11697

9/20/2018

Botanical Survey Report

APN# 210-051-060-000
33087 State Highway 36
Bridgeville, CA. 95526

Prepared by
J. Regan Consulting
Eureka, CA.
September 2018

For
MAD RIVER PROPERTIES, INC.
MCKINLEYVILLE, CA.

Setting

The surveyed area is located in APN #

210-051-060-000

This parcel is located within Humboldt County, on the Larabee Valley USGS 7.5' quadrangle near the community of Bridgeville, CA.

The biogeographic region can be described using a three-tiered hierarchy of province, region, and sub-region. This site lies within the California Floristic Province, Northwestern California region, and North Coast Ranges sub-region. Elevation on site is approximately 2,700-3,000 feet above mean sea level. The project area is situated north of State Highway 36 and south of The Van Duzen River, a perennial fish bearing watercourse which joins the Eel River near Fortuna, CA and ultimately drains to the Pacific Ocean. Watercourses within the subject property drain south then east to unnamed tributaries to Butte Creek which flows north into the Van Duzen River.

Habitat Description

Habitat within the plan area is varied and shows signs of past disturbance and land management activities. The approximately 40 acre parcel is largely composed of ***Pseudotsuga menzeisii* (Douglas' fir Forest) Forest Alliance** (Sawyer 2009) which has been entered for commercial timber harvest in the past. Skid trails, old logging roads and crossings, as well as landings and cleared areas are evident throughout the stand. Understory vegetation is generally light except on stand edges, in canopy openings, or along larger perennial watercourses. Soils are sometimes rocky and several large rock outcrops exist scattered within the parcel. The western quarter of the parcel contains a transition zone between Douglas' fir Forest into more open mix black oak and white oak woodland surrounded by and subtended by open foothill and valley grassland with a mix of native and non-native grasses and herbs. This habitat may be described as a mix of ***Quercus garryana* (Oregon white oak woodland) Woodland Alliance** and ***Quercus kelloggii* (California black oak forest) Woodland Alliance** (Sawyer 2009). The subject parcel contains two larger perennial watercourses and several seasonal tributaries. Some portions of the old road and skid trail system hold ponded water and present potential habitat for wet meadow or riparian species outside of riparian areas. A vegetation and habitat location map is included in Attachment A.

Any development within the project area has the potential to significantly alter and impact the existing vegetation on site at this time. This survey and report is intended to satisfy any project needs for botanical survey and mitigation for rare or endangered plant species and sensitive vegetation communities under the California Environmental Quality Act (CEQA). If sensitive plant species are detected within the project boundaries appropriate measures to avoid and/or mitigate impacts to those species shall be developed by a qualified professional and delivered to the appropriate agencies for review. These same measures are listed in CEQA, Section 15370.

- Avoid the impact altogether by not taking a certain action
- Minimize impacts by limiting the degree or magnitude of the action
- Rectify the impact by repairing, rehabilitating, or restoring the impacted environment
- Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the project
- Compensate for the impact by replacing or providing substitute resources or environments

Soils

The USDA web soil survey was queried for soil survey data for the project area. A soil map and short report were downloaded and are included in Attachment B. The majority of the project area falls into a soil map unit labeled as: Rockyglen – Tannin complex and Pasturerock – Coyoterock – Maneze complex. Additionally, the publication "*Soils of Western Humboldt County, California*" (McLaughlin 1965) was also queried for the subject parcel and shows the area to be composed of Yorkville, Tyson, Melbourne, and Josephine soil types.

Survey Methods

Surveys/Habitat Assessment for this project was conducted on 1 September 2018. The surveys were conducted by Mr. James Regan. Mr. Regan holds a bachelors' degree in botany and has experience working as a professional botanist in northern California for the past 15 years. Approximately 5 field hours were spent on surveys (~8 acres/hour). Maps showing survey routes are included as Attachment B. Surveys were done as an intuitive assessment of potential habitats based on personal knowledge and visible environmental features such as canopy cover, slope, soil texture, aspect, hydrologic features, and associated tree, shrub, and herbaceous plant species (if present). The botanical survey was floristic in nature and seasonally appropriate, when possible. This survey protocol is based on Protocol for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFG 2018). A list of sensitive plant species that have the potential to occur in this area is provided in Attachment A. This list is the result of a compilation of occurrence data from the California Native Plant Society (CNPS) and California Natural Diversity Database (CNDDB). Sources were queried for the Larabee Valley USGS 7.5' quadrangle and the 8 quadrangles immediately adjacent. Plant species with potential habitat within the project area are noted. All other species listed are described as existing in habitat types that are not found within the project area. Plant species ranked by the CNPS as California Rare Plant Rank (CRPR) 1 and 2 with potential habitat within the project area are considered the primary focus of seasonal surveys. This ranking includes plants listed under the California Endangered Species Act (CESA) and the Federal Endangered Species Act (FESA) as well as candidate species for either of those lists. CRPR list 3 and 4 plants are recorded and reported if found within the project area and will be considered for mitigation if appropriate. A complete list of species encountered is found in Attachment C. A number of the plant species with potential habitat in the plan area would not have been present in an identifiable condition at the time of survey; these species are presented in bold font in the scoping table in Attachment C. Surveys were conducted very early in the month of September, these surveys should be considered appropriate for plants with bloom times extending into

August. This includes *Carex praticola* (northern meadow sedge) which would have been in fruit and in a condition favorable to identification at the time of survey. *Arctostaphylos manzanita ssp. canescens* (Konocti manzanita) can be identified without blooming flowers, 2018 survey efforts are appropriate to locate and identify this species if it were present.

These surveys also seek to detect and describe natural and sensitive vegetation communities as described in the Manual of California Vegetation (Sawyer 2009) and those vegetation communities and alliances listed as "sensitive" by the CNDDB.

