

Appendix C

Species Lists

Table A: Plant Species Observed at the North Coast System Repair Project Alignment (April 19 and August 6, 2013, and May 29 and 30, 2014)

| FAMILY/Species Name - scientific | FAMILY/ Common Name | Nativity |
|--|----------------------------|-----------------|
| FERNS and FERN ALLIES | | |
| BETULACEAE | BIRCH FAMILY | |
| <i>Alnus rubra</i> | Red alder | yes |
| BLECHNACEAE | DEER FERN FAMILY | |
| <i>Woodwardia fimbriata</i> | Giant chain fern | yes |
| DENNSTAEDTIACEAE | BRACKEN FAMILY | |
| <i>Pteridium aquilinum</i> | Bracken fern | yes |
| EQUISETACEAE | HORSETAIL FAMILY | |
| <i>Equisetum telmateia</i> ssp. <i>braunii</i> | Giant horsetail | yes |
| POLYPODIACEAE | POLYPODY FAMILY | |
| <i>Polypodium californicum</i> | California polypody | yes |
| GYMNOSPERMS | | |
| CUPRESSACEAE | CYPRESS FAMILY | |
| <i>Hesperocyparis macrocarpa</i> | Monterey cypress | yes |
| <i>Juniperus</i> sp. | Common juniper | no |
| PINACEAE | PINE FAMILY | |
| <i>Pinus radiata</i> | Monterey pine | yes |
| <i>Pseudotsuga menziesii</i> | Common Douglas-fir | yes |
| EUDICOTS | | |
| ADOXACEAE | MUSKROOT FAMILY | |
| <i>Sambucus nigra</i> subs. <i>caerulea</i> | Blue elderberry | yes |
| AIZOACEAE | ICEPLANT FAMILY | |
| <i>Carpