

# Biological Investigation Report:

## Humboldt County APN 505-121-031

Survey Dates: March 18 and March 21, 2019

*Prepared for*

Open Door Community Health Centers

Arcata, Ca 95521

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## **Introduction**

The Study Area includes approximately 1.936-acres on one parcel: Humboldt County APN 505-121-031. The purpose of this Report is to review the project area (described below) in sufficient detail to determine potential impacts to wildlife species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) or designated as sensitive by the California Department of Fish and Wildlife (CDFW); these species are hereinafter referred to as special status species. This Report also reviews potential impacts to any plant species that are listed, candidates for listing, or proposed for listing under the ESA, CESA and the California Native Plant Protection Act and or meet the definition of rare or endangered under the California Environmental Quality Act (CEQA), hereinafter referred to as special status plants. Furthermore, this report reviews existing or potential impacts to sensitive natural communities.

## **Background: Historic Land Use**

The project area includes one currently vacant and undeveloped parcel in Arcata, California. A 2009 Geologic Report from SHN (Eureka, CA) found that the Study Area was historically leveled via the placement of a significant amount of fill, and the site was heavily used as a log deck and loading area supporting a lumber mill along the old rail line along the southern boundary. The historic landform, prior to filling, was found to be a south-facing low gradient slope above the Jolly Giant Creek drainage. Fill consisting of sand, clays, gravels, and river cobble was placed over most of the site. The fill depth varies from 2 feet at the northern border to over 10 feet at the southern border, with a high concentration of gravels and river cobbles in the upper 2 to 4 feet. The SHN report is available upon request.

The western portion of the Study Area has recently served as a temporary holding site for soils excavated from a construction site on the adjacent property to the west. Several storage containers were also being stored there temporarily.

The area directly to the north of the site is densely developed, mostly with single or multiple family residences. To the south lies sports fields associated with Arcata High School and Shay Park.

## **Wildlife**

### **Pre-field Review**

Prior to initiating field surveys, a query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Data Base (CNDDDB 2019) for wildlife species occurrences within a nine-quad topographical map area of the project area was conducted. This provides a comprehensive target species list from which to determine habitat, presence, or sign of species, as well as any known locations for special status species in the general area (Table 1). Migratory

birds are protected under the Migratory Bird Treaty Act (1918), making it illegal to take any bird, active nest, or eggs of any native bird species.

Table 1. Wildlife species within a nine-quad area of Arcata North USGS 7.5' quadrangle.

Common Name	Scientific Name	Federal/State Listing
bald eagle	<i>Haliaeetus leucocephalus</i>	State Endangered
American peregrine falcon	<i>Falco peregrinus anatum</i>	Fully Protected
Cooper's hawk	<i>Accipiter cooperii</i>	Watch List
sharp-shinned hawk	<i>Accipiter striatus</i>	Watch List
merlin	<i>Falco columbarius</i>	Watch List
northern harrier	<i>Circus cyaneus</i>	Species of Special Concern (SSC)
white-tailed kite	<i>Elanus leucurus</i>	Fully Protected
osprey	<i>Pandion haliaetus</i>	Watch List
short-eared owl	<i>Asio flammeus</i>	Species of Special Concern
western snowy plover	<i>Charadrius alexandrinus nivosus</i>	Federally Threatened
mountain plover	<i>Charadrius montanus</i>	Species of Special Concern
yellow rail	<i>Coturnicops noveboracensis</i>	Species of Special Concern
California Ridgway's rail	<i>Rallus obsoletus obsoletus</i>	Federally Endangered, State Endangered
long-billed curlew	<i>Numenius americanus</i>	Watch List
Vaux's swift	<i>Chaetura vauxi</i>	Species of Special Concern
bank swallow	<i>Riparia riparia</i>	State Threatened
yellow-breasted chat	<i>Icteria virens</i>	Species of Special Concern
black-capped chickadee	<i>Poecile atricapillus</i>	Watch List
Bryant's savannah sparrow	<i>Passerculus sandwichensis alaudinus</i>	State Special Concern
olive -sided flycatcher	<i>Contopus cooperi</i>	State Special Concern
willow flycatcher	<i>Epidonax traillii</i>	State Endangered
white-footed vole	<i>Arborimus albipes</i>	Species of Special Concern
Sonoma tree vole	<i>Arborimus pomo</i>	Species of Special Concern
fisher- West Coast DPS	<i>Pekania pennanti</i>	State Threatened
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	Species of Special Concern
western pond turtle	<i>Emys marmota</i>	Species of Special Concern
Pacific tailed frog	<i>Ascaphus truei</i>	Species of Special Concern
northern red-legged frog	<i>Rana aurora</i>	Species of Special Concern
foothill yellow-legged frog	<i>Rana boylei</i>	State Candidate Threatened, SSC
southern torrent salamander	<i>Rhyacotriton variegatus</i>	Species of Special Concern
Del Norte salamander	<i>Plethodon elongatus</i>	Watch List

### Field Survey

Preconstruction surveys to determine use of the area by State or Federally listed species, migratory birds, or any other wildlife species were conducted on Thursday, March 21, 2019. Due to the limited extent of the project area, it was determined that two surveys conducted in the early morning and early evening would be adequate to determine use by birds and wildlife in the

area. Each survey was conducted for approximately 90 minutes (0725, 1715) by NRM biologist Michelle McKenzie on a mostly sunny day with little to no wind (57°F / 14°C).