Results/Recommendations

No rare, threatened, sensitive, or endangered plants listed in the state of California were encountered during 2018 surveys for this property. The subject property does contain potential habitat for listed plants; these habitats were surveyed in the appropriate time frame for a portion of the potential sensitive plants that may be found in these habitat types in this region but were not suitable for the remainder of the potential sensitive plant species. Prior to development or land management activities I highly recommend conducting additional survey in spring of 2019 for those species with bloom times prior to August with habitat in the subject parcel including: *Montia howellii* (Howell's montia) along roads and skid trails, *Erythronium revolutum* and *E. oregonem* (fawn lilies) within riparian areas and stream channels, *Lupinus constancei* (The Lassics lupine), *Sabulina decumbens* (The Lassics sandwort), and *Thermopsis robusta* (robust false lupine) in upland areas on stand edges and on rocky soil types. I recommend two additional surveys take place one in late April or early May and one in mid-June to early July in order to adequately cover all potential habitats within the appropriate time frame. These future survey events may be restricted to areas with planned future development and do not necessarily need to take place in areas without planned development or planned activity that has the potential to impact sensitive plants or their associated habitats.

The subject parcel does contain vegetation communities considered sensitive in California including: ***Quercus garryana* (Oregon white oak woodland) Woodland Alliance.** This vegetation type is found in small pockets mixed with black oak, Douglas' fir, madrone, and others on the eastern boundary of the subject parcel. Management plans should include measures which retain Oregon white oak individually and in small stands. Removal of encroaching fir and tan oak trees may help maintain this sensitive vegetation type.

Please ~~feel free~~ to call with any questions.

James Regan
Consulting Botanist
jreganii@aol.com

Attachment A: List of Potentially Occurring Sensitive Plant Species
Attachment B: Survey Route Map, Habitat Location Map, Soils Report
Attachment C: Comprehensive Species List

References

Allen, G. and J. Antos. 1988. Morphological And Ecological Variation Across A Hybrid Zone Between *Erythronium oregonum* and *E. revolutum* (Liliaceae). Madroño, Vol. 35, No. 1, pp. 32-38.

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, second edition. University of California Press, Berkeley.

[CDFG] California Department of Fish and Game. 2018. "Protocol for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities" State of California.

California Department of Fish and Wildlife, Natural Diversity Database.
April 2018. Special Vascular Plants, Bryophytes, and Lichens List.
Quarterly publication. 127 pp.

CNPS (California Native Plants Society). 2018. *Inventory of Rare and Endangered Plants.* (on-line edition, v8-01a). California Native Plant Society. Sacramento, CA. Accessed March 2018.

Cal-IPC. 2006. California Invasive Plant Inventory. Cal-IPC Publication 2006-02 California Invasive Plant Council: Berkeley, CA. Available: www.cal-ipc.org.

Circuit Rider Productions, Inc. (CRP). October 2003. *CALIFORNIA SALMONID STREAM HABITAT RESTORATION MANUAL, PART XI RIPARIAN HABITAT RESTORATION,* under a grant agreement with the California Department of Fish and Game.

Coleman, Ronald A. 1995. The Wild Orchids of California. Comstock Publishing Associates a division of Cornell University Press. Ithaca, New York

Hitchcock, C.L. and A. Cronquist. 1973. *Flora of the Pacific Northwest: An Illustrated Manual.* Seattle, Wash.: University of Washington Press. xix + 730 pp.

Hickman, J.C., ed. 1993. *The Jepson Manual: Higher Plants of California.* University of California Press. Berkeley, CA

Humboldt County Weed Management Area. 2010. Invasive Weeds of Humboldt County: A Guide for Concerned Citizens (2nd Edition). Arcata, California.

List of Vegetation Alliances and Associations. Vegetation Classification and Mapping Program, California Department of Fish and Game. Sacramento, CA. January 2018.

McLaughlin J. and Harradine F. 1965. *Soils of Western Humboldt County, California.* Department of Soils and Plant Nutrition, UC Davis in cooperation with Humboldt County.

Munz, P. A. and D. D. Keck. 1970. *A California Flora*. University of California Press. Berkeley, CA.

Sawyer, J.O. ,T.Keeler-Wolf, and, J.M. Evens. 2009. *A Manual of California Vegetation, 2nd edition*. California Native Plant Society, Sacramento,CA.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed [August 2018].

U.S.D.I – F.W.S. (United States Department of the Interior, Fish and Wildlife Service). 1996. *National List of Vascular Plant Species that Occur in Wetlands*: 1996 *National Summary.* Ecology Section, National Wetlands Inventory, FWS, report dated March 3, 1997. 209 pp.

Attachment A
List of Potentially Occurring Sensitive Plant Species

List of Potentially Occurring Sensitive Plant Species

Scientific Name	Common Name	CRPR	GRank	SRank	CESA	FESA	Blooming Period	Habitat	Micro Habitat	Habitat Present on Subject Parcel
Anisocarpus scabridus	scabrid alpine tarplant	1B.3	G3	S3	None	None	Jul-Aug(Sep)	Upper montane coniferous forest (metamorphic, rocky)		Potential
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	1B.3	G5T3	S3	None	None	(Jan)Mar-May(Jul)	Chaparral, Cismontane woodland, Lower montane coniferous forest	volcanic	Yes
Astragalus agnicidus	Humboldt County milk-vetch	1B.1	G2	S2	CE	None	Apr-Sep	Broadleafed upland forest, North Coast coniferous forest	openings, disturbed areas, sometimes roadsides	Yes
Astragalus umbraticus	Bald Mountain milk-vetch	2B.3	G4	S2	None	None	May-Aug	Cismontane woodland, Lower montane coniferous forest	sometimes roadside	Yes
Calycadenia micrantha	small-flowered calycadenia	1B.2	G2	S2	None	None	Jun-Sep	Chaparral, Meadows and seeps (volcanic), Valley and foothill grassland	Roadsides, rocky, talus, scree, sometimes serpentinite, sparsely vegetated areas	Potential
Carex praticola	northern meadow sedge	2B.2	G5	S2	None	None	May-Jul	Meadows and seeps (mesic)		Yes

