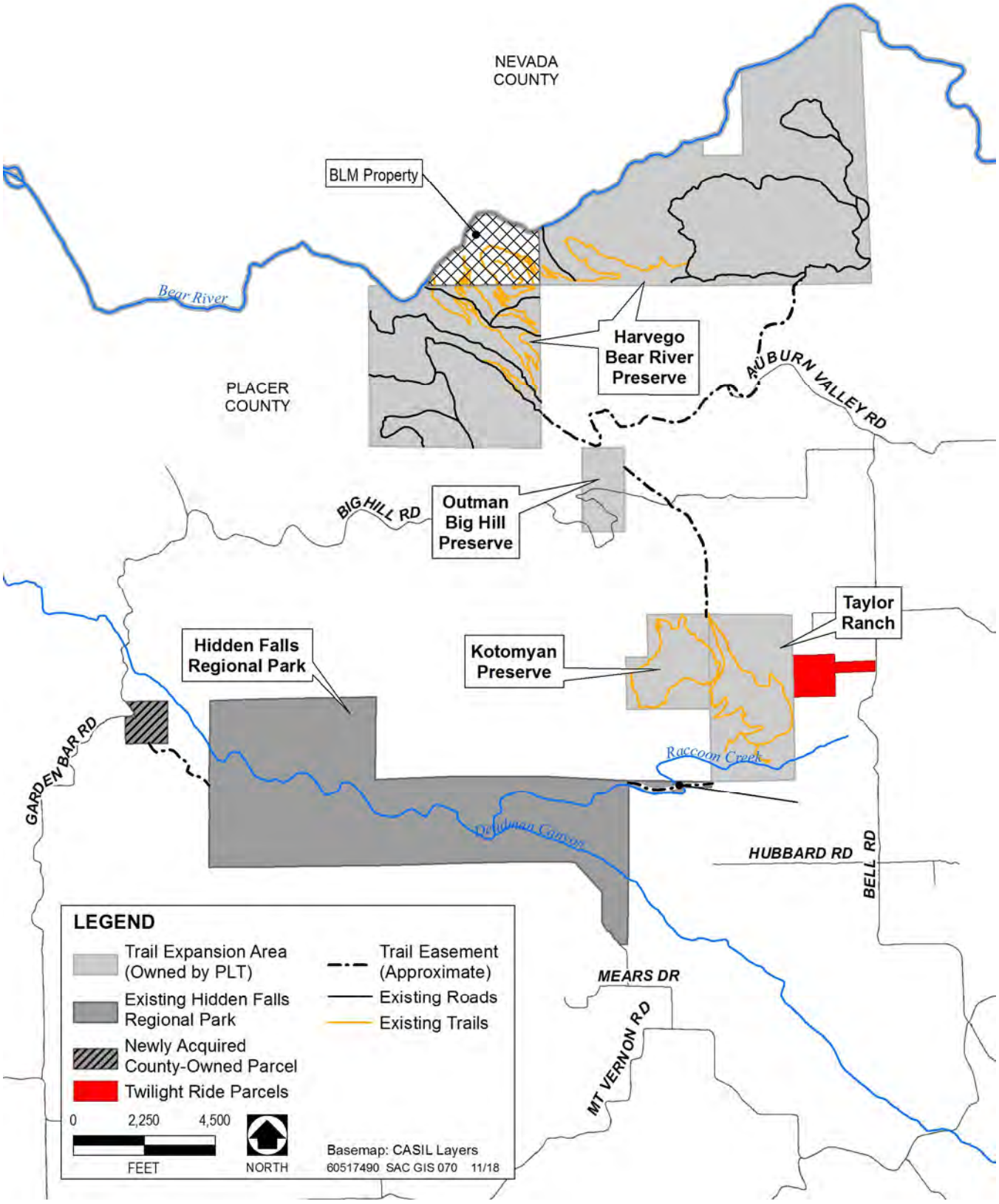
APPENDIX A

Exhibits



Source: AECOM 2018.

Exhibit 1. Project Location and Vicinity



Source: AECOM 2018.

Exhibit 2. Project Map

Source: AECOM 2018.

Exhibit 3. **Project Elements**

APPENDIX B

Plant Species Observed

AECOM

Plant Species Observed on the Twilight Ride Property - Hidden Falls Regional Park Trail Expansion Project, Placer County, California, May 2018

Scientific Name	Common Name
Amsinckia menziesii var. *intermedia*	fiddleneck
Avena fatua	wild oat
Azolla microphylla	Mexican mosquito fern
Brassica sp.	mustard
Briza minor	little quaking grass
Brodiaea elegans	harvest brodiaea
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft chess
Capsella bursa-pastoris	shephard's purse
Carex nebrascensis	Nebraska sedge
Carduus pycnocephalus	Italian thistle
Castilleja attenuata	Valley tassels
Cirsium vulgare	Bull thistle
Cyperus eragrostis	umbrella-sedge
Deschampsia danthonioides	annual hair grass
Eleocharis acicularis	needle spikerush
Elymus caput-medusae	medusa head
Epilobium ciliatum	willowherb
Erodium botrys	broadleaf filaree
Eryngium castrense	Great Valley coyote thistle
Erythranthe guttata	Yellow monkeyflower
Eschscholzia californica	California poppy
Festuca arundinacea	Reed fescue
Festuca perennis	rye grass
Geranium dissectum	cut-leaved geranium
Holcus lanatus	Common velvetgrass
Hordeum marinum var. *gussoneanum*	Mediterranean barley
Hordeum murinum var. *leporinum*	hare barley
Hypochaeris radicata	rough cat's-ear
Juncus balticus	Baltic rush
Juncus effusus	common rush
Juncus patens	spreading rush
Juncus xiphioides	iris leaved rush
Lactuca serriola	prickly lettuce

AECOM

Plant Species Observed on the Twilight Ride Property - Hidden Falls Regional Park Trail Expansion Project, Placer County, California, May 2018

Scientific Name	Common Name
Linum bienne	flax
Lotus corniculatus	bird's foot trefoil
Lupinus bicolor	miniature lupine
Madia elegans ssp. *vernalis*	common tarweed
Matricaria discoidea	pineapple weed
Mentha canadensis	American cornmint
Microseris acuminata	microseris
Nasturtium officinale	watercress
Navarretia pubescens	purple navarretia
Parentucellia	parentucellia
Perideridia kelloggii	squawroot
Petrorhagia dubia	grass pink
Plagiobothrys stipitatus var. *micranthus*	stalked popcorn flower
Plantago lanceolata	English plantain
Poa pratensis	Kentucky blue grass
Psilocarphus tenellus	slender woolly-marbles
Quercus douglasii	blue oak
Quercus wislizeni	interior live oak
Ranunculus californicus	California buttercup
Rubus armeniacus	Himalayan blackberry
Rumex crispus	curly dock
Rumex pulcher	fiddledock
Sagittaria lattifolia	arrowhead
Salix lasiolepis	arroyo willow
Scandix pectin-veneris	Venus' needle
Trifolium dubium	little hop clover
Trifolium hirtum	red clover
Trifolium subterraneum	subterranean Clover
Triteleia laxa	Ithuriel's spear
Tritieleia hyacinthina	white brodiaea
Typha angustifolia	narrow-leaf cattail
Veronica americana	American brooklime
Vicia sativa	spring vetch

Source: AECOM 2018.

Addendum to Habitat Assessment for Special-Status Wildlife–Twilight Parcel

AECOM
2020 L Street, Suite 400
Sacramento, CA 95811
www.aecom.com

916.414.5800 tel
916.414.5850 fax

October 10, 2018

Lisa Carnahan, Parks Planner
Placer County Public Works and Facilities
Parks Division
11476 C Avenue
Auburn, CA 95603

Subject: Addendum to Habitat Assessment for Special-Status Wildlife for the Hidden Falls Regional Park Trail Network Expansion Project – Twilight Parcel, Placer County, California

Dear Ms. Carnahan:

This letter report is an addendum to the *Habitat Assessment for Special-Status Wildlife for the Hidden Falls Regional Park Trail Network Expansion Project* prepared by AECOM in September 2017 for the Placer County Public Works and Facilities Parks Division (AECOM 2017). In spring of 2018, AECOM conducted biological surveys for additional proposed new parking and trailhead access areas in the recently-acquired Twilight Ride property. This letter summarizes the results of reconnaissance-level wildlife surveys, including an assessment of potential habitat for special-status wildlife species. Special-status plant species and aquatic resources are addressed in separate addendum letter reports.

PROJECT LOCATION AND PROPERTY DESCRIPTION

The property is in western Placer County, south of the Bear River, approximately 40 miles northeast of Sacramento (Exhibit 1, Appendix A). The Placer Land Trust owns several preserves in the vicinity, including the Harvego Bear River and Outman Big Hill Preserves to the north, and the Kotomyan and Taylor Ranch Preserves to the west (Exhibit 2, Appendix A). As part of the Placer County Hidden Falls Regional Park (HFRP) Trails Network Expansion Project, the County is proposing parking and trailhead access from the Twilight Ride property on Bell Road to an existing trail system within the adjacent Taylor Ranch Preserve (Exhibit 2, Appendix A). The property is used as a private residence and pasture for goats and cattle. Existing features include an approximately 600-foot driveway from Bell Road, two rural residences, low-voltage power lines, barbed wire fencing, vehicle/equipment storage areas, several small outbuildings, and an excavated stock pond. Surrounding lands are primarily privately-owned and used for agriculture, grazing, and rural residences. The proposed project will involve enhancements to the existing driveway, and construction of parking facilities for vehicles and horse trailers. An additional area may be used for horse boarding/pasture. Proposed activities consist of road improvements (including two stream crossings) for the driveway and preparation/grading of the areas proposed for parking (Exhibit 3, Appendix A).

METHODS

Before the site surveys were conducted, AECOM biologists searched the following sources for records of special-status wildlife occurring within a nine-quadrangle area containing and surrounding the property: California Natural Diversity Database (CNDDB 2018) and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation project planning tool (USFWS 2018). The Gold Hill U.S. Geological Survey 7.5-minute quadrangle and its eight surrounding quads—Rocklin, Pilot Hill, Auburn, Lake Combie, Wolf, Lincoln, Roseville, and Camp Far West—were included in the database record searches. A list of referenced background documents as well as the regulatory and environmental background for the project can be found in the *Habitat Assessment for*

Special-Status Wildlife for the Hidden Falls Regional Park Trail Network Expansion Project (AECOM 2017).

AECOM biologists Petra Unger and Kristin Asmus conducted pedestrian surveys on the site, which consists of the approximately 50-acre Twilight Property Exhibit 3, Appendix A). Surveys were conducted on May 15, 2018 and were focused on the areas of proposed development, including the driveway and proposed parking lot areas. During the surveys, the weather conditions were sunny and warm with a high temperature of 77° Fahrenheit.

Habitats on the property were assessed to determine their potential to support special-status wildlife species at or near the property. The biologists surveyed the tree canopies within the property boundaries to search for suitable raptor and passerine nesting sites. Habitat for special-status amphibians and reptiles was surveyed by visually scanning any water features that cross the study area for appropriate water depth and flow rate, the substrates along the bottom of the water features, bank structure, and vegetation in the water features and along the banks. The habitat survey for meso-carnivores such as foxes and ringtails was focused on an assessment of potential burrow or denning habitat on the property. Aquatic features were also identified and delineated and the data are presented in a separate report. Floristic inventory surveys occurred concurrently with the May 2018 surveys and those results are also presented in a separate report.