## Survey Results

During these two surveys, no State or Federally listed species were detected, and no habitat capable of supporting listed species was observed. In addition, this highly disturbed area, immediately adjacent to a current construction site, is proximate to more optimal habitat for migratory songbirds in the Jolly Giant creek watercourse.

Birds were observed moving between the riparian vegetation along Jolly Giant creek and vegetation remaining on the perimeter of the parcel. These birds (Table 2) were exhibiting foraging behavior and none were observed singing, a sign of a territorial or nesting male. A single treefrog was heard calling from the cut berry bramble area, approximately two feet in the parcel from Foster Avenue.

In conclusion, the remaining vegetation at the parcel does not appear to have nesting birds present and should be removed within 7 days of surveys. In the event the vegetation cannot be removed within this time frame, the wildlife biologist requests to be present immediately prior to removal to ensure no birds have moved in to the area.

Table 2. Species observed during surveys in project area, conducted on March 21, 2019

Common Name	Scientific Name	Federal/State Listing
common raven	<i>Corvus corax</i>	None
American crow	<i>Corvus brachyrhynchos</i>	None
Allen’s hummingbird	<i>Selasphorus sasin</i>	None
ruby-crowned kinglet	<i>Regulus calendula</i>	None
dark-eyed junco	<i>Junco hyemalis</i>	None
song sparrow	<i>Melospiza melodia</i>	None
Stellar’s jay	<i>Cyanocitta stelleri</i>	None
European starling	<i>Sturnus vulgaris</i>	None
northern Pacific treefrog	<i>Pseudacris regilla</i>	None

## Vegetation and Sensitive Plant Species

### Pre-field Review

The purpose of this report is to review the proposed project in sufficient detail to review potential impacts to any plant species that are listed, candidates for listing, or proposed for listing under the FESA, CESA and the California Native Plant Protection Act and or meet the definition of rare or endangered under the California Environmental Quality Act (CEQA), hereinafter referred to as special status plants. Species with the potential to occur near the project area are listed in Table 3.

The current inventories of the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2019a), and the California Natural Diversity Database (CNDDDB) were consulted to determine which special status plant species may occur within the project area and to compile a target species list. A nine-quad query of CNDDDB and CNPS Inventory records resulted in 66 listed vascular and nonvascular plant species (Table 3). These scoping strategies are consistent with California Department of Fish and Wildlife protocols (CDFW 2018a) and the California Environmental Quality Act (State of California 2001). The following resources were consulted:

**California Department of Fish and Wildlife (CDFW):**

- California Natural Communities List (CDFW 2018d)
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2018c)
- Special Vascular Plants, Bryophytes, Lichens List (CDFW 2019)
- California Natural Diversity Database (CNDDDB) Query (CNDDDB 2019)

**Other Sources:**

- The Jepson Manual, 2nd Edition (Baldwin et al. 2012)
- Jepson eFlora (Jepson Flora Project 2019)
- The California Native Plant Society's Online Inventory of Rare and Endangered Plants of California (CNPS 2019a)
- A Manual of California Vegetation (Sawyer et al. 2009)
- Consortium of California Herbaria (CCH 2019)
- Calflora online database (Calflora 2019)

Botanical taxonomy and nomenclature conform to *The Jepson Manual, 2<sup>nd</sup> Edition* (Baldwin et al. 2012) and recent circumscriptions in the Jepson eFlora (Jepson Flora Project 2019). Common names of plant species are derived from The Calflora Database (Calflora 2019). Nomenclature for special-status plant species conforms to the *Inventory of Rare and Endangered Plants of California* (CNPS 2019) and *Special Vascular Plants, Bryophytes and Lichens List* (CDFW 2019). Vegetation communities described herein conform to *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and/or *A Manual of California Vegetation* (Sawyer et al. 2009), where appropriate.

Table 3. Sensitive Plants known to occur within a 9-quadrangle area surrounding project site. Data from CNPS Rare Plant Inventory (CNPS 2019A).

Scientific Name	Common Name	Lifeform	CRPR*	SRank*	CESA*	FESA*	Blooming Period	Habitat	Elevation Low (m)	Elevation High (m)
<i>Abronia umbellata</i> <i>var. breviflora</i>	pink sand-verbena	perennial herb	1B.1	S2	None	None	Jun-Oct	Coastal dunes	0	10
<i>Angelica lucida</i>	sea-watch	perennial herb	4.2	S3	None	None	May-Sep	Coastal bluff scrub, Coastal dunes, Coastal scrub, Marshes and swamps (coastal salt)	0	150
<i>Astragalus pycnostachyus</i> <i>var. pycnostachyus</i>	coastal marsh milk-vetch	perennial herb	1B.2	S2	None	None	(Apr)Jun-Oct	Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt, streamsides)	0	30
<i>Astragalus rattanii</i> <i>var. rattanii</i>	Rattan's milk-vetch	perennial herb	4.3	S4	None	None	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest	30	825
<i>Astragalus umbraticus</i>	Bald Mountain milk-vetch	perennial herb	2B.3	S2	None	None	May-Aug	Cismontane woodland, Lower montane coniferous forest	150	1250
<i>Bryoria pseudocapillaris</i>	false gray horsehair lichen	fruticose lichen (epiphytic)	3.2	S2	None	None		Coastal dunes (SLO Co.), North Coast coniferous forest (immediate coast)	0	90
<i>Bryoria spiralifera</i>	twisted horsehair lichen	fruticose lichen (epiphytic)	1B.1	S1S2	None	None		North Coast coniferous forest (immediate coast)	0	30