Scientific Name	Common Name	CRPR	GRank	SRank	CESA	FESA	Blooming Period	Habitat	Micro Habitat	Habitat Present on Subject Parcel
Epilobium oreganum	Oregon fireweed	1B.2	G2	S2	None	None	Jun-Sep	Bogs and fens, Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest	mesic	Potential
Erigeron maniopotamicus	Mad River fleabane daisy	1B.2	G2?	S2?	None	None	May-Aug	Lower montane coniferous forest, Meadows and seeps (open, dry)	open, disturbed areas (road cuts); rocky	Potential
Erythronium oregonum	**giant fawn lily**	**2B.2**	**G4G5**	**S2**	**None**	**None**	**Mar-Jun(Jul)**	**Cismontane woodland, Meadows and seeps**	**sometimes serpentinite, rocky, openings**	**Yes**
Erythronium revolutum	**coast fawn lily**	**2B.2**	**G4G5**	**S3**	**None**	**None**	**Mar-Jul(Aug)**	**Bogs and fens, Broadleafed upland forest, North Coast coniferous forest**	**Mesic, streambanks**	**Yes**
Gilia capitata ssp. pacifica	Pacific gilia	1B.2	G5T3	S2	None	None	Apr-Aug	Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland		Yes
Hosackia yollabolliensis	Yolla Bolly Mtns. bird's-foot trefoil	1B.2	G2	S2	None	None	Jun-Aug	Meadows and seeps, Upper montane coniferous forest (openings)	dry barren exposed slopes, often gravelly	Potential
Howellia aquatilis	**water howellia**	**2B.2**	**G3**	**S2**	**None**	**FT**	**Jun**	**Marshes and swamps (freshwater)**		**No**

Scientific Name	Common Name	CRPR	GRank	SRank	CESA	FESA	Blooming Period	Habitat	Micro Habitat	Habitat Present on Subject Parcel
Iliamna latibracteata	California globe mallow	1B.2	G2G3	S2	None	None	Jun-Aug	Often in burned areas. Chaparral (montane), Lower montane coniferous forest. North Coast coniferous forest (mesic). Riparian scrub (streambanks).		Potential
Kopsiopsis hookeri	small groundcone	2B.3	G4?	S1S2	None	None	Apr-Aug	North Coast coniferous forest		Yes
Lathyrus biflorus	two-flowered pea	1B.1	G1	S1	None	None	Jun-Aug	Lower montane coniferous forest (serpentinite)		Potential
Lupinus constancei	**The Lassics lupine**	**1B.1**	**G1**	**S1**	**None**	**None**	**Jul**	**Lower montane coniferous forest (serpentinite)**		**Potential**
Lupinus elmeri	South Fork Mountain lupine	1B.2	G2	S2	None	None	Jun-Jul(Aug)	Lower montane coniferous forest		Potential
Montia howellii	**Howell's montia**	**2B.2**	**G3G4**	**S2**	**None**	**None**	**(Feb)Mar-May**	**Meadows and seeps, North Coast coniferous forest, Vernal pools**	**vernally mesic, sometimes roadsides**	**Potential**
Packera bolanderi var. bolanderi	seacoast ragwort	2B.2	G4T4	S2S3	None	None	(Jan-Apr)May-Jul(Aug)	Coastal scrub, North Coast coniferous forest	Sometimes roadsides	Potential
Piperia candida	white-flowered rein orchid	1B.2	G3	S3	None	None	(Mar)May-Sep	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest	sometimes serpentinite	Yes

Scientific Name	Common Name	CRPR	GRank	SRank	CESA	FESA	Blooming Period	Habitat	Micro Habitat	Habitat Present on Subject Parcel
Sabulina decumbens	**The Lassics sandwort**	**1B.2**	**G1**	**S1**	**None**	**None**	**Jul**	**Lower montane coniferous forest, Upper montane coniferous forest**	**serpentinite**	**Potential**
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	1B.2	G5T2	S2	None	None	May-Aug	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest	often roadcuts	Yes
Thermopsis robusta	**robust false lupine**	**1B.2**	**G2**	**S2**	**None**	**None**	**May-Jul**	**Broadleafed upland forest, North Coast coniferous forest**		**Potential**

Rank Definitions
Global Conservation Status Definitions

Listed below are definitions for interpreting NatureServe global (range-wide) conservation status ranks. These ranks are assigned by NatureServe scientists or by a designated lead office in the NatureServe network.

G1 **Critically Imperiled**—At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2 **Imperiled**—At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.

G3 **Vulnerable**—At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.

G4 **Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5 **Secure**—Common; widespread and abundant.

G#G# **Range Rank**—A numeric range rank (e.g., G2G3, G1G3) is used to indicate the range of uncertainty about the exact status of a taxon or ecosystem type. Ranges cannot skip more than two ranks (e.g., GU should be used rather than G1G4).

Infraspecific Taxon Conservation Status Ranks

T# **Infraspecific Taxon** (trinomial)—The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1. A T subrank cannot imply the subspecies or variety is more abundant than the species. For example, a G1T2 subrank should not occur. A vertebrate animal population, (e.g., listed under the U.S. Endangered Species Act or assigned candidate status) may be tracked as an infraspecific taxon and given a T-rank; in such cases a Q is used after the T-rank to denote the taxon's informal taxonomic status.

Subnational (S) Conservation Status Ranks

S1 **Critically Imperiled**—Critically imperiled in the jurisdiction because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the jurisdiction.

S2 **Imperiled**—Imperiled in the jurisdiction because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction.

S3 **Vulnerable**—Vulnerable in the jurisdiction due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 **Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 **Secure**—Common, widespread, and abundant in the jurisdiction.

S#S# **Range Rank** — A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem. Ranges cannot skip

more than two ranks (e.g., SU is used rather than S1S4).

Rank Qualifiers

? **Inexact Numeric Rank**—Denotes inexact numeric rank; this should not be used with any of the Variant Global Conservation Status Ranks or GX or GH.

Q **Questionable taxonomy that may reduce conservation priority**— Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a lower-priority (numerically higher) conservation status rank. The "Q" modifier is only used at a global level and not at a national or subnational level.