RESULTS

Habitat

Placer County is within the California Floristic Province, which is characterized by a Mediterranean climate with cool, wet winters and hot, dry summers. The elevation of the property ranges from approximately 1,075 to 1,240 feet above mean sea level, creating a gently sloping topography from southwest to northeast. The property lies within the Coon Creek watershed and is approximately 0.25 mile north of Coon Creek.

The property is dominated by annual grasslands with scattered blue oak (*Quercus douglasii*), and patches of blue oak woodland. Full descriptions of these habitats are available in the *Habitat Assessment for Special-Status Wildlife for the Hidden Falls Regional Park Trail Network Expansion Project* report (AECOM 2017).

The property also has three intermittent drainages that are tributary to Coon Creek, the two western drainages directly and the eastern drainage via Orr Creek. There are two inline, bermed stock ponds on the westernmost drainage, and a diversion pipe and offline stock pond associated with the east drainage. The central drainage bisects the property flowing north to south and is culverted under the existing dirt drive. On the center-east area of the property there is a seasonally wet slope supporting plant species characteristic of wetlands, and a second, similar seasonally wet area to the southwest of the western proposed parking area. The east and central drainages, as well as the south end of the west drainage support fairly dense riparian vegetation including willows and some larger trees, as well as areas of wetland vegetation.

Special-Status Wildlife Species

Special-status wildlife species include animals in the following categories:

- Species listed by the State of California (State) or the federal government as endangered, threatened, or rare
- Candidates for State or federal listing as endangered or threatened

- Taxa (i.e., taxonomic categories or groups) that meet the criteria for listing, even if not currently included on any list, as described in California Code of Regulations Section 15380 of the CEQA Guidelines

- Species identified by the California Department of Fish and Wildlife (CDFW) as species of special concern

- Species listed as fully protected under the California Fish and Game Code

- Species afforded protection under local or regional planning documents

No confirmed special-status species were observed on or adjacent to the study area during the 2018 surveys. The database searches, literature review of previously prepared environmental documents, and knowledge of species occurring in the project region, including within HFRP and several of the surrounding PLT properties (AECOM 2017), identified 29 previously documented or reported special-status wildlife species in the region,. A total of 18 of these species known from the region have no potential to occur in the study area because the project area is outside of their elevation or geographical range or because suitable habitat (e.g., vernal pools) or critical habitat elements are not present. For these reasons, the following species were eliminated from further evaluation in this document:

- American peregrine falcon
- Bald eagle
- Bank swallow
- Burrowing owl
- California black rail
- California red-legged frog
- Foothill yellow-legged frog
- Golden Eagle
- Long-eared owl
- Northern harrier
- Purple martin
- Song sparrow (“Modesto” population)
- Steelhead, Central Valley Distinct Population Segment
- Swainson’s hawk
- Valley elderberry longhorn beetle
- Vernal pool tadpole shrimp
- Vernal pool fairy shrimp
- Western spadefoot

Table 1 provides a list of the remaining 11 special-status wildlife species that were determined to have some potential to occur on site based on the pre-field investigation (database and literature review). No special-status wildlife species were observed and none are known to occur at the site. Three bird species that may nest within or adjacent to the site include tricolored blackbird (*Aegeleius*, yellow warbler (*Dendroica petechial*), and loggerhead shrike. Other migratory bird species may also nest within or adjacent to the site.

Table 1. Special-Status Wildlife Species Potentially Occurring at the Twilight Ride Property

Special-Status Species		Regulatory Status (Federal; State)[1]	Habitat Requirements	Potential for Occurrence [2]
Common Name	Scientific Name			
Amphibians/Reptiles				
Western pond turtle	*Emys marmorata*	SSC	Inhabits permanent and intermittent waters, including marshes, streams, rivers, ponds, and lakes with emergent logs or boulders for basking. Nests in sandy banks along large, slow-moving streams or upland in a variety of soils.	**Not likely to occur;** surveys conducted in 2005 within HFRP confirmed presence along Coon Creek. Drainages on site are small, ephemeral, and heavily shaded; however, the stock ponds on site provide suitable pond habitat. There is no suitable nesting habitat on site.
Fish				
Birds				
Tricolored blackbird (nesting)	*Agelaius tricolor*	SSC, SC	Colonial nester in cattails, bulrush, or blackberries associated with wetland or drainage habitats. Forages in grassland or cropland habitats.	**Could occur;** suitable nesting and foraging habitat present on site and in the vicinity around stock ponds and along drainages.
Grasshopper sparrow (nesting)	*Ammodramus savannarum*	SSC	Prefers short- to middle-height, moderately open grasslands with scattered shrubs.	**Not likely to occur;** marginally suitable nesting and foraging habitat is present in vicinity of the site in grasslands with scattered oak trees.
Yellow-breasted chat (nesting)	*Icteria virens*	SSC	Forages and nests in riparian thickets of willow and other brushy thickets near streams or other watercourses.	**Not likely to occur;** marginally suitable nesting habitat and suitable foraging habitat present on site. Suitable nesting and foraging habitat in vicinity of the site along Coon Creek and surrounding freshwater marshes and stock ponds. Observed in HFRP and Taylor Ranch during surveys conducted in 2007–2008.
Yellow warbler (nesting)	*Dendroica petechial*	SSC	Nests in trees or shrubs, particularly those with spines or thorns. Forages in open country.	**Could occur;** suitable nesting and foraging habitat present on site. Observed on Harvego BRP during surveys conducted in 2010–2013.
White-tailed kite (nesting)	*Elanus leacurus*	FP	Nests in riparian corridors along streams and rivers, small woodland patches, or isolated trees in open country and forages in nearby grasslands and fields.	**Not likely to occur;** marginally suitable nesting and foraging habitat present on site and suitable habitat in vicinity of the site in grasslands with scattered oak trees.
Loggerhead shrike (nesting)	*Lanius ludovicianus*	SSC	Nests in trees or shrubs, particularly those with spines or thorns. Forages in open country.	**Could occur;** suitable nesting and foraging habitat is present on and in vicinity of site in grasslands with blackberry thickets and scattered oak trees.

Table 1. Special-Status Wildlife Species Potentially Occurring at the Twilight Ride Property

Special-Status Species		Regulatory Status (Federal; State)[1]	Habitat Requirements	Potential for Occurrence[2]
Common Name	Scientific Name			
Mammals				
Pallid bat	*Antrozous pallidus*	SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats. Roosts in rocky outcrops, cliffs, crevices, trees, and snags.	**Not likely to occur;** marginally suitable roosting and suitable foraging habitat on site. Suitable foraging and roosting habitat is present in the vicinity.
Ringtail	*Bassariscus astutus*	FP	Prefers rocky habitats associated with water, including riparian canyons, caves, and mine shafts. Requires rock crevices, hollow trees, or snags for breeding or denning. Forages on ground, among rocks, in trees; usually near water.	**Not likely to occur;** suitable habitat occurs within the vicinity of the site. Ringtail prints were observed within the Harvego BRP during surveys conducted in 2010–2013.
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC	Uses a variety of habitats throughout California, from sea-level to 10,000 ft. Requires caves, mines, tunnels, or other man-made structures for roosting. Forages in edge habitats along streams, adjacent to and within a variety of wooded habitats. These bats often travel large distances while foraging.	**Not likely to occur;** marginally suitable foraging habitat on site. Suitable foraging habitat is present in the vicinity and rock crevices in the vicinity may provide suitable roosting sites.
Western red bat	*Lasiurus blossevillii*	SSC	Roosts primarily in trees adjacent to streams, fields, or urban areas. Forages in open areas and edge habitats.	**Not likely to occur;** marginally suitable roosting and suitable foraging habitat on site. Suitable foraging and roosting habitat is present in the vicinity.

Sources: CNDDB 2018; Placer County 2009; PLT 2007a, 2007b, 2007c, 2007d, 2007e, 2010, 2011, 2012, 2013; USFWS 2018; AECOM, 2018.

Notes

[1] Regulatory status definitions

Federal Endangered Species Act (ESA):
- FE = federal endangered
- FT = federal threatened

California Endangered Species Act (CESA):
- FP = California fully protected
- SC = State candidate for listing
- SSC = California Species of Special Concern
- ST = California state threatened

[2] Potential for occurrence definitions
- Not likely to occur: Species is unlikely to be present due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.
- Could occur: Suitable habitat is available; however, there are little to no other indicators that the species might be present.
- Likely to occur: Suitable habitat is available and indicators observed that the species might be present.

AECOM
2020 L Street, Suite 400
Sacramento, CA 95811
www.aecom.com

916.414.5800 tel
916.414.5850 fax

CONCLUSIONS AND RECOMMENDATIONS

Suitable habitat is present on site for a three special-status bird species that occur within the Sierra Nevada foothills. The habitat on site along the proposed driveway improvements and around proposed parking areas could potentially support these special-status species, particularly where proposed activities cross drainages. Drainages and aquatic habitat are afforded specific consideration through Section 1602 of the California Fish and Game Code, Section 404 of the Clean Water Act, and the State's Porter-Cologne Act, and construction in these areas may require a Section 404 permit from the U.S. Army Corps of Engineers, a 401 certification or waiver from the Central Valley Regional Water Quality Control Board, and a Lake and Streambed Alteration Agreement from CDFW. These permits and resource agency consultations would include requirements for avoidance and minimization measures to reduce the potential impacts of proposed activities on aquatic habitats and associated special-status wildlife species potentially occurring within the study area. The following Best Management Practices and other measures provide additional recommendations to avoid or minimize the potential adverse impacts of driveway improvements and construction of parking facilities on sensitive biological resources that may be present in the study area.

Best Management Practices to Protect Aquatic Resources

- Discharge of pollutants into storm drains or watercourses from vehicle and equipment cleaning will be prohibited.
- Maintenance and refueling areas for equipment will be located a minimum of 50 feet from active stream channels in predesignated staging areas, except at an established commercial gas station or vehicle maintenance facility.
- Spill containment kits will be maintained on-site at all times during construction operations and/or staging or fueling of equipment.
- Dust control measures will include the use of water trucks and dust palliatives to control dust in excavation and fill areas and to cover temporary stockpiles when weather conditions warrant such action.
- Coir rolls or straw wattles that do not contain plastic or synthetic monofilament netting will be installed along or at the base of slopes during construction to capture sediment.
- Permanent erosion control measures, such as biofiltration strips and swales to receive stormwater discharges from the highway or other impervious surfaces will be implemented to the maximum extent practicable.
- Access routes and limits of construction will be clearly marked before initiation of construction or grading.
- All equipment will be maintained to prevent leaks of automotive fluids, such as gasoline, oils, or solvents, and a spill response plan will be prepared.
- Hazardous materials, such as fuels, oils, and solvents, will be stored in sealable containers in a designated location that is located at least 100 feet from wetlands and aquatic habitats.