<i>Calamagrostis bolanderi</i>	Bolander's reed grass	perennial rhizomatous herb	4.2	S4	None	None	May-Aug	Bogs and fens, Broadleafed upland forest, Closed-cone coniferous forest, Coastal scrub, Meadows and seeps (mesic), Marshes and swamps (freshwater), North Coast coniferous forest	0	455
<i>Cardamine angulata</i>	seaside bittercress	perennial herb	2B.2	S3	None	None	(Jan)Mar-Jul	Lower montane coniferous forest, North Coast coniferous forest	25	915
<i>Carex arcta</i>	northern clustered sedge	perennial herb	2B.2	S1	None	None	Jun-Sep	Bogs and fens, North Coast coniferous forest (mesic)	60	1400
<i>Carex buxbaumii</i>	Buxbaum's sedge	perennial rhizomatous herb	4.2	S3	None	None	Mar-Aug	Bogs and fens, Meadows and seeps (mesic), Marshes and swamps	3	3300
<i>Carex lenticularis</i> var. <i>limnophila</i>	lagoon sedge	perennial herb	2B.2	S1	None	None	Jun-Aug	Bogs and fens, Marshes and swamps, North Coast coniferous forest	0	6
<i>Carex leptalea</i>	bristle-stalked sedge	perennial rhizomatous herb	2B.2	S1	None	None	Mar-Jul	Bogs and fens, Meadows and seeps (mesic), Marshes and swamps	0	700
<i>Carex lyngbyei</i>	Lyngbye's sedge	perennial rhizomatous herb	2B.2	S3	None	None	Apr-Aug	Marshes and swamps (brackish or freshwater)	0	10
<i>Carex praticola</i>	northern meadow sedge	perennial herb	2B.2	S2	None	None	May-Jul	Meadows and seeps (mesic)	0	3200



<i>Carex viridula</i> ssp. <i>viridula</i>	green yellow sedge	perennial herb	2B.3	S2	None	None	(Jun)Jul-Sep(Nov)	Bogs and fens, Marshes and swamps (freshwater), North Coast coniferous forest (mesic)	0	1600
<i>Castilleja ambigua</i> var. <i>humboldtiensis</i>	Humboldt Bay owl's-clover	annual herb (hemiparasitic)	1B.2	S2	None	None	Apr-Aug	Marshes and swamps (coastal salt)	0	3
<i>Castilleja litoralis</i>	Oregon coast paintbrush	perennial herb (hemiparasitic)	2B.2	S3	None	None	Jun-Jul	Coastal bluff scrub, Coastal dunes, Coastal scrub	15	100
<i>Castilleja mendocinensis</i>	Mendocino Coast paintbrush	perennial herb (hemiparasitic)	1B.2	S2	None	None	Apr-Aug	Coastal bluff scrub, Closed-cone coniferous forest, Coastal dunes, Coastal prairie, Coastal scrub	0	160
<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Point Reyes bird's-beak	annual herb (hemiparasitic)	1B.2	S2	None	None	Jun-Oct	Marshes and swamps (coastal salt)	0	10
<i>Chrysosplenium glechomifolium</i>	Pacific golden saxifrage	perennial herb	4.3	S3	None	None	Feb-Jun(Jul)	North Coast coniferous forest, Riparian forest	10	455
<i>Collinsia corymbosa</i>	round-headed Chinese-houses	annual herb	1B.2	S1	None	None	Apr-Jun	Coastal dunes	0	20
<i>Coptis laciniata</i>	Oregon goldthread	perennial rhizomatous herb	4.2	S3?	None	None	(Feb)Mar-May(Sep-Nov)	Meadows and seeps, North Coast coniferous forest (streambanks)	0	1000
<i>Discelium nudum</i>	naked flag moss	ephemeral moss	2B.2	S1	None	None		Coastal bluff scrub (soil, on clay banks)	10	50
<i>Empetrum nigrum</i>	black crowberry	perennial evergreen shrub	2B.2	S1?	None	None	Apr-Jun	Coastal bluff scrub, Coastal prairie	10	200

<i>Epilobium septentrionale</i>	Humboldt County fuchsia	perennial herb	4.3	S4	None	None	Jul-Sep	Broadleaved upland forest, North Coast coniferous forest	45	1800
<i>Erigeron bloomeri</i> var. <i>nudatus</i>	Waldo daisy	perennial herb	2B.3	S3	None	None	Jun-Jul	Lower montane coniferous forest, Upper montane coniferous forest	600	2300
<i>Erysimum menziesii</i>	Menzies? wallflower	perennial herb	1B.1	S1	CE	FE	Mar-Sep	Coastal dunes	0	35
<i>Erythronium oregonum</i>	giant fawn lily	perennial bulbiferous herb	2B.2	S2	None	None	Mar-Jun(Jul)	Cismontane woodland, Meadows and seeps	100	1150
<i>Erythronium revolutum</i>	coast fawn lily	perennial bulbiferous herb	2B.2	S3	None	None	Mar-Jul(Aug)	Bogs and fens, Broadleaved upland forest, North Coast coniferous forest	0	1600
<i>Fissidens pauperculus</i>	minute pocket moss	moss	1B.2	S2	None	None		North Coast coniferous forest (damp coastal soil)	10	1024
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	annual herb	1B.2	S2	None	None	Apr-Aug	Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland	5	1665
<i>Gilia millefoliata</i>	dark-eyed gilia	annual herb	1B.2	S2	None	None	Apr-Jul	Coastal dunes	2	30
<i>Glehnia littoralis</i> ssp. <i>leiocarpa</i>	American glehnia	perennial herb	4.2	S3	None	None	May-Aug	Coastal dunes	0	20
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	annual herb	1B.2	S2	None	None	Mar-Jun	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie	0	215
<i>Juncus nevadensis</i> var. <i>inventus</i>	Sierra rush	perennial rhizomatous herb	2B.2	S1	None	None	Jul-Nov	Bogs and fens	0	10

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<i>Lasthenia californica</i> <i>ssp. macrantha</i>	perennial goldfields	perennial herb	1B.2	S2	None	None	Jan-Nov	Coastal bluff scrub, Coastal dunes, Coastal scrub	5	520
<i>Lathyrus japonicus</i>	seaside pea	perennial rhizomatous herb	2B.1	S2	None	None	May-Aug	Coastal dunes	1	30
<i>Lathyrus palustris</i>	marsh pea	perennial herb	2B.2	S2	None	None	Mar-Aug	Bogs and fens, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, North Coast coniferous forest	1	100
<i>Layia carnosa</i>	beach layia	annual herb	1B.1	S2	CE	FE	Mar-Jul	Coastal dunes, Coastal scrub (sandy)	0	60
<i>Lilium kelloggii</i>	Kellogg's lily	perennial bulbiferous herb	4.3	S3	None	None	May-Aug	Lower montane coniferous forest, North Coast coniferous forest	3	1300
<i>Lilium occidentale</i>	western lily	perennial bulbiferous herb	1B.1	S1	CE	FE	Jun-Jul	Bogs and fens, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps (freshwater), North Coast coniferous forest (openings)	2	185
<i>Listera cordata</i>	heart-leaved twayblade	perennial herb	4.2	S4	None	None	Feb-Jul	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest	5	1370

<i>Lycopodiella inundata</i>	inundated bog club-moss	perennial rhizomatous herb	2B.2	S1?	None	None	Jun-Sep	Bogs and fens (coastal), Lower montane coniferous forest (mesic), Marshes and swamps (lake margins)	5	1000
<i>Lycopodium clavatum</i>	running-pine	perennial rhizomatous herb	4.1	S3	None	None	Jun-Aug(Sep)	Lower montane coniferous forest (mesic), Marshes and swamps, North Coast coniferous forest (mesic)	45	1225
<i>Lycopus uniflorus</i>	northern bugleweed	perennial herb	4.3	S4	None	None	Jul-Sep	Bogs and fens, Marshes and swamps	5	2000
<i>Mitellastrca caulescens</i>	leafy-stemmed mitrewort	perennial rhizomatous herb	4.2	S4	None	None	(Mar)Apr-Oct	Broadleafed upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest	5	1700
<i>Monotropa uniflora</i>	ghost-pipe	perennial herb (achlorophyllous)	2B.2	S2	None	None	Jun-Aug(Sep)	Broadleafed upland forest, North Coast coniferous forest	10	550
<i>Montia howellii</i>	Howell's montia	annual herb	2B.2	S2	None	None	(Jan-Feb)Mar-May	Meadows and seeps, North Coast coniferous forest, Vernal pools	0	835
<i>Oenothera wolfii</i>	Wolf's evening-primrose	perennial herb	1B.1	S1	None	None	May-Oct	Coastal bluff scrub, Coastal dunes, Coastal prairie, Lower montane coniferous forest	3	800

<i>Packera bolanderi</i> <i>var. bolanderi</i>	seacoast ragwort	perennial rhizomatous herb	2B.2	S2S3	None	None	(Jan- Apr)May- Jul(Aug)	Coastal scrub, North Coast coniferous forest	30	650
<i>Piperia candida</i>	white-flowered rein orchid	perennial herb	1B.2	S3	None	None	(Mar)May- Sep	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest	30	1310
<i>Pityopus californicus</i>	California pinefoot	perennial herb (achlorophyllous)	4.2	S4	None	None	(Mar- Apr)May- Aug	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest	15	2225
<i>Pleuropogon refractus</i>	nodding semaphore grass	perennial rhizomatous herb	4.2	S4	None	None	(Mar)Apr- Aug	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Riparian forest	0	1600
<i>Polemonium carneum</i>	Oregon polemonium	perennial herb	2B.2	S2	None	None	Apr-Sep	Coastal prairie, Coastal scrub, Lower montane coniferous forest	0	1830
<i>Ribes laxiflorum</i>	trailing black currant	perennial deciduous shrub	4.3	S3	None	None	Mar- Jul(Aug)	North Coast coniferous forest	5	1395
<i>Romanzoffia tracyi</i>	Tracy's romanzoffia	perennial herb	2B.3	S2	None	None	Mar-May	Coastal bluff scrub, Coastal scrub	15	30
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	perennial herb	4.2	S3	None	None	(Mar)Apr- Aug	Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland	0	730