The California Rare Plant Ranks

1A. Presumed extirpated in California and either rare or extinct elsewhere
1B. Rare or Endangered in California and elsewhere
2A. Presumed extirpated in California, but more common elsewhere
2B. Rare or Endangered in California, but more common elsewhere
3. Plants for which we need more information - Review list
4. Plants of limited distribution - Watch list

1A: Plants Presumed Extirpated in California and either rare or extinct elsewhere
The plants of Rank 1A are presumed extirpated because they have not been seen or collected in the wild in California for
many years. This rank includes those plant taxa that are both presumed extinct, as well as those plants which are presumed
extirpated in California and rare elsewhere. A plant is extinct if it no longer occurs anywhere. A plant that is extirpated from
California has been eliminated from California, but may still occur elsewhere in its range.

1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
(Includes Rare Plant Ranks 1B.1, 1B.2, 1B.3)
The plants of Rank 1B are rare throughout their range with the majority of them endemic to California. Most of the plants
that are ranked 1B have declined significantly over the last century. California Rare Plant Rank 1B plants constitute the
majority of plant taxa tracked by the CNDDB, with more than 1,000 plants assigned to this category of rarity.

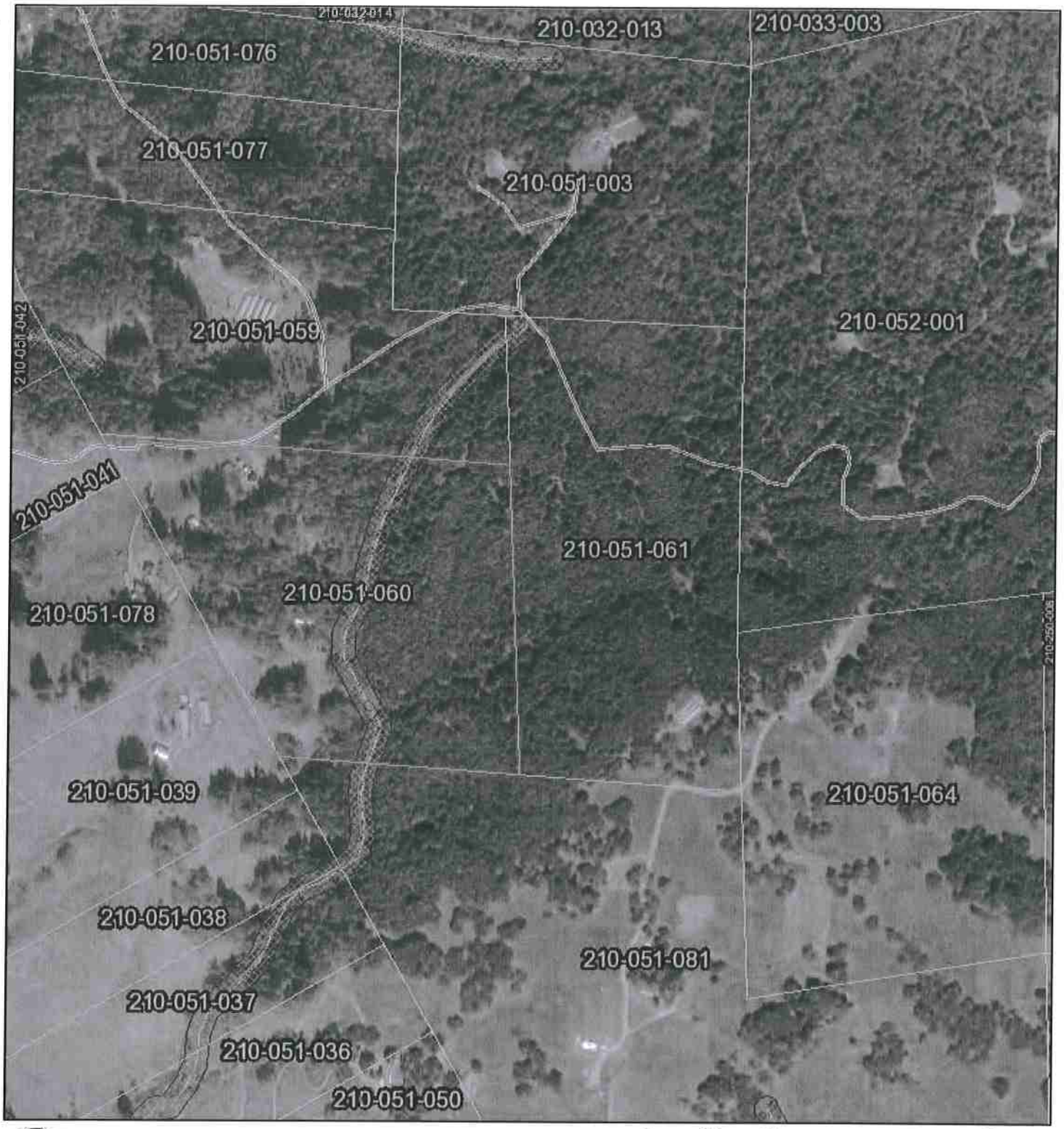
2A: Plants Presumed Extirpated in California, but more common elsewhere
The plants of Rank 2A are presumed extirpated because they have not been seen or collected in the wild in California for
many years. This rank includes only those plant taxa that are presumed extirpated in California, but that are more common
elsewhere in their range. Note: Plants of both Rank 1A and 2A are presumed extirpated in California; the only difference is the

status of the plants outside of the state.

2B: Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere (Includes Rare Plant Ranks 2B.1, 2B.2, 2B.3)
The plants of Rank 2B are rare, threatened or endangered in California, but more common elsewhere. Plants common in
other states or countries are not eligible for consideration under the provisions of the **Federal** Endangered Species Act;
however they are eligible for consideration under the **California** Endangered Species Act. This rank is meant to highlight the
importance of protecting the geographic range and genetic diversity of more widespread species by protecting those species
whose ranges just extend into California. Note: Plants of both Rank 1B and 2B are rare, threatened or endangered in
California; the only difference is the status of the plants outside of the state.

Threat Ranks:
The California Rare Plant Ranks (CRPR) use a decimal-style threat rank. The threat rank is an extension added onto the CRPR
and designates the level of threats by a 1 to 3 ranking with 1 being the most threatened and 3 being the least threatened. So
most CRPRs read as 1B.1, 1B.2, 1B.3, etc. Note that some Rank 3 plants do not have a threat code extension due to difficulty in
ascertaining threats for these species. Rank 1A and 2A plants also do not have threat code extensions since there are no known
extant populations of the plants in California.
Threat Code extensions and their meanings:
.1 - Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 – Moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)
.3 – Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current
threats known)

Attachment B
Survey Route Map, Habitat Location Map, Soils Report
Parcel Map, Site Map



Goodrich 2018

Humboldt County Planning and Building Department

0 350 700 1,400 Feet

0 0.05 0.1 0.2 Miles

RF= 1:9,028 1 in = 752 ft

N W E S

Highways and Roads

- Principal Arterials
- Minor Arterials
- Major Collectors
- Minor Collectors
- Local Roads

- Private or Unclassified
- Major River or Stream

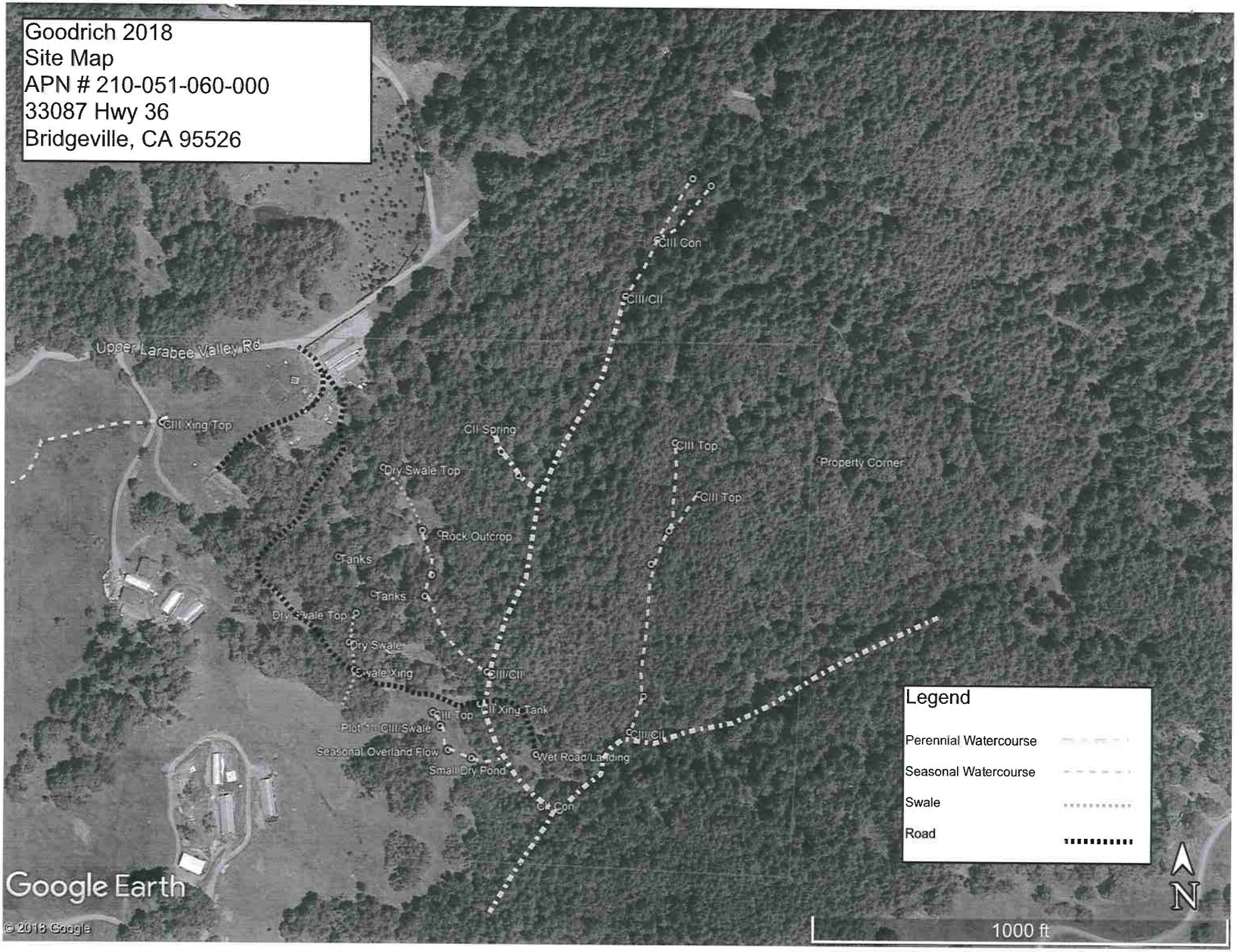
Blue Line Streams

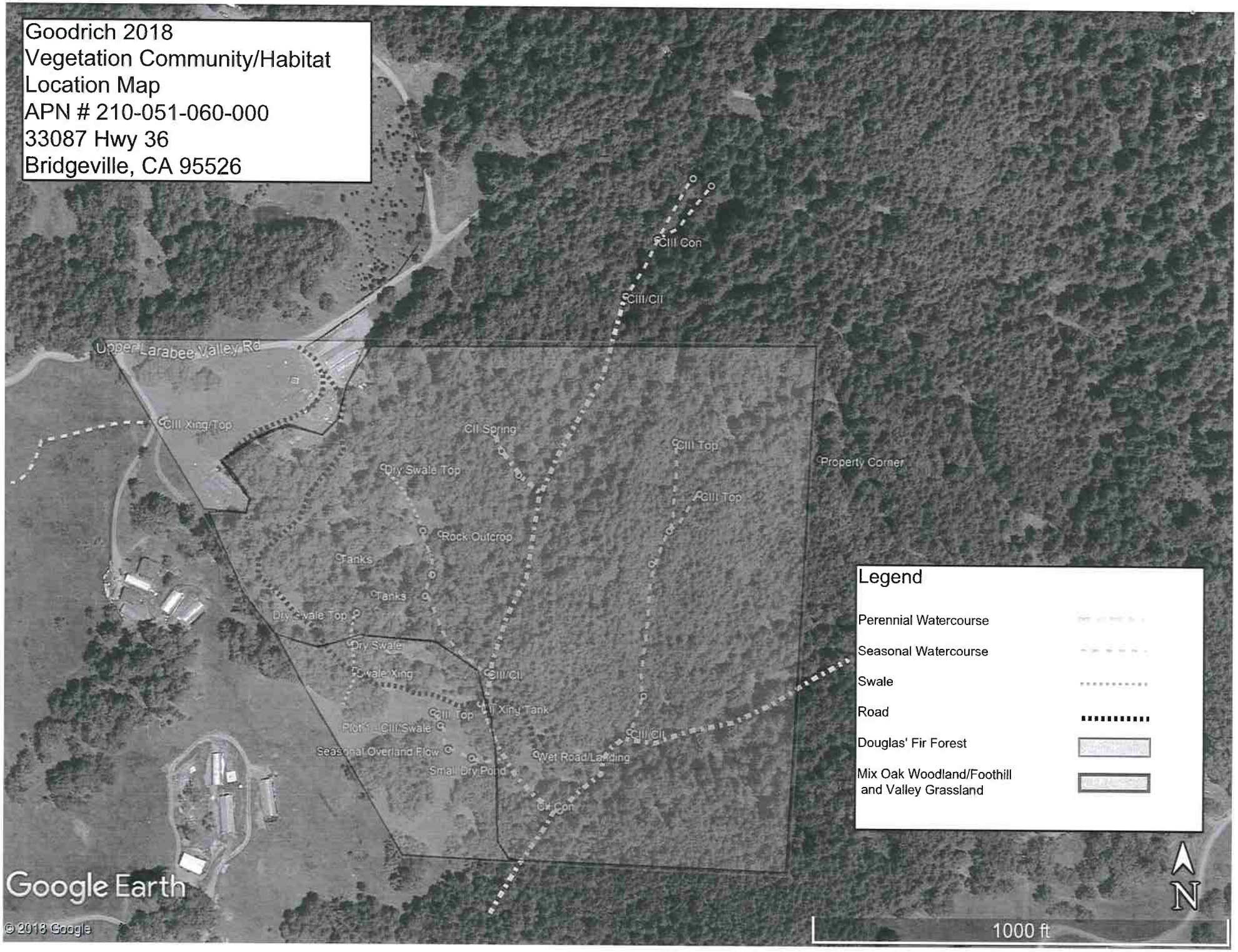
- Perennial 1-3
- Perennial >4

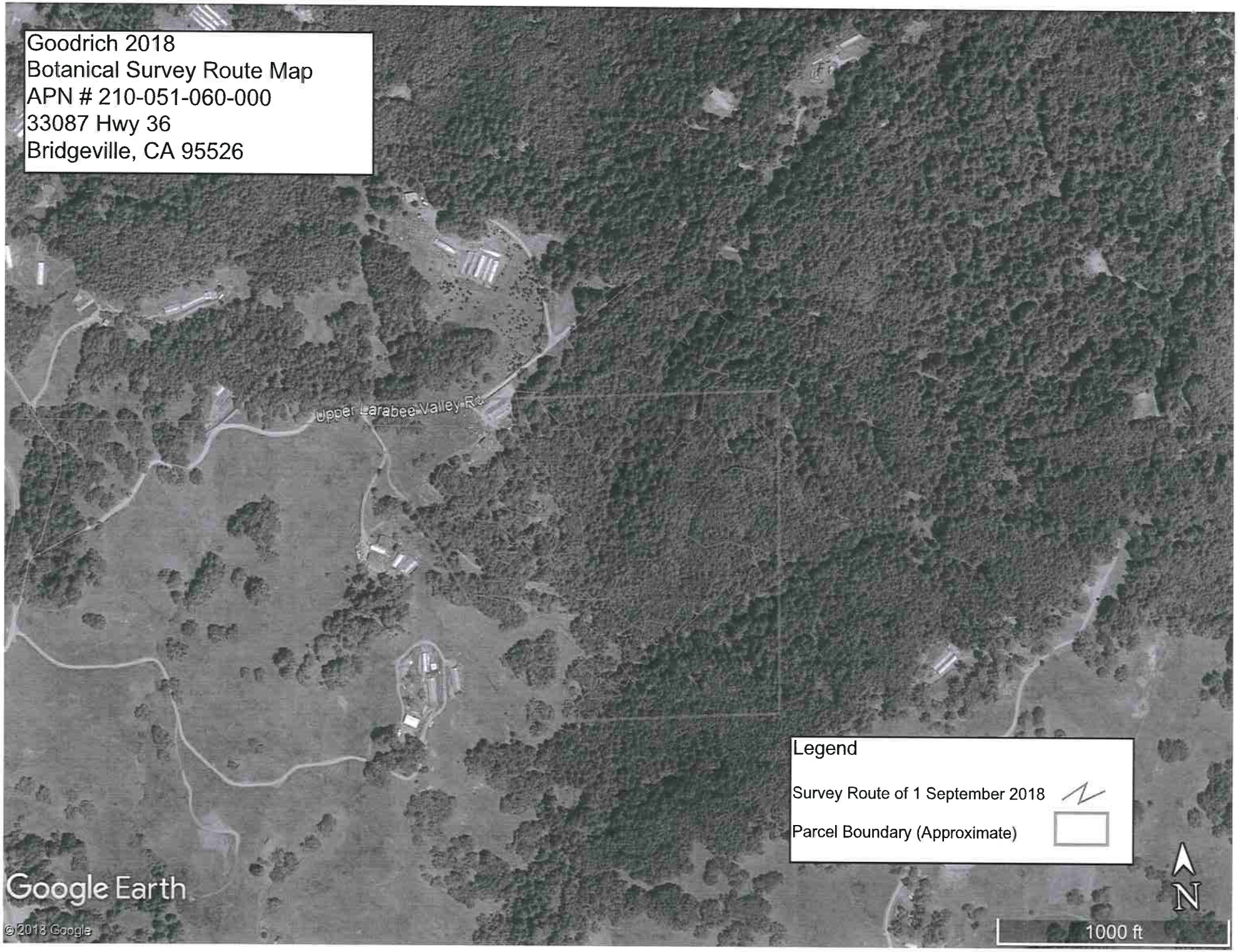
- Intermittent
- Subsurface
- City Boundary
- Counties
- Parcels
- Parcels (no APN labels)

Printed: September 19, 2018 Web AppBuilder 2.0 for ArcGIS

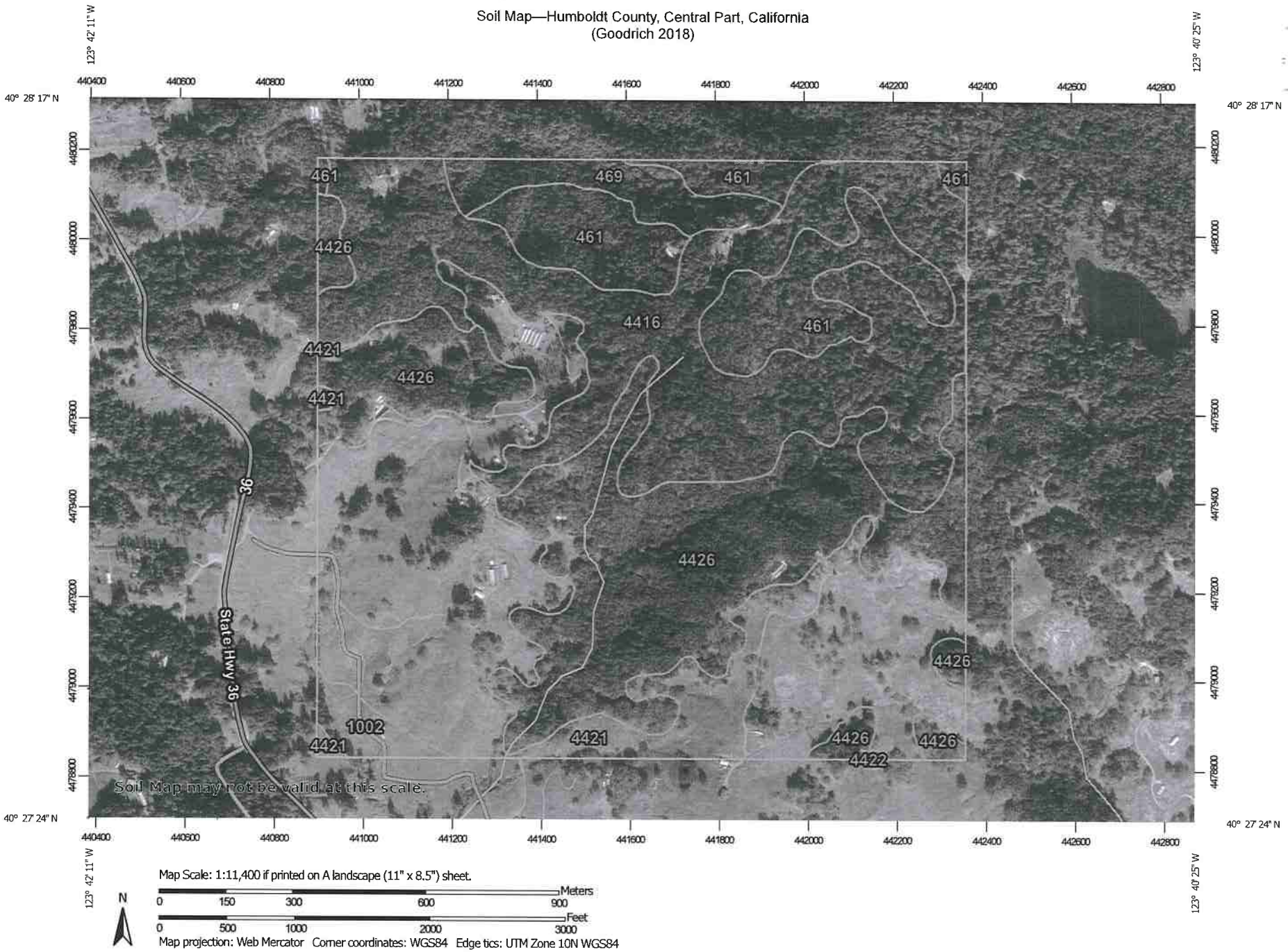
Map Disclaimer:
While every effort has been made to assure the accuracy of this information, it should be understood that it does not have the force & effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.


Goodrich 2018
Site Map
APN # 210-051-060-000
33087 Hwy 36
Bridgeville, CA 95526
CIII Con
CIII/CII
Upper Larabee Valley Rd
CIII Xing Top
CII Spring
CIII Top
Property Corner
Dry Swale Top
CIII Top
Rock Outcrop
Tanks
Tanks
Dry Swale Top
Dry Swale
Swale Xing
CIII/CII
CIII Top
CII Xing Tank
Plot 1 - CIII Swale
CIII/CII
Seasonal Overland Flow
Wet Road/Landing
Small Dry Pond
CII Con
Legend
Perennial Watercourse
Seasonal Watercourse
Swale
Road
N
1000 ft
Google Earth
© 2018 Google


Goodrich 2018
Vegetation Community/Habitat
Location Map
APN # 210-051-060-000
33087 Hwy 36
Bridgeville, CA 95526
CIII Con
CIII/CII
Upper Larabee Valley Rd
CIII Xing/Top
CII Spring
CIII Top
Property Corner
Dry Swale Top
CIII Top
Rock Outcrop
Tanks
Tanks
Dry Swale Top
Dry Swale
Swale Xing
CIII/CII
CIII Top
CII Xing Tank
Plot 1 - CIII Swale
CIII/CII
Seasonal Overland Flow
Wet Road/Landing
Small Dry Pond
CII Con
Legend
Perennial Watercourse
Seasonal Watercourse
Swale
Road
Douglas' Fir Forest
Mix Oak Woodland/Foothill and Valley Grassland
Google Earth
© 2018 Google
N
1000 ft


Goodrich 2018
Botanical Survey Route Map
APN # 210-051-060-000
33087 Hwy 36
Bridgeville, CA 95526
Upper Larabee Valley Rd
Legend
Survey Route of 1 September 2018
Parcel Boundary (Approximate)
N
1000 ft
Google Earth
© 2018 Google