Avoidance/Minimization Measures for Special-Status Bird Species and Bird Species Protected under the Migratory Bird Treaty Act (including tricolored blackbird, yellow warbler, and loggerhead shrike):

- Construction activity will occur outside the nesting season (February 15 to August 31). Alternatively, if construction cannot avoid the nesting season, preconstruction surveys for active nests of special-status birds and other birds protected by the Migratory Bird Treaty Act will be required before commencement of any project activities. The preconstruction survey will cover an area at least 250 feet from the footprint of the proposed construction activities and will be conducted by a qualified biologist within 14 days before project construction begins. If an active nest is detected, the qualified biologist will establish a no-construction buffer around the nest until nesting is verified to be complete. The size of the buffer can range from 50 to 250 feet, depending on the species of bird, nature of the project activity, the extent of existing disturbance in the area, and other relevant circumstances, as determined by a qualified biologist in coordination with CDFW.

If you have any questions or require additional information, please do not hesitate to call us at (916) 414-5800.

Sincerely,

Kristin Asmus
Senior Biologist

Attachments:
Appendix A: Exhibits

REFERENCES

CDFW (California Department of Fish and Wildlife). 2018. A Guide to Wildlife Habitats of California. Accessed July 2018. https://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats.

CNDDB (California Natural Diversity Database). 2018. RareFind 5 (Commercial Version): An Internet Application for the Use of the California Department of Fish and Wildlife's Natural Diversity Database. Sacramento, CA: California Department of Fish and Wildlife, Biogeographic Data Branch, February. Accessed July 29, 2018. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.

EDAW/AECOM. 2009. *Final Environmental Impact Report, Hidden Falls Regional Park Project*. State Clearinghouse No. 2007062084. Prepared for Placer County Department of Facility Services, Auburn, CA. Sacramento, CA: EDAW/AECOM.

Placer County. 2008. *Hidden Falls Regional Park Preliminary Delineation of Waters of the United States, Including Wetlands*. Prepared by AECOM. Auburn, CA: Placer County, July.

Placer County. 2009. *Hidden Falls Regional Park Project Environmental Impact Report*. Prepared by AECOM. Auburn, CA: Placer County, June.

PLT (Placer Land Trust). 2007a *Management Plan for Kotomyan Big Hill Preserve.* Auburn, CA: PLT, updated 2008.

PLT (Placer Land Trust). 2007b. *Management Plan for Liberty Ranch Big Hill Preserve.* Auburn, CA: PLT, July.

PLT (Placer Land Trust). 2007c. *Baseline Documentation Report for Liberty Ranch Big Hill Preserve.* Auburn, CA: PLT, July.

PLT (Placer Land Trust). 2007d. *Baseline Documentation Report for Taylor Ranch Big Hill Preserve.* Auburn, CA: PLT, April.

PLT (Placer Land Trust). 2007e. *Management Plan for Taylor Ranch Preserve.* Auburn, CA: PLT, April.

PLT (Placer Land Trust). 2010. *Wetland Delineation Report for Bruin Ranch.* Auburn, CA: PLT, July.

PLT (Placer Land Trust). 2011. *2011-2013 Management Plan for Harvego Bear River Preserve.* Auburn, CA: PLT, February.

PLT (Placer Land Trust). 2012. *Harvego Bear River Preserve Inventory and Improved Forest Management Activities Plan*. Prepared by Under the Trees—Forestry and Environmental Services, Nevada City, CA. Auburn, CA: PLT, October.

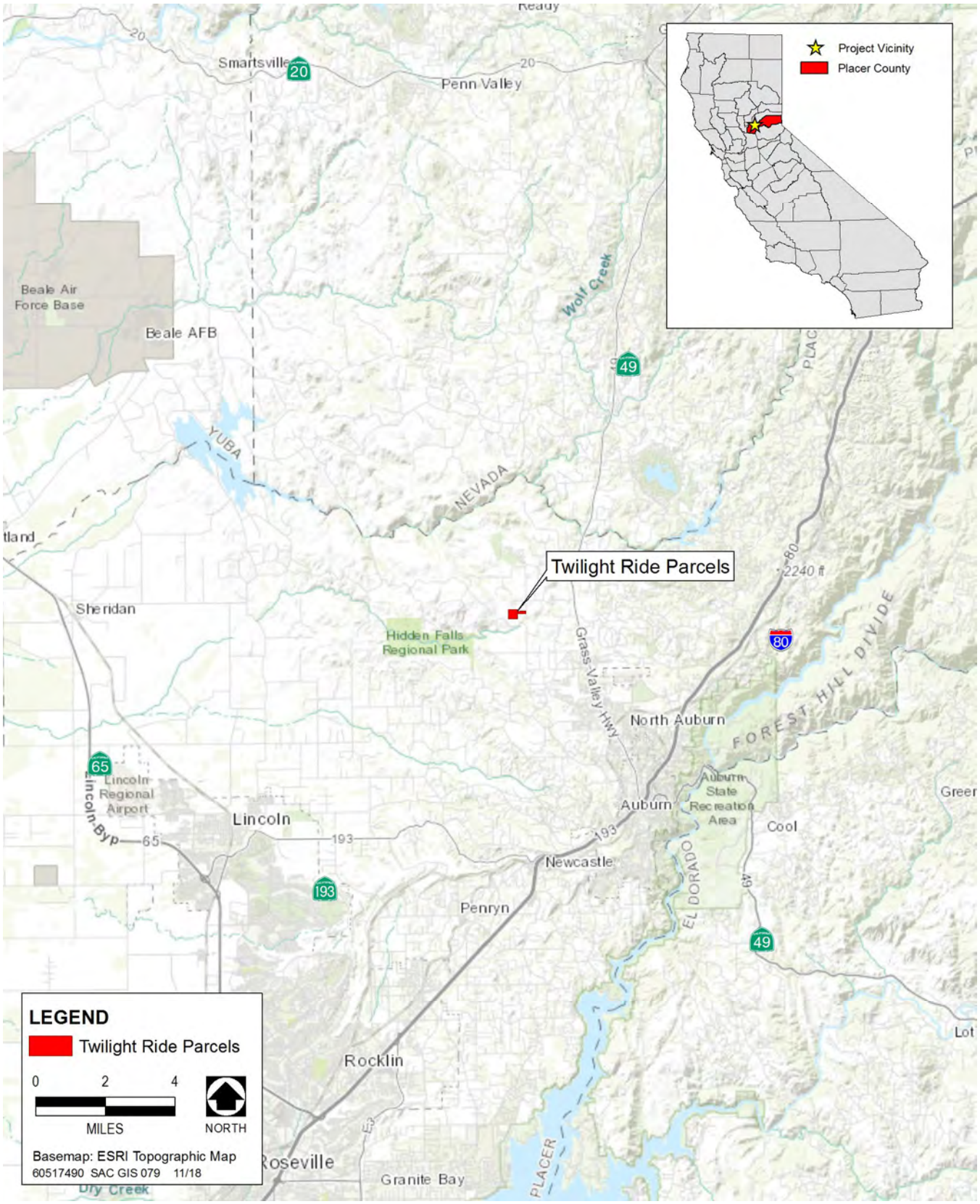
PLT (Placer Land Trust). 2013. *Baseline Documentation Report for Outman Big Hill Preserve*. Auburn, CA: PLT, August.

USFWS (U.S. Fish and Wildlife Service). 2018. Information for Planning and Conservation. Accessed August 2, 2018. http://ecos.fws.gov/ipac/.

AECOM

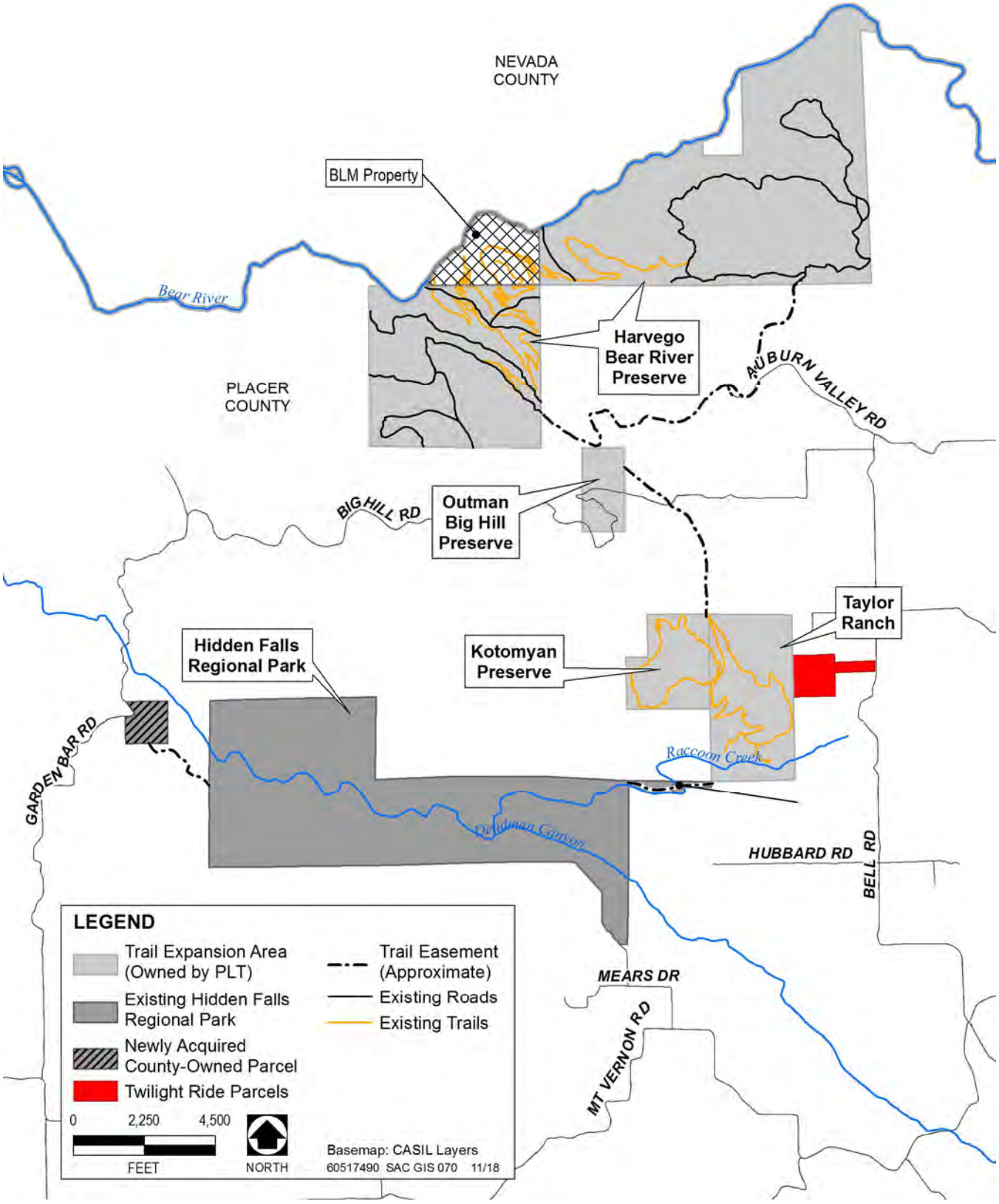
APPENDIX A

Exhibits



Source: AECOM 2018.