<i>Sidalcea malviflora</i> <i>ssp. patula</i>	Siskiyou checkerbloom	perennial rhizomatous herb	1B.2	S2	None	None	(Apr)May- Aug	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest	15	880
<i>Sidalcea oregana</i> <i>ssp. eximia</i>	coast checkerbloom	perennial herb	1B.2	S1	None	None	Jun-Aug	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest	5	1340
<i>Silene scouleri</i> <i>ssp.</i> <i>scouleri</i>	Scouler's catchfly	perennial herb	2B.2	S2S3	None	None	(Mar- May)Jun- Aug(Sep)	Coastal bluff scrub, Coastal prairie, Valley and foothill grassland	0	600
<i>Spergularia</i> <i>canadensis</i> <i>var.</i> <i>occidentalis</i>	western sand- spurrey	annual herb	2B.1	S1	None	None	Jun-Aug	Marshes and swamps (coastal salt)	0	3
<i>Tiarella trifoliata</i> <i>var.</i> <i>trifoliata</i>	trifoliolate laceflower	perennial rhizomatous herb	3.2	S2S3	None	None	(May)Jun- Aug	Lower montane coniferous forest, North Coast coniferous forest	170	1500
<i>Trichodon cylindricus</i>	cylindrical trichodon	moss	2B.2	S2	None	None		Broadleafed upland forest, Meadows and seeps, Upper montane coniferous forest	50	2002
<i>Usnea longissima</i>	Methuselah's beard lichen	fruticose lichen (epiphytic)	4.2	S4	None	None		Broadleafed upland forest, North Coast coniferous forest	50	1460
<i>Viola palustris</i>	alpine marsh violet	perennial rhizomatous herb	2B.2	S1S2	None	None	Mar-Aug	Bogs and fens (coastal), Coastal scrub (mesic)	0	150

**\*Listing codes are as follows:**

**CRPR (California Rare Plant Rank)**

1B = rare, threatened, or endangered in CA and elsewhere; CRPR 2B = rare, threatened, or endangered in CA, but more common elsewhere; CRPR 3 = plants about which more information is needed; a review list; CRPR 4 = of limited distribution or infrequent throughout a broader area in California. Ranks at each level also include a threat rank and are determined as follows: 0.1-Seriously threatened in California; 0.2-Moderately threatened in California; 0.3-Not very threatened in California (CNPS 1, 2018).

**SR (State Rank)**

S1: Fewer than 6 viable occurrences worldwide/ statewide, and/ or up to 518 hectares; S2: 6-20 viable occurrences worldwide/ statewide, and/ or more than 518-2,590 hectares; S3: 21-100 viable occurrences worldwide/ statewide, and/or more than 2,590-12,950 hectares; S4: Greater than 100 viable occurrences worldwide/ statewide, and/or more than 12,950 hectares; S5: Demonstrably secure because of its worldwide/ statewide abundance. Additional Threat Ranks: 0.1=Very threatened; 0.2=Threatened; 0.3= No current threat known.

**CESA (California Endangered Species Act)**

SE = State Listed – Endangered; ST = State Listed – Threatened; SR = State Listed – Rare; SC = State Candidate for Listing.

**FESA (Federal Endangered Species Act)**

FE = Federally Listed – Endangered; FT = Federally Listed – Threatened; FPE = Federally Proposed – Endangered; FPT = Federally Proposed – Threatened; FC = Federal Candidate for Listing.

## **Field Survey**

On March 18, 2019, NRM botanist Claire Brown conducted a site visit to assess the proposed project area for the presence of sensitive plant species and sensitive natural communities (herein survey area, see Figure 1). Claire has a B.S. in Ecology and Evolutionary Biology from the University of Tennessee, has six years of experience surveying vegetation and rare plants in California, and two years of experience conducting rare plant surveys on the North Coast. This survey was floristic in nature and followed the 2018 California Department of Fish and Wildlife (CDFW) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018b). The timing of the survey was such as to capture appropriate phenology (for positive identification and detection) of target species with potential to occur at the site elevation and within habitat types present. This target list includes Howell’s montia (*Montia howellii*). Howell’s montia is known to occur in highly modified habitats which retain surface moisture and low vegetative cover in the spring, but the severity of alteration at this site limits potential for other sensitive species (Table 3) to occur. The survey area was covered comprehensively over 1.5 hours.

## **Reference Populations**

A reference population of Howell’s montia (CNDDDB element code PDPOR05070, occurrence number 104) was visited on March 8, 2019. This population is located less than 0.25 miles away from the project site and at an almost equal elevation. The phenology of this population indicated that conditions should have been favorable for detection, if present.

## **Survey Results**

### **Sensitive Species**

No sensitive plant species were found within the survey area. The compacted, gravelly and muddy areas with low vegetative cover did constitute potential habitat for Howell’s montia

(*Montia howellii* CRPR 2B.2), but no plants were detected. A floristic list of species observed is found in Appendix A.

### **Discussion of Negative Findings**

A film of surface moisture similar to that associated with the nearby reference population was present within the survey area, indicating that hydrological conditions should have been favorable for Howell's montia to be detectable if present. Howell's montia is thought to occur in disturbed and previous impacted habitats such as roads and parking lots because its seeds are carried on tires (vehicular traffic), or potentially on gravels used for road surfacing or fills. This site, while close to a known population, appears to not have had these seeds carried in.

The site is highly manipulated and disturbed, and is not potential habitat for any other sensitive plant species (Table 3).

### **Vegetation and Sensitive Natural Communities**

The majority of the Study Area is vegetated by a ruderal community of non-native weedy grasses and forbs, including many Cal-IPC ranked invasive species (Cal-IPC 2019). These include (with Cal-IPC Rank) Italian ryegrass (*Festuca perennis*, Moderate), a bentgrass species (*Agrostis capilaris* c.f.), sweet vernal grass (*Anthoxanthum odoratum*, Limited), annual bluegrass (*Poa annua*) and English plantain (*Plantago lanceolata*, Limited). Some pennyroyal (*Mentha*, Moderate) is present scattered across the southern portion of this open area. This vegetation type is associated with what appears to be the most heavily compacted and recently driven-upon portions of the site. The north, south and east perimeters of the site, where soils are apparently less compacted, are vegetated by ruderal scrub vegetation such as coyote brush (*Baccharis pilularis*), Himalayan blackberry (*Rubus armeniacus*, High), wild carrot (*Daucus carota*) and fennel (*Foeniculum vulgare*, Moderate). These ruderal community types occupy approximately 80 percent of the project footprint. See Figure 1.

The western portion of the study area slopes down to a low point at the southwest corner. This area is dominated by an overstory of what comprises a small patch of North Coast Riparian Scrub (Holland 1986) including Sitka willow (*Salix sitchensis*), coastal willow (*Salix hookeriana*) and red alder (*Alnus rubra*). This patch, at approximately 0.09 acres, is too small to meet the minimum mapping units size standard (0.25 acres) specified by the Survey of California Vegetation classification and mapping Standards for mapping sensitive natural communities (CDFW 2018a). However, this patch could constitute an inclusion of the *Salix sitchensis* Provisional Shrubland Alliance (S3?) in a matrix of developed land and ruderal communities (CNPS 2019b). No Rapid Assessment form was completed due to the small size of the population. A dense thicket of elm-leaf blackberry (*Rubus ulmifolius*, Not Listed) creates an understory to the willows and alders, but also dominates the slope transition up to the main portion of the site. This species is not listed by Cal-IPC, but is behaving invasively in this context, and is known as an invasive species by the Global Invasive Species Database and the U.S. Forest Service (PIER 2018; GISD 2005) (Small (<1 square meter) patches of Pacific rush (*Juncus effusus* ssp. *pacificus*) are found in the lowest-



elevation area. This vegetation type occupies approximately 20 percent of the project footprint. See Figure 1.

An approximately 8-foot wide swath running north-south along the western border had been recently mowed at the time of the investigation (in association with neighboring construction) and was unvegetated.

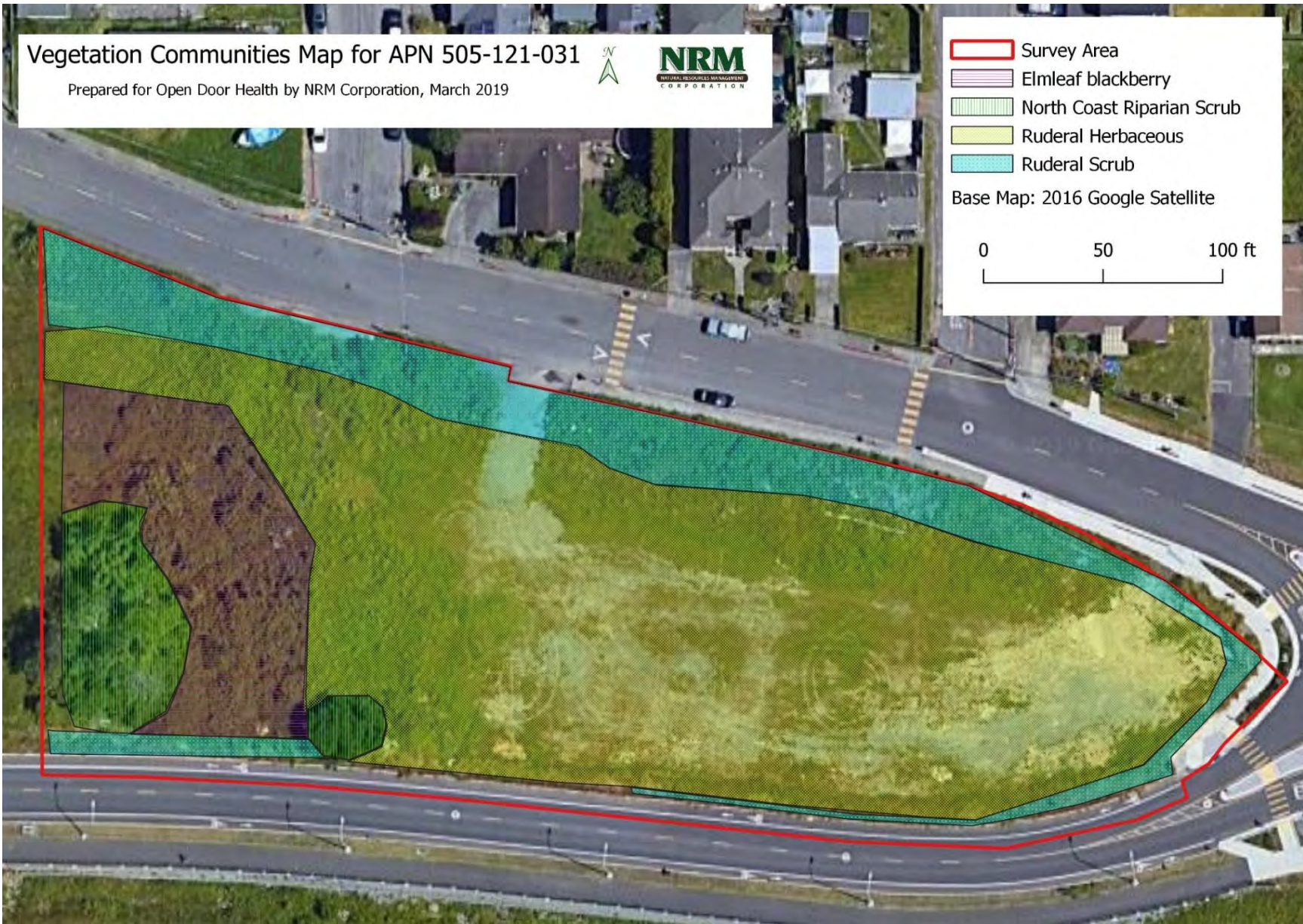


Figure 1. Vegetation Communities Map

### **Potential Impacts to Vegetation Communities**

The proposed project footprint will impact 100 percent of the vegetation within the project footprint. The ruderal herbaceous and scrub community is composed of non-native, invasive and common native species that do not comprise a sensitive community or potential habitat for most sensitive plant species. The ruderal scrub offers little habitat value to wildlife or migratory birds due to lack of consistent cover, high levels of adjacent human activity from surrounding residential areas. See wildlife section.

The patch of North Coast Riparian Scrub vegetation is associated with a potential wetland feature (see report). However, this vegetation type appears to have formed in a previously disturbed site, as the shrubs and trees are rooted in what appears to be historic fill material. While the assemblage of dominant species may comprise a small inclusion of a provisional sensitive natural community alliance (S3?) (CDFW 2018d), potential impacts to this vegetation type are to be addressed as part of a wetland mitigation process.

### **Invasive Species**

As described above, many of the dominant species within the vegetation community types found within the project area are ranked as invasive by Cal-IPC or are otherwise known to be invasive (PIER 2018; GISD 2005). As this project proposes to remove all existing vegetation for the development of a structure with maintained landscaping, the project would decrease the local populations of these species. Therefore, the project is unlikely to contribute to the propagation or spread of invasive species

## 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, 2nd edition, thoroughly revised and expanded*. University of California Press, Berkeley, CA.
- Calflora Database, The. 2019. *Information on Wild California Plants for Conservation, Education, and Appreciation*. Accessed from <http://www.calflora.org/>.
- California Department of Fish and Wildlife (CDFW). 2018a. *Survey of California Vegetation Classification and Mapping Standards*. Biogeographic Branch, Sacramento, CA. January 11, 2018.
- California Department of Fish and Wildlife (CDFW). 2018b. *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities*. Wildlife and Habitat Data Analysis Branch, Sacramento, CA. March 20, 2018.
- California Department of Fish and Wildlife (CDFW). 2018c. *State and Federally Listed Endangered, Threatened and Rare Plants of California*. California Natural Diversity Database. Biogeographic Data Branch, Sacramento, CA. August 6, 2018.
- California Department of Fish and Wildlife (CDFW). 2018d. *California Natural Communities List*. The Vegetation Classification and Mapping Program. Wildlife and Habitat Data Analysis Branch. Sacramento, CA. October 15, 2018.
- California Invasive Plant Council (Cal-IPC). 2019. The Cal-IPC Inventory Online. <https://www.cal-ipc.org/plants/inventory/>.
- California Native Plant Society (CNPS). 2001. *CNPS Botanical Survey Guidelines*, CNPS Inventory, 6<sup>th</sup> Ed.
- California Native Plant Society, Rare Plant Program (CNPS). 2019a. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> ; [accessed 25 March 2019].
- California Native Plant Society (CNPS). 2019b. A Manual of California Vegetation, Online Edition. <http://www.cnps.org/cnps/vegetation/> ; [accessed 25 March 2019].
- California Natural Diversity Database (CNDDDB). 2019. RareFind 5 [Internet]. California Department of Fish and Wildlife [Version 5.2.14]. Accessed March 6, 2019.



Consortium of California Herbaria (CCH). 2019. Consortium database: Data provided by the participants of the Consortium of California Herbaria. Accessed from <http://www.ucjeps.berkeley.edu/consortium/>.

Global Invasive Species Database (GISD) 2005. Available from <http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss> [Accessed 1st February 2019].

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game, The Resources Agency. Sacramento, CA.

Jepson Flora Project (eds.) 2019. *JepsonFlora*, Accessed from <http://ucjeps.berkeley.edu/eflora/>

Natural Resources Conservation Service (NRCS), United States Department of Agriculture. 2019. Web Soil Survey. Available online at: <https://websoilsurvey.sc.egov.usda.gov/>. [Accessed January 30, 2019].

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

State of California. 2001. *California Environmental Quality Act Guidelines*. Office of Planning and Research, Articles 5, 7, 9, 10 & 20.

United States. 1983. *The Endangered Species Act as amended by Public Law 97-304 (the Endangered Species Act amendments of 1982)*. Washington :U.S. G.P.O.

United States Forest Service, Pacific Island Ecosystems at Risk (PIER). 2018. Online resource at <http://www.hear.org/pier/> accessed [1 February 2019].

## Appendix X. Plant Species Identified on-site.

<i>Scientific Name</i>	<b>Common Name</b>	<b>Lifeform</b>	<b>Status</b>	<b>Family</b>
<i>Agrostis capillaris</i>	Colonial bentgrass	Perennial grass	non-native	POACEAE
<i>Allium triquetrum</i>	White flowered onion	Perennial herb (bulb)	invasive	ALLIACEAE
<i>Alnus rubra</i>	Red alder	Tree, Shrub	native	BETULACEAE
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	Annual, Perennial grass	invasive	POACEAE
<i>Baccharis pilularis ssp. pilularis</i>	Coyote brush	Shrub	native	ASTERACEAE
<i>Briza maxima</i>	Rattlesnake grass	Annual grass	invasive	POACEAE
<i>Conium maculatum</i>	Poison hemlock	Perennial herb	invasive	APIACEAE
<i>Cortaderia jubata</i>	Andean pampas grass	Perennial grass	invasive	POACEAE
<i>Cynosurus echinatus</i>	Dogtail grass	Annual grass	invasive	POACEAE
<i>Cyperus eragrostis</i>	Tall cyperus	Perennial grasslike herb	native	CYPERACEAE
<i>Dactylis glomerata</i>	Orchardgrass	Perennial grass	invasive	POACEAE
<i>Daucus carota</i>	Carrot	Perennial herb	invasive	APIACEAE
<i>Dipsacus fullonum</i>	Wild teasel	Perennial herb	invasive	DIPSACACEAE
<i>Festuca perennis</i>	Italian rye grass	Annual, Perennial grass	invasive	POACEAE
<i>Foeniculum vulgare</i>	Fennel	Perennial herb	invasive	APIACEAE
<i>Geranium dissectum</i>	Wild geranium	Annual herb	invasive	GERANIACEAE
<i>Helminthotheca echioides</i>	Bristly ox-tongue	Annual, Perennial herb	invasive	ASTERACEAE
<i>Hordeum sp.</i>	barley			POACEAE
<i>Hypochaeris radicata</i>	Hairy cats ear	Perennial herb	invasive	ASTERACEAE
<i>Juncus effusus ssp. pacificus</i>	Pacific rush	Perennial grasslike herb	native	JUNCACEAE
<i>Lythrum sp.</i>	Loosestrife	Annual Herb		LYTHRACEAE
<i>Medicago polymorpha</i>	California burclover	Annual herb	invasive	FABACEAE
<i>Mentha pulegium</i>	Pennyroyal	Perennial herb	invasive	LAMIACEAE
<i>Montia fontana</i>	Water montia	Annual herb	native	MONTIACEAE
<i>Parentucellia viscosa</i>	Yellow parentucellia	Annual herb	invasive	OROBANCHACEAE
<i>Plantago lanceolata</i>	Ribwort	Perennial herb	invasive	PLANTAGINACEAE
<i>Poa annua</i>	Annual blue grass	Annual grass	non-native	POACEAE
<i>Raphanus sativus</i>	Jointed charlock	Annual, Biennial herb	invasive	BRASSICACEAE
<i>Rubus armeniacus</i>	Himalayan blackberry	Shrub	invasive	ROSACEAE
<i>Rubus ulmifolius</i>	Elmleaf blackberry	Vine, Shrub	non-native	ROSACEAE
<i>Rumex acetosella</i>	Sheep sorrel	Perennial herb	invasive	POLYGONACEAE
<i>Rumex crispus</i>	Curly dock	Perennial herb	invasive	POLYGONACEAE
<i>Rumex obtusifolius</i>	Broadleaf dock	Perennial herb	non-native	POLYGONACEAE
<i>Salix hookeriana</i>	Coastal willow	Tree, Shrub	native	SALICACEAE
<i>Salix sitchensis</i>	Coulter willow	Tree, Shrub	native	SALICACEAE
<i>Trifolium sp.</i>	Clover	Annual herb		FABACEAE
<i>Trifolium subterraneum</i>	Subterranean clover	Annual herb	non-native	FABACEAE