Soil Map—Humboldt County, Central Part, California
(Goodrich 2018)



Map Scale: 1:11,400 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Humboldt County, Central Part, California
Survey Area Data: Version 3, Sep 11, 2017

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

Date(s) aerial images were photographed: Aug 10, 2014—Mar 13, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
461	Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes	49.6	10.2%
469	Tannin-Burgsblock-Rockyglen complex, 50 to 75 percent slopes	15.6	3.2%
1002	Frostvalley-Mulecreek complex, 2 to 9 percent slopes	6.5	1.3%
4416	Rockyglen-Tannin complex, 9 to 30 percent slopes	130.9	27.0%
4421	Highyork-Elkcamp-Airstrip complex, 15 to 30 percent slopes	152.7	31.5%
4422	Highyork-Elkcamp-Airstrip complex, 30 to 50 percent slopes	0.0	0.0%
4426	Pasturerock-Coyoterock-Maneze complex, 15 to 50 percent slopes, dry	129.2	26.7%
Totals for Area of Interest		**484.4**	**100.0%**

Attachment C
Comprehensive Species List

Tree Layer	
Arbutus menziesii	Pacific madrone
Malus sp.	apple
Notholithocarpus densiflorus var. densiflorus	tanbark oak
Pinus ponderosa	Ponderosa pine
Pseudotsuga menziesii var. menziesii	Douglas-fir
Quercus garryana	Oregon white oak
Quercus kelloggii	California black oak
Salix scouleriana	Scouler's willow
Umbellularia californica	California-bay
Shrub Layer	
Amelanchier alnifolia	western serviceberry
Arctostaphylos manzanita ssp manzanita	common manzanita
Baccharis pilularis	coyote brush
Corylus cornuta ssp. californica	California hazelnut
Holodiscus discolor	oceanspray
Rosa gymnocarpa	wood rose
Rubus leucodermis	white-stemmed raspberry
Rubus ursinus	Pacific bramble or California blackberry
Toxicodendron diversilobum	poison-oak
Herbaceous Layer	
Achillea millefolium	common yarrow
Acmispon americanus	spanish lotus
Adenocaulon bicolor	trail plant
Agoseris sp.	agoseris
Agrostis sp.	bent grass
Aira caryophyllea	silver European hairgrass
Allium sp.	onion
Anthoxanthum odoratum	sweet vernal grass
Apocynum androsaemifolium	bitter dogbane
Arrhenatherum elatius	tall oatgrass
Aster radulinus	rough-leaved aster
Asyneuma prenanthoides	California harebell
Athyrium filix-femina	lady fern
Avena barbata	slender wild oat
Brodiaea terrestris	dwarf brodiaea
Bromus carinatus	California brome
Bromus diandrus	ripgut grass
Bromus hordeaceus	soft chess
Bromus tectorum	cheat grass
Cardamine oligosperma	western bittercress
Carex bolanderi	Bolander's sedge
Carex gynodynama	Olney's hairy sedge
Carex harfordii	Hartford's sedge
Carex tumulicola	foothill sedge

Centaurea solstitialis	yellow starthistle
Chlorogalum pomeridianum var. pomeridianum	soap plant
Cirsium vulgare	bull thistle
Clinopodium douglasii	yerba buena
Collomia heterophylla	varied-leaf collomia
Convolvulus arvensis	field bindweed
Corallorhiza sp.	coralroot
Crepis capillaris	smooth hawk's beard
Cynoglossum grande	hound's-tongue
Cynosurus echinatus	hedgehog dogtail grass
Dactylis glomerata	orchard grass
Danthonia californica	California oatgrass
Daucus pusillus	rattlesnake weed
Dipsacus sativus	Fuller's teasel
Elymus caput-medusae	medusa head grass
Elymus elemoides	squirrel tail grass
Epilobium brachycarpum	parched fireweed
Epilobium sp.	willowherb
Festuca californica	California fescue
Festuca idahoensis	Idaho fescue
Festuca myuros	foxtail fescue
Festuca perennis	perennial ryegrass
Festuca pratensis	meadow fescue
Fragaria vesca	wood strawberry
Galium sp.	bedstraw
Hieracium albiflorum	white hawkweed
Holcus lanatus	common velvet grass
Hypericum perforatum	Klamath weed or common St. John's-wort
Hypochaeris radicata	hairy cat's-ear
Iris sp.	iris
Juncus bolanderi	Bolander's rush
Juncus effusus	common rush
Juncus patens	spreading rush
Lactuca sp.	wild lettuce
Lathyrus vestitus	wood pea
Lonicera hispidula	hairy honeysuckle
Luzula comosa	common wood rush
Madia sativa	coast tarweed
Madia sp.	tarweed
Maianthemum stellatum	star Solomon's seal
Mentha pulegium	pennyroyal
Mimulus moschatus	musk monkey flower
Osmorhiza berteroi	mountain sweet-cicely
Pellaea andromedifolia	coffee fern
Phalaris minor	Mediterranean canarygrass
Piperia transversa	royal rein orchid

Plantago lanceolata	English plantain
Poa sp.	bluegrass
Polypodium sp.	polypody
Polystichum munitum	sword fern
Prosartes sp.	fairy bells
Prunella vulgaris	self-heal
Pteridium aquilinum var. pubescens	western bracken fern
Ranunculus repens	creeping buttercup
Raphanus sativus	wild radish
Rumex acetosella	sheep sorrel
Rumex conglomeratus	clustered dock
Sanicula crassicaulis	Pacific snakeroot
Spergularia rubra	purple sand spurry
Tellima grandiflora	fringe cups
Torilis arvensis	field hedge-parsley or rattlesnake weed
Tragopogon sp.	goat's beard or salsify
Trifolium eriocephalum ssp. eriocephalum	hairy head clover
Trifolium glomeratum	clustered clover
Trisetum cernuum	nodding oatgrass
Triteleia laxa	Ithuriel's spear or Wally basket
Vancouveria hexandra	northern inside-out flower
Verbascum thapsus	woolly mullein
Vicia sativa ssp. nigra	narrow-leaved vetch
Viola glabella	smooth violet
Viola ocellata	two-eyed violet or western heart's ease