Exhibit 1. Project Location and Vicinity



Source: AECOM 2018.

Exhibit 2. Project Map

Source: AECOM 2018.

Exhibit 3. **Project Elements**

Addendum to Wetland Delineation Report–Twilight Parcel

AECOM
2020 L Street, Suite 400
Sacramento, CA 95811
www.aecom.com

916.414.5800 tel
916.414.5850 fax

December 6, 2018

Lisa Carnahan, Parks Planner
Placer County Public Works and Facilities
Parks Division
11476 C Avenue
Auburn, CA 95603

Subject: Addendum to Wetland Delineation Report for the Hidden Falls Regional Park Trail Network Expansion Project – Twilight Ride Property, Placer County, California

Dear Ms. Carnahan:

This letter report is an addendum to the *Delineation of Wetlands and Other Waters of the United States, Hidden Falls Regional Park Trail Network Expansion Project* prepared by AECOM in March 2018 for the Placer County Public Works and Facilities Parks Division (AECOM 2018). In spring of 2018, AECOM conducted biological surveys for additional proposed new parking and trailhead access areas in the recently-acquired Twilight Ride property. This letter summarizes the results of the wetland delineation and preliminary jurisdictional determination. Special-status wildlife species and special-status plant species are addressed in separate addendum letter reports.

PROJECT LOCATION AND PROPERTY DESCRIPTION

The property is in western Placer County, south of the Bear River, approximately 40 miles northeast of Sacramento (Exhibit 1, Appendix A). The Placer Land Trust owns several preserves in the vicinity, including the Harvego Bear River and Outman Big Hill Preserves to the north, and the Kotomyan and Taylor Ranch Preserves to the west (Exhibit 2, Appendix A). As part of the Placer County Hidden Falls Regional Park (HFRP) Trails Network Expansion Project, the County is proposing parking and trailhead access from the Twilight Ride property on Bell Road to an existing trail system within the adjacent Taylor Ranch Preserve (Exhibit 2, Appendix A). The property is used as a private residence and pasture for goats and cattle. Existing features include an approximately 600-foot driveway from Bell Road, two rural residences, low-voltage power lines, barbed wire fencing, vehicle/equipment storage areas, several small outbuildings, and an excavated stock pond. Surrounding lands are primarily privately-owned and used for agriculture, grazing, and rural residences. The proposed project will involve enhancements to the existing driveway, and construction of parking facilities for vehicles and horse trailers. An additional area may be used for horse boarding/pasture. Proposed activities consist of road improvements (including two stream crossings) for the driveway and preparation/grading of the areas proposed for parking (Exhibit 3, Appendix A).

METHODS

Before the site surveys were conducted, an AECOM biologist reviewed color aerial imagery of the study area in Google Earth (Google 2018), as well as National Wetlands Inventory data and the U.S. Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2018a), to assist in locating areas of potential wetlands and waters. AECOM biologists Petra Unger and Kristin Asmus conducted pedestrian surveys and the wetland delineation at the site, which consists of the approximately 50-acre Twilight Property (Exhibit 3, Appendix A). Surveys were conducted on May 15, 2018 and were focused on the areas of proposed development, including the driveway and proposed parking lot areas. During the surveys, the weather conditions were sunny and warm with a high temperature of 77° Fahrenheit.

The U.S. Army Corps of Engineers (USACE) 1987 wetlands delineation manual (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a) were used to delineate wetlands potentially subject to USACE jurisdiction under Section 404 of the Clean Water Act (CWA). The 1987 manual and 2008 Arid West Supplement provide technical guidelines and methods for the three-parameter approach to determining the location and boundaries of jurisdictional wetlands. This approach requires that an area support positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to be considered a jurisdictional wetland.

Waters of the United States were delineated based on the ordinary high-water mark (OHWM) using the OHWM field guide (Lichvar and McColley 2008). A drainage feature's OHWM typically corresponds with characteristics such as shelving, scour lines, and other natural linear features that define the bed and bank portion of the channel that floods under normal conditions (USACE 2005).

The *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* was consulted to aid the preliminary determination that an area would be subject to USACE jurisdiction under CWA Section 404 (USACE and EPA 2007). The significant nexus test—outlined in a memorandum jointly authored by the U.S. Environmental Protection Agency and USACE—was applied to each potentially jurisdictional habitat type (Grumbles and Woodley 2008).

Details on these methods as well as the regulatory and environmental background for the project can be found in the in *Preliminary Delineation of Waters of the United States, Including Wetlands for the Hidden Falls Regional Park Connectivity Project* (Placer County 2012) and *Delineation of Wetlands and Other Waters of the United States, Hidden Falls Regional Park Trail Network Expansion Project* (Placer County 2018).

RESULTS

Placer County is within the California Floristic Province, which is characterized by a Mediterranean climate with cool, wet winters and hot, dry summers. The property is located within the Gold Hill U.S. Geological Service (USGS) 7.5 minute topographic quadrangle, Township 13N, Range 7E, Section 13 (Exhibit 4 Appendix A). The elevation of the property ranges from approximately 1,075 to 1,240 feet above mean sea level along gently sloping topography from southwest to northeast. The property lies within the Coon Creek watershed and is approximately 0.25 mile north of Coon Creek.

Vegetation

The property is dominated by annual grasslands with scattered blue oak (*Quercus douglasii*) (Not Listed [NL]) and patches of blue oak woodland. Full descriptions of these habitats are available in the *Special-Status Plant Surveys for the Hidden Falls Regional Park Trail Expansion Project, Placer County, California* report (Placer County 2017). A map of habitats is provided as Exhibit 5 in Appendix A.

On the center-east area of the property there is a seasonally wet slope with vegetation dominated by umbrella sedge (*Cyperus eragrostis*) (Facultative Wetland [FACW]), spreading rush (*Juncus patens*) (FACW), and soft rush (*Juncus effusus*) (FACW). A second seasonally wet area to the southwest of the western proposed parking area is larger and supports a greater diversity of wetland indicator species. This area is dominated by facultative (Facultative [FAC]) grass species Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*) and Italian rye grass (*Festuca perennis*), with patches of Nebraska sedge (*Carex nebrascensis*) (Obligate [OBL]) and scattered Mexican rush (*J. mexicanus*) (FACW), spike rush (*Eleocharis macrostachya*) (OBL) and curly dock (*Rumex crispus*) (FAC).

Three drainages are present on the site and two support riparian vegetation. The central drainage is moderately vegetated with low thickets of Himalayan blackberry (*Rubus aremeniacus*) (FAC) and patches of wetland vegetation dominated by narrow-leaf cattails (*Typha angustifolia*) (OBL). There are scattered blue oaks along the drainage corridor. The eastern drainage has dense riparian vegetation including very tall thickets of arroyo willow (*Salix lasiolepis*) (FACW) and Himalayan blackberry, as well as areas of wetland vegetation including cattails, arrowhead (*Sagittaria latifolia*) (OBL), and water-cress (*Nasturtium officinale*) (OBL). A complete list of plant species observed on the property is provided in Appendix B.

Soils

Soil types within the property consist mostly of Auburn-Sobrante-Rock outcrop complex, 2 to 30 percent slopes and Auburn silt loam, 2 to 15 percent slopes, with a small section of Auburn-Argonaut-Rock outcrop complex, 2 to 15 percent slopes, found in the southeast corner (NRCS 2018a). Only the Auburn-Argonaut-Rock outcrop complex, 2 to 15 percent slopes, is considered a hydric soil (NRCS 2018b). A soils map is provided as Exhibit 6 in Appendix A.

Auburn soils typically occur on undulating to very steep foothills. Slopes range from 2 to 75 percent at elevations of 125–3,000 feet. Auburn soils are characterized by shallow to moderately deep, well-drained soils formed in material weathered from metabasic or metasedimentary rock, such as amphibolite schist, greenstone schist, or diabase. Depth to bedrock ranges from 10 to 28 inches, and rock outcrops are common. These soils, between the depths of 8 and 20 inches or to a lithic contact, are dry in all parts from June to mid-October and moist in all parts from mid-November to May. Runoff varies from low to very high (NRCS 2018c). They are taxonomically classified as loamy, mixed, superactive, thermic Lithic Haploxerepts.

Sobrante soils typically occur on foothills. Slopes range from 2 to 75 percent at elevations of 125–3,500 feet. Sobrante soils consist of moderately deep, well-drained soils derived from basic igneous and metamorphic rock. Depth to paralithic layer is 20 to 40 inches, depth to bedrock is 40 inches. The soils, between depths of about 5 to 15 inches, are usually moist but become dry in all parts in May or early June and remain dry until October to mid-November. Runoff is medium. They are taxonomically classified as fine-loamy, mixed, active, thermic Mollic Haploxeralfs.

Argonaut typically occur on ridges on foothills. Slopes range from 2 to 15 percent at elevations of 120-4,000 feet. Argonaut soils are shallow to moderately deep, well-drained soils formed from residuum weathered from metamorphic rock. Depth to a restrictive layer, bedrock, paralithic, is 25 to 29 inches. Available water to a depth of 60 inches or the restricted depth is low and shrink-swell potential is high. These soils, between depths of about 8 to 24 inches or to a paralithic contact, are dry in all parts from June to mid-October and are moist in all parts from mid-November to mid-May. Runoff is very high. They are taxonomically classified as fine, mixed, superactive, thermic Mollic Haploxeralfs

Hydrology

The study area is located within the Coon Creek watershed. There are three intermittent drainages on the property, two in the western portion, within the Deadman Canyon–Coon Creek Hydrologic Unit (USGS Hydrologic Unit Code [HUC] 180201610203) and one to the east in the Orr Creek Hydrologic Unit (HUC 180201610201) (USGS 2018). The boundary between the units runs north-south across the property approximately 480 feet from the eastern property boundary/Bell Road. There are two inline, bermed stock ponds on the westernmost drainage, and a diversion pipe and offline stock pond associated with the east drainage. The central drainage bisects the property flowing north to south and is culverted under the existing dirt drive. Approximately 0.40 miles south of the property boundary is the confluence of Orr Creek and dry Creek, which join to become Coon Creek. Coon Creek and all

drainages associated with Coon Creek flow to the East Side Canal, which flows into the Natomas Cross Canal to the Sacramento River, the nearest truly navigable water (TNW).

Natural hydrology on the site is driven primarily by direct precipitation and associated runoff into streams and channels. Precipitation in the area falls primarily as rain. Snow events are rare. The Auburn Station's Western Regional Climate Center precipitation gauge receives an average annual precipitation of 34.39 inches; in addition, the highest amounts of rainfall occur in November–March (WRCC 2018). The climate is characterized by a hot dry season and a cool wet season. Precipitation in the Sacramento River hydrologic region, American River Basin as measured at Auburn was at 65 percent of historic average for the October 2017–September 2018 water year (DWR 2018).

National Wetlands Inventory (NWI)

The U.S. Fish and Wildlife Service National Wetlands Inventory was queried for information regarding any wetlands previously mapped in the study area. The National Wetlands Inventory identifies all three stock ponds on the site as freshwater ponds. The two in-line ponds on the west are classified as PUBHh, and the eastern stock pond is classified as PUBFh (USFWS 2018). However, the western inline pond water regime modifier, H Permanently Flooded, would be more accurately described as E Seasonally Flooded or F Semipermanently Flooded.

DELINEATION RESULTS

This section presents the results of the delineation of waters of the United States, as defined by USACE under CWA Section 404, for the project site. A total of 3.03 acres of potentially jurisdictional features are present in the study area. These features consist of three intermittent drainages, three stock ponds, and two wetlands. Exhibit 7 in Appendix A shows the location and extent of each of the potentially jurisdictional waters. Appendix C provides sample point data form sheets. Appendix D shows representative photographs of the delineated features. Appendix E is a table of the aquatic resources including linear feet of RPWs and acreage of seasonal wetlands. The delineation map provided in Appendix A was prepared in accordance with the Draft Map and Drawing Standards for the South Pacific Regulatory Program, Special Public Notice (USACE 2012). This map can be used by the County for regulatory permitting purposes pursuant to Section 404 of the Clean Water Act. These results are considered draft until verified by the USACE Sacramento District.

Relatively Permanent Waters

Relatively permanent waters (RPWs) typically have continuous flow for at least 3 months of the year. The three intermittent drainages on the site are RPWs that are potentially subject to USACE jurisdiction pursuant to Section 404 of the Clean Water Act because they are ultimately tributaries to and have a direct surface connection to, the Sacramento River. The western drainage, RPW1, is the westernmost drainage with two inline bermed stock ponds. This drainage originates at the top of a wide draw approximately 0.58 miles northwest of the site. Some sections are ill-defined, but sections where the drainage has an ordinary high water mark (OHWM) on site, the average width is approximately 3 feet and the bed is unconsolidated. The central drainage, RPW2, originates offsite approximately 0.37 miles to the north and flows generally north to south across the property. The average width of the OHWM is 4 feet. Approximately mid-property the drainage passes under an existing unimproved dirt road through two 24-inch metal pipe culverts. The bed is a mix of gravel, cobble and silt with occasional small boulders. RPW1 and RPW2 meet at a confluence just south of the property boundary and are tributary to Coon Creek.

The eastern drainage, RPW3, originates approximately 0.25 miles to the northeast and enters the property through a culvert under Bell Road. There is an offline stockpond to the east with a pump and diversion pipe at the north end. The average width of the drainage is approximately 8 feet and the bottom is unconsolidated. This drainage flows generally south to Orr Creek just before its confluence with Dry Creek to form Coon Creek.

Seasonal Wetlands

Three stock ponds are present comprising 1.62 acres. There are two inline ponds on RPW1 and one offline pond on RPW3. The inline ponds are relatively shallow and appear to dry down in the spring while the offline pond is deeper and retains water further into the summer. These ponds are considered to be potentially jurisdictional because they impound or are adjacent to potentially jurisdictional RPWs.

There are two seasonal slope wetlands on site comprising 1.19 acres. SW1 in the northwestern corner of the property originates in a small draw just north of the property boundary. This wetland is situated upslope of RPW1 and is considered to be potentially jurisdictional because it is adjacent to potentially jurisdictional RPW1. SW2 at the center-east area of the property seems to originate on site, though there is no seep or other apparent source. This wetland's waters move downslope to the southwest, south, and then southeast offsite toward RPW3. This wetland is considered to be potentially jurisdictional because it has a significant nexus to potentially jurisdictional RPW3. The data forms in Appendix C provide information about these wetlands.

CONCLUSION

The study area totals approximately 50 acres. Of this total, 3.03 acres are potentially jurisdictional features. RPW1 (0.04 acre, 552.73 linear feet), RPW2 (0.13 acre, 1,392.62 linear feet) and RPW3 (0.05 acre, 256.81 linear feet) are likely subject to USACE jurisdiction under Section 404 of the CWA. These features exhibit a defined bed, bank, and channel. They also have a clearly identifiable OHWM and are tributary to Coon Creek, which has a direct surface connection to the East Side Canal, the Natomas Cross Canal, and ultimately to the TNW Sacramento River. Pond 1 (0.46 acre) and Pond 2 (0.81 acre) are abutting/impounding RPW1, SW1 (0.48 acre) is adjacent to RPW1, and Pond 3 (0.35 acre) is adjacent to RPW3, and these pond and seasonal wetland features are therefore likely subject to USACE jurisdiction under Section 404 of the CWA due to their proximity to RPWs with direct surface connection to a TNW. SW 2 (0.71 acre) has a significant nexus to RPW3, which has a direct surface connection to a TNW, and is therefore considered likely subject to USACE jurisdiction under Section 404 of the CWA.

Blue oak woodland and annual grassland lack one or more criteria that define wetlands and are located above an OHWM. These habitats are generally not regulated by USACE under CWA Section 404. This jurisdictional determination is considered draft and contingent on verification by the USACE Sacramento District.

If you have any questions or require additional information, please do not hesitate to call us at (916) 414-5800.

Sincerely,

Kristin Asmus
Senior Biologist

Appendix A: Exhibits
Appendix B: Plant Species Observed
Appendix C: Sample Point Data Forms
Appendix D: Representative Photographs
Appendix E: Aquatic Resources Upload Excel Table

REFERENCES

California Department of Water Resources. 2018. California Data Exchange Center—Detailed Monthly Precipitation Summary for Water Year: 2017 Water Year Precipitation Summary. Available: http://cdec.water.ca.gov/snow_rain.html. Accessed January 2018.

DWR. *See* California Department of Water Resources.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual.* Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Google. 2018. Google Earth Pro (Version 7.3). Imagery dates: 2018 and prior.

Grumbles, B. H., and J. P. Woodley Jr. 2008 (December 2). *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in* Rapanos v. United States *and* Carabell v. United States. Memorandum to U.S. Environmental Protection Agency regions and U.S. Army Corps of Engineers districts. Washington, DC.

Lichvar, R. W., and S. M. McColley. 2008 (August). *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual.* ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Corps of Engineers, Engineer Research and Development Center.

NRCS. *See* U.S. Natural Resources Conservation Service.

Placer County. 2012. *Preliminary Delineation of Waters of the United States, Including Wetlands for the Hidden Falls Regional Park Connectivity Project*. Prepared by AECOM. February.

———. 2017. *Special-Status Plant Surveys for the Hidden Falls Regional Park Trail Expansion Project, Placer County, California*. Prepared by AECOM. September.

———. 2018. *Delineation of Wetlands and Other Waters of the United States, Hidden Falls Regional Park Trail Network Expansion Project*. Prepared by AECOM. March.

USACE. *See* U.S. Army Corps of Engineers.

USACE and EPA. *See* U.S. Army Corps of Engineers and U.S. Environmental Protection Agency.

U.S. Army Corps of Engineers. 2005 (December 7). *Ordinary High Water Mark Identification*. Regulatory Guidance Letter No. 05-05. Washington, DC.

———. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. Ed. J.S. Wakeley, R.W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center."

———. 2012 (August 6). *Final Map and Drawing Standards for the South Pacific Regulatory Program.* Special public notice. Sacramento District. Sacramento, CA.

U.S. Army Corps of Engineers and U.S. Environmental Protection Agency. 2007 (May 30). *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook.* Washington, DC.

U.S. Fish and Wildlife Service. 2018. Wetlands Mapper. Last updated May 01, 2018. Available: http://www.fws.gov/wetlands/Data/Mapper.html. Accessed May, 2018.

USFWS. *See* U.S. Fish and Wildlife Service.

U.S. Geological Survey. 2018. The National Map, TNM Viewer. Hydrography and Watershed Boundary data sets. U. S. Department of the Interior. Available: https://viewer.nationalmap.gov/advanced-viewer. Page last Modified: 26-Jun-18. Accessed July, 2018.

USGS. *See* U.S. Geological Survey

U.S. Natural Resources Conservation Service. 2018a. Web Soil Survey (Version 3.3). Available: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed May, 2018.

———. 2018b. National Hydric Soils List. Query by Soil Survey Area, Solano County. Available: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed May, 2018.

———. 2018c. Official Soil Series Descriptions. Available: http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/soils/survey/class/data/?cid=nrcs142p2_053587. Accessed May, 2018.

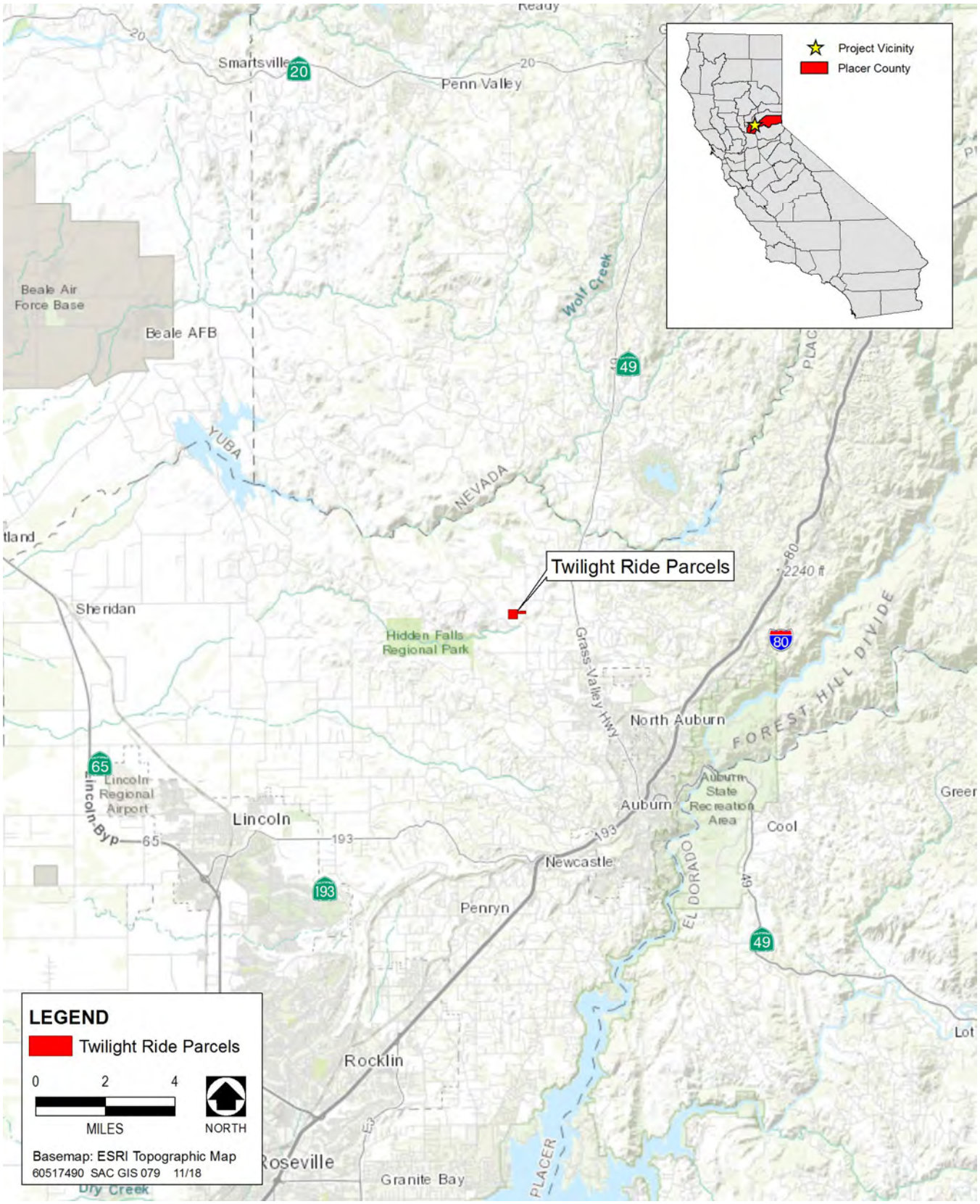
Western Regional Climate Center (WRCC). 2018. Climatological Summary. Station: Auburn, Auburn, CA. Period of Record: January 01, 1905 to June 10, 2016. Available: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0383. Accessed July, 2018.

WRCC. *See* Western Regional Climate Center.

AECOM

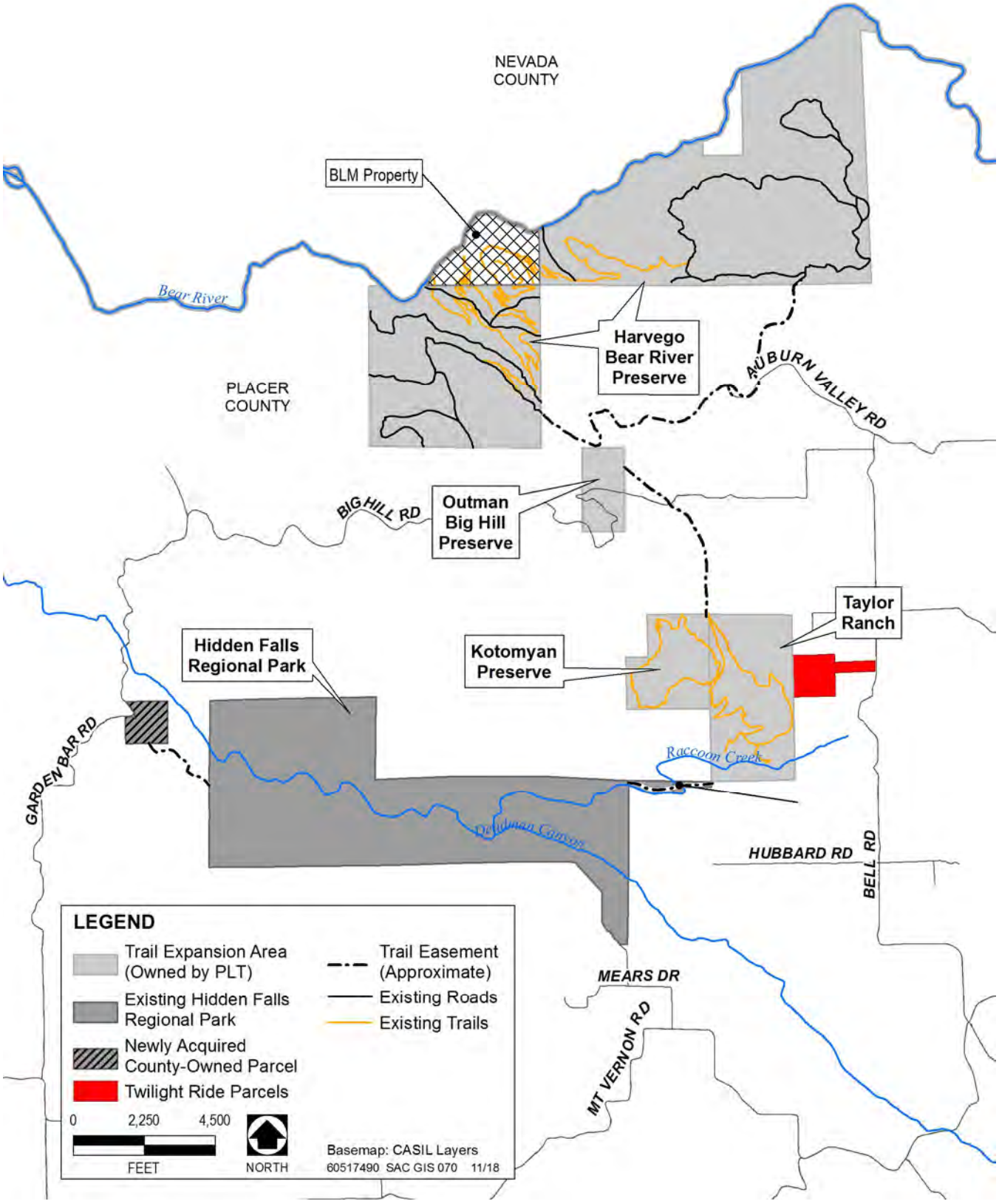
APPENDIX A

Exhibits



Source: AECOM 2018.

Exhibit 1. Project Location and Vicinity

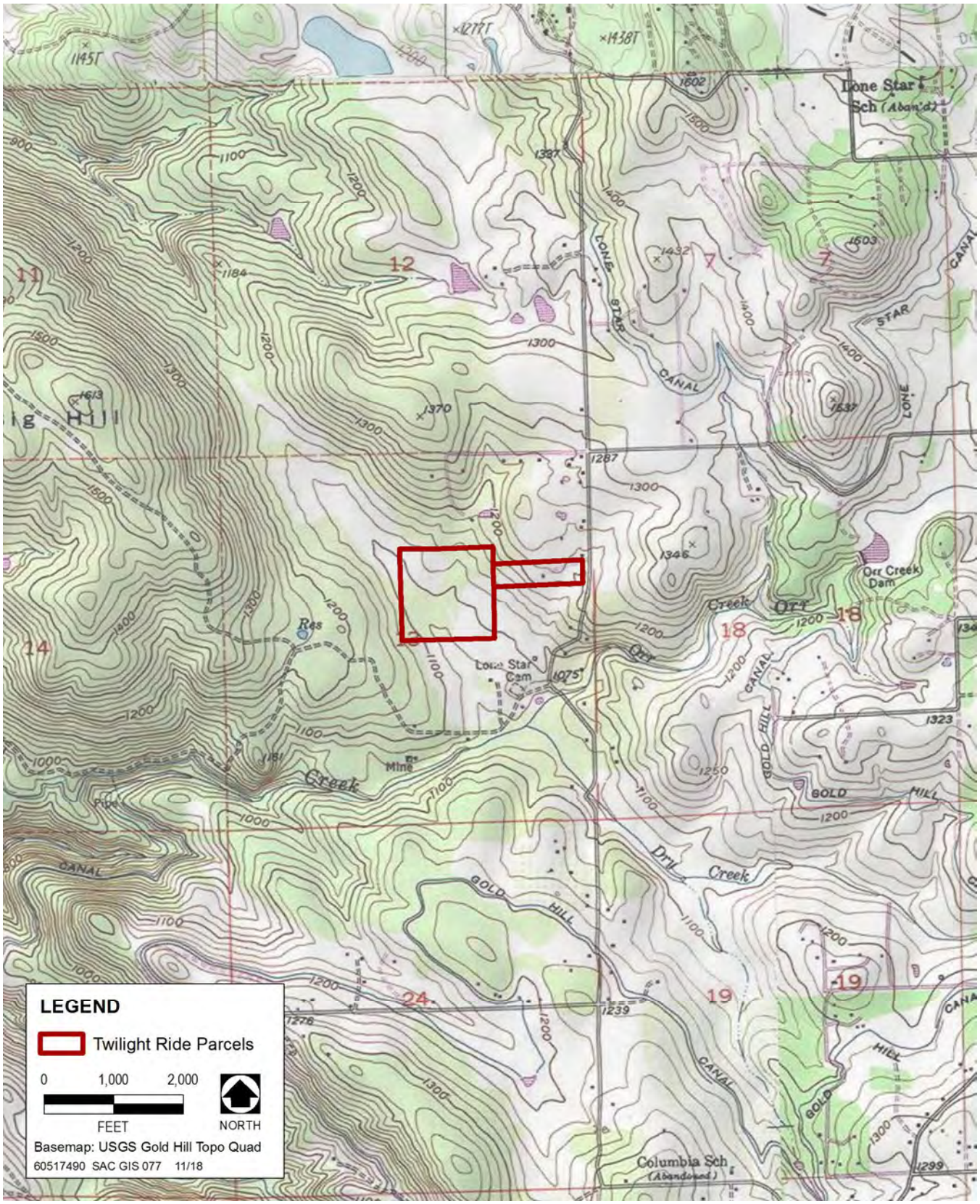


Source: AECOM 2018.

Exhibit 2. Project Map

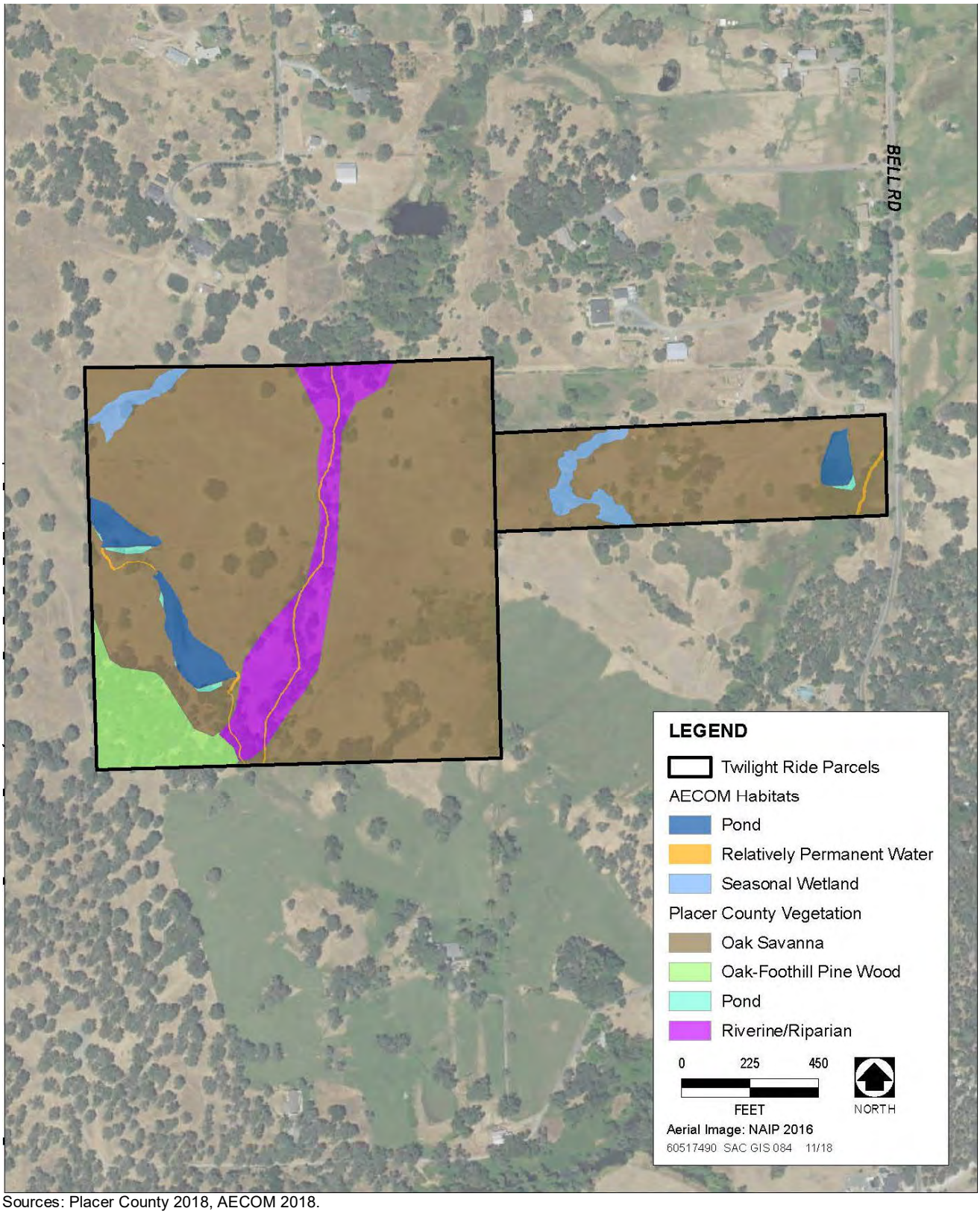
Source: AECOM 2018.

Exhibit 3. **Project Elements**



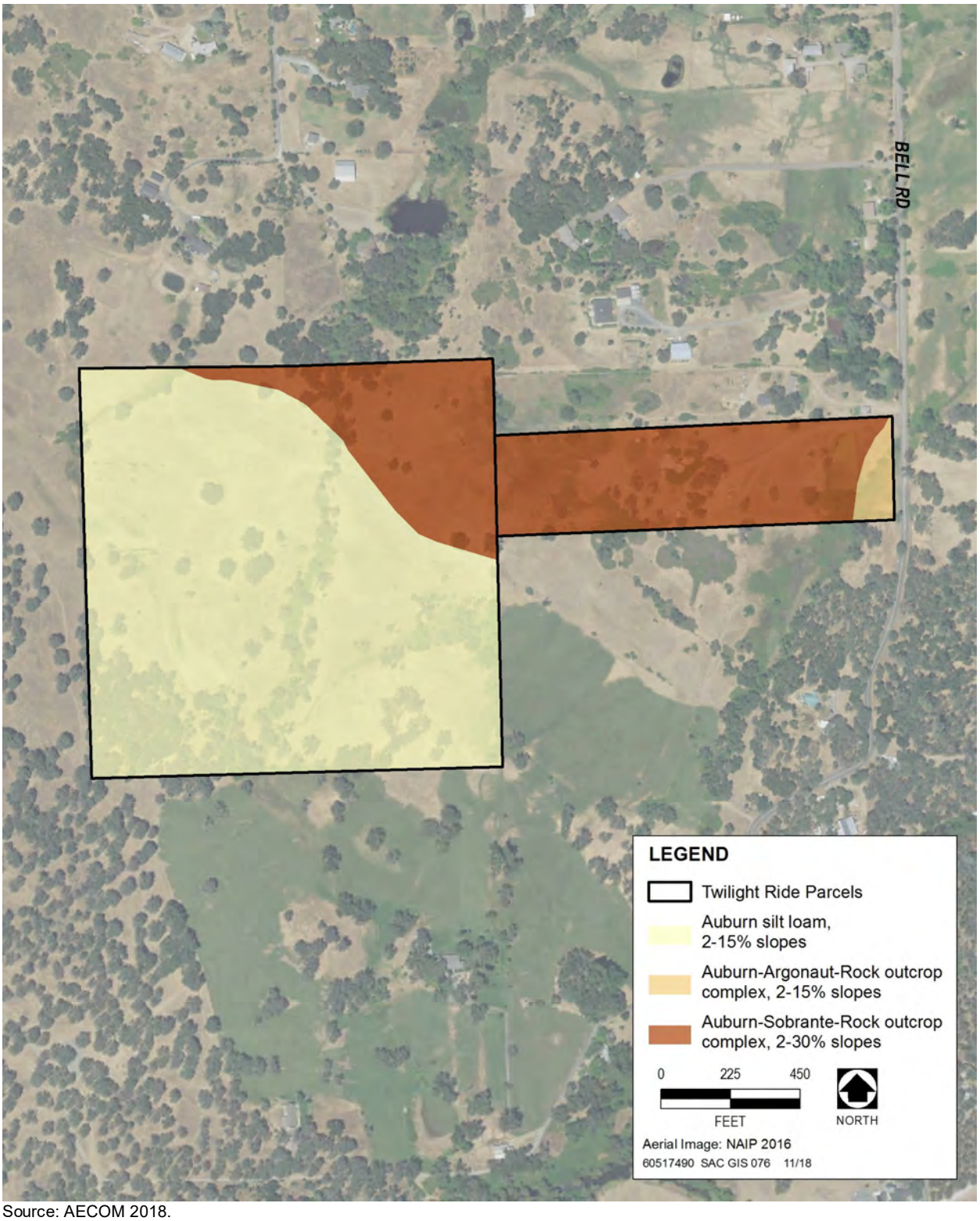
Source: AECOM 2018, USGS.

Exhibit 4. Study Area Topographic Map



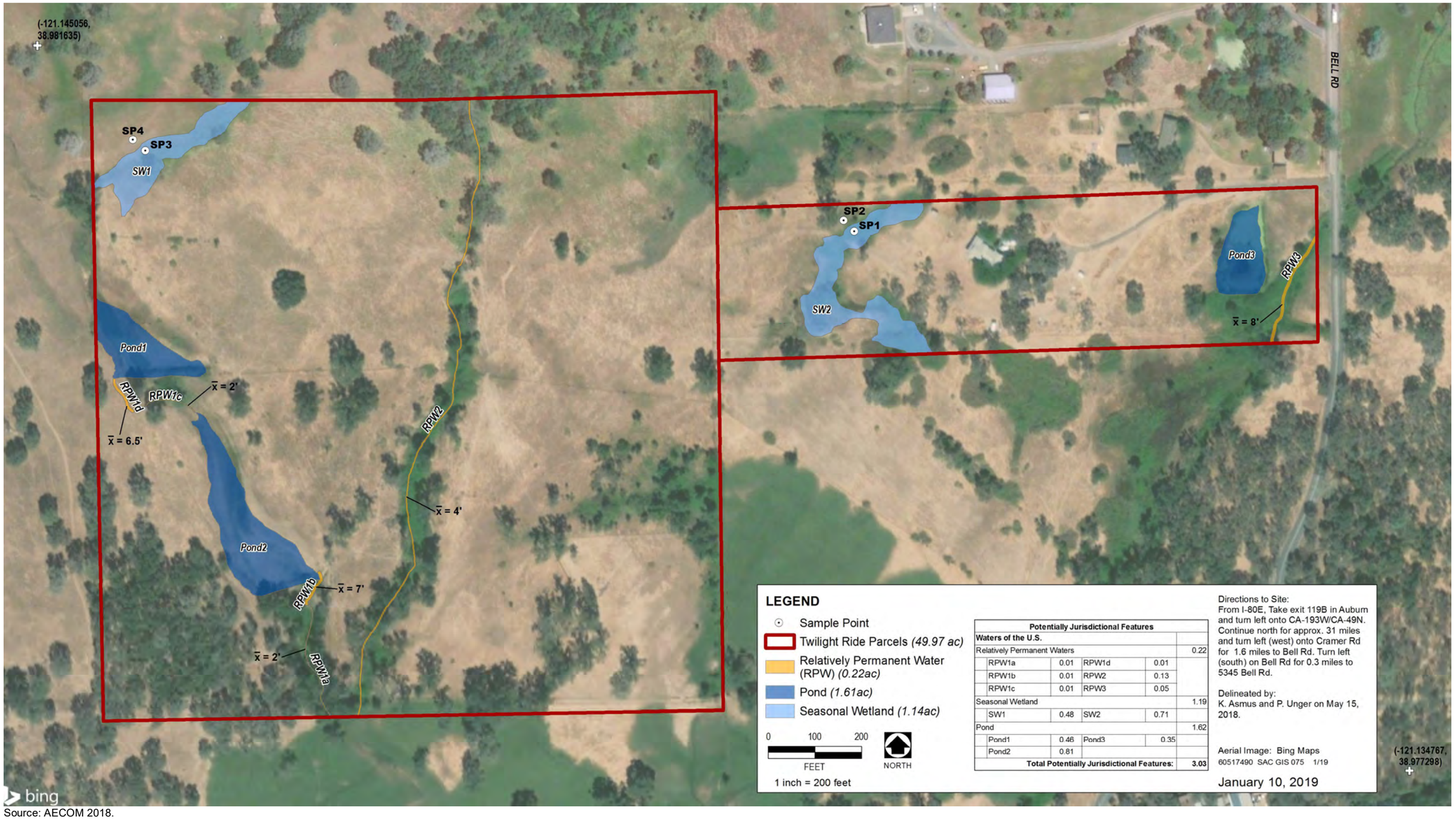
Sources: Placer County 2018, AECOM 2018.

Exhibit 5. Habitats Map



Source: AECOM 2018.

Exhibit 6. Soils Map



Source: AECOM 2018.

Exhibit 7. Aquatic Resources Delineation Map

APPENDIX B

Plants Observed

Scientific Name (= NWPL synonym)	Common Name	Indicator Status
Amsinckia intermedia	fiddleneck	NL
Avena fatua (=A.sativa)	wild oat	UPL
Azolla microphylla	Mexican mosquito fern	OBL
Brassica sp.	mustard	NL
Briza minor	little quaking grass	FAC
Brodiaea elegans	harvest brodiaea	FACU
Bromus diandrus	ripgut brome	NL
Bromus hordeaceus	soft chess	FACU
Capsella bursa-pastoris	shephard's purse	FACU
Carex nebrascensis	Nebraska sedge	OBL
Carduus pycnocephalus	Italian thistle	NL
Castilleja attenuata	Valley tassels	NL
Cirsium vulgare	Bull thistle	FACU
Cyperus eragrostis	umbrella-sedge	FACW
Deschampsia danthonioides	annual hair grass	FACW
Eleocharis acicularis	needle spikerush	OBL
Elymus caput-medusae	medusa head	NL
Epilobium ciliatum	willowherb	FACW
Erodium botrys	broadleaf filaree	FACU
Eryngium castrense	Great Valley coyote thistle	OBL
Erythranthe guttata (=Mimulus guttatus)	Yellow monkeyflower	OBL
Eschscholzia californica	California poppy	NL
Festuca arundinacea (=Schedonorus arundinaceus)	Reed fescue	FACU
Festuca perennis (=Lolium perenne)	rye grass	FAC
Geranium dissectum	cut-leaved geranium	NL
Holcus lanatus	Common velvetgrass	FAC
Hordeum marinum var. gussoneanum	Mediterranean barley	FAC
Hordeum murinum var. leporinum	hare barley	FACU
Hypochaeris radicata	rough cat's-ear	FACU
Juncus balticus	Baltic rush	FACW
Juncus effusus	common rush	FACW
Juncus patens	spreading rush	FACW
Juncus xiphioides	iris leaved rush	OBL
Lactuca serriola	prickly lettuce	FACU
Linum bienne	flax	NL
Lotus corniculatus	bird's foot trefoil	FAC
Lupinus bicolor	miniature lupine	NL
Madia elegans ssp. vernalis	common tarweed	NL
Matricaria discoidea	pineapple weed	FACU

Scientific Name (= NWPL synonym)	Common Name	Indicator Status
Mentha canadensis (=arvensis)	American cornmint	FACW
Microseris acuminata	microseris	NL
Nasturtium officinale	watercress	OBL
Navarretia pubescens	purple navarretia	NL
Parentucellia viscosa	parentucellia	FAC
Perideridia kelloggii	squawroot	NL
Petrorhagia dubia	grass pink	NL
Plagiobothrys stipitatus var. micranthus	stalked popcorn flower	FACW
Plantago lanceolata	English plantain	FAC
Poa pratensis	Kentucky blue grass	FAC
Psilocarphus tenellus	slender woolly-marbles	OBL
Quercus douglasii	blue oak	NL
Quercus wislizeni	interior live oak	NL
Ranunculus californicus	California buttercup	FACU
Rubus armeniacus	Himalayan blackberry	FAC
Rumex crispus	curly dock	FAC
Rumex pulcher	fiddledock	FAC
Sagittaria lattifolia	arrowhead	OBL
Salix lasiolepis	arroyo willow	FACW
Scandix pectin-veneris	Venus' needle	NL
Trifolium dubium	little hop clover	UPL
Trifolium hirtum	red clover	NL
Trifolium subterraneum	subterranean Clover	NL
Triteleia laxa	Ithuriel's spear	NL
Triteleia hyacinthina	white brodiaea	FAC
Typha angustifolia	narrow-leaf cattail	OBL
Veronica americana	American brooklime	FAC
Vicia sativa	spring vetch	FACU

FAC = Facultative
FACU = Facultative Upland
FACW = Facultative Wetland
NL = not listed
NWPL = National Wetland Plant List
OBL = Obligate
UPL = Upland

Source: AECOM 2018

AECOM

APPENDIX C

Sample Point Data Forms

AECOM

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Hidden Falls / Twilight Ride Parcels | City/County: Placer County | Sampling Date: 5/15/18

Applicant/Owner: Placer County Land Trust | State: CA | Sampling Point: SP1

Investigator(s): K. Asmus and P. Unger | Section, Township, Range: Section 13, Range 7E, Township 13N

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): none | Slope (%): 15%

Subregion (LRR): C - Mediterranean California | Lat: 38.980583 | Long: -121.138982 | Datum: WGS84

Soil Map Unit Name: Auburn-Sobrante-Rock outcrop complex, 2 to 30 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Point is within wetted area of a slope wetland, no clear seep/point source.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Juncus effusus*	30	Yes	FACW
2. *Juncus patens*	20	Yes	FACW
3. *Cyperus eragrostis*	20	Yes	FACW
4. *Eleocharis acicularis*	30	Yes	OBL
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: 0 % | % Cover of Biotic Crust: %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	70	x 2 =	140
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	100 (A)		170 (B)

Prevalence Index = B/A = 1.70

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

AECOM

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-3	10YR 3/2	97	7.5YR 5/8	3	C	M	loam	
3-9+	10YR 3/2	75	7.5YR 5/8	25	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☒ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 1

Water Table Present? Yes ○ No ○ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sample point is on slope, no clear point source/seep apparent but water trickling all across the slope and edges of area very saturated.

AECOM

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Hidden Falls / Twilight Ride Parcels | City/County: Placer County | Sampling Date: 5/15/18
Applicant/Owner: Placer County Land Trust | State: CA | Sampling Point: SP2
Investigator(s): K. Asmus and P. Unger | Section, Township, Range: Section 13, Range 7E, Township 13N
Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): none | Slope (%): 15%
Subregion (LRR): C - Mediterranean California | Lat: 38.980496 | Long: -121.139014 | Datum: WGS84
Soil Map Unit Name: Auburn-Sobrante-Rock outcrop complex, 2 to 30 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)
Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )
Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Avena fatua*	10	No	UPL
2. *Trifolium dubium*	25	Yes	UPL
3. *Bromus hordeaceus*	15	Yes	FACU
4. *Broumus diandrus*	10	No	Not Listed
5. *Hordeum murinum ssp. leporinum*	10	No	FACU
6. *Festuca perennis*	10	No	FAC
7.			
8.			
Total Cover:	80 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: 20 % | % Cover of Biotic Crust: %

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	10	x 3 =	30
FACU species	25	x 4 =	100
UPL species	45	x 5 =	225
Column Totals:	80 (A)		355 (B)

Prevalence Index = B/A = 4.44

Hydrophytic Vegetation Indicators:
(●) Dominance Test is >50%
(●) Prevalence Index is ≤3.0[1]
[ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
[ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Sample point is upland pair to SP1.

AECOM

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-2	7.5YR 3/3	97	7.5YR 5/8	3	C	M	loam	
2-6+	7.5YR 3/3	90	7.5YR 5/8	10	C	M	loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ●

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ● Depth (inches):

Water Table Present? Yes ○ No ● Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ● Depth (inches):

Wetland Hydrology Present? Yes ○ No ●

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sample point is upland pair to SP1, across slope along contour and out of moist soil area.

AECOM

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Hidden Falls / Twilight Ride Parcels | City/County: Placer County | Sampling Date: 5/15/18

Applicant/Owner: Placer County Land Trust | State: CA | Sampling Point: SP3

Investigator(s): K. Asmus and P. Unger | Section, Township, Range: Section 13, Range 7E, Township 13N

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): none | Slope (%): 5-10%

Subregion (LRR): C - Mediterranean California | Lat: | Long: | Datum: WGS84

Soil Map Unit Name: Auburn silt loam, 2 to 15 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	Is the Sampled Area within a Wetland? Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum marinum ssp. gussoneanum*	80	Yes	FAC
2. *Carex nebrascensis*	15	No	OBL
3. *Rumex crispus*	1	No	FAC
4. *Trifolium dubium*	2	No	Not Listed
5. *Geranium dissectum*	1	No	Not Listed
6. *Juncus balticus*	1	No	FACW
7. *Festuca perennis*	1	No	FAC
8.			
Total Cover:	101%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: % | % Cover of Biotic Crust: %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	1	x 2 =	2
FAC species	82	x 3 =	246
FACU species		x 4 =	0
UPL species	3	x 5 =	15
Column Totals:	101 (A)		278 (B)

Prevalence Index = B/A = 2.75

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Sample point is toward bottom of slope in a wide draw.

AECOM

SOIL

Sampling Point: SP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-9+	10YR 3/2	95	7.5YR 5/8	5	C	M	silt loam	Redox features also in RC

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- [ ] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [x] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5) (**LRR C**)
- [ ] 1 cm Muck (A9) (**LRR D**)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Sandy Mucky Mineral (S1)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Loamy Mucky Mineral (F1)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [x] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)
- [ ] Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- [ ] 1 cm Muck (A9) (**LRR C**)
- [ ] 2 cm Muck (A10) (**LRR B**)
- [ ] Reduced Vertic (F18)
- [ ] Red Parent Material (TF2)
- [ ] Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes (•) No ( )

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- [x] Surface Water (A1)
- [x] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1) (**Nonriverine**)
- [ ] Sediment Deposits (B2) (**Nonriverine**)
- [ ] Drift Deposits (B3) (**Nonriverine**)
- [ ] Surface Soil Cracks (B6)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Salt Crust (B11)
- [ ] Biotic Crust (B12)
- [ ] Aquatic Invertebrates (B13)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Plowed Soils (C6)
- [ ] Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- [ ] Water Marks (B1) (**Riverine**)
- [ ] Sediment Deposits (B2) (**Riverine**)
- [ ] Drift Deposits (B3) (**Riverine**)
- [ ] Drainage Patterns (B10)
- [ ] Dry-Season Water Table (C2)
- [ ] Thin Muck Surface (C7)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes (•) No ( ) Depth (inches): 1-2

Water Table Present? Yes (•) No ( ) Depth (inches): 6-7

Saturation Present? (includes capillary fringe) Yes (•) No ( ) Depth (inches): 0

Wetland Hydrology Present? Yes (•) No ( )

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sample point is located toward bottom of a draw/swale; no defined bed and bank in this section, but area drains to an unnamed tributary of Coon Creek. Surface water was flowing at time of site visit.

AECOM

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Hidden Falls / Twilight Ride Parcels | City/County: Placer County | Sampling Date: 5/15/18

Applicant/Owner: Placer County Land Trust | State: CA | Sampling Point:

Investigator(s): K. Asmus and P. Unger | Section, Township, Range: Section 13, Range 7E, Township 13N

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): | Slope (%):

Subregion (LRR): C - Mediterranean California | Lat: | Long: | Datum: WGS84

Soil Map Unit Name: Auburn silt loam, 2 to 15 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	Is the Sampled Area within a Wetland? Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus hordeaceus*	70	Yes	FACU
2. *Trifolium subterraneum*	5	No	Not Listed
3. *Trifolium dubium*	5	No	UPL
4. *Trifolium hirtum*	5	No	Not Listed
5. *Festuca perennis*	15	No	FAC
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	15	x 3 =	45
FACU species	70	x 4 =	280
UPL species	15	x 5 =	75
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

AECOM

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6+	10YR 4/3	90	7.5YR 5/8	10	C	M	silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ●

Remarks: Very rocky soil in this location.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ● Depth (inches): _____

Water Table Present? Yes ○ No ● Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ● Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ●

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sample point is pair with SP3, slightly upslope.

AECOM

APPENDIX D

Representative Photographs

Photo 1: View of typical pond (Pond 1), annual grassland and blue oak habitats at the Twilight Ride Property.

Photo 2: View of soil profile at Sample Point 1 on the Twilight Ride Property.

AECOM

APPENDIX E

Aquatic Resources Upload Excel Table

AECOM

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude
RPW1	CALIFORNIA	R4SB	RIVERINE	Linear	552.73	FOOT	RPW	-121.143018	38.978031
RPW2	CALIFORNIA	R4SB	RIVERINE	Linear	1,392.62	FOOT	RPW	-121.142115	38.979501
RPW3	CALIFORNIA	R4SB	RIVERINE	Linear	256.81	FOOT	RPW	-121.135618	38.980173
Pond 1	CALIFORNIA	PUB	RIVERINE	Area	0.46	ACRE	IMPNDMNT	-121.14432	38.979856
Pond 2	CALIFORNIA	PUB	RIVERINE	Area	0.81	ACRE	IMPNDMNT	-121.143509	38.978794
Pond 3	CALIFORNIA	PUB	RIVERINE	Area	0.35	ACRE	IMPNDMNT	-121.135995	38.980329
SW1	CALIFORNIA	PEM	SLOPE	Area	0.48	ACRE	RPWWN	-121.144105	38.980988
SW2	CALIFORNIA	PEM	SLOPE	Area	0.71	ACRE	DELINEATE	-121.138895	38.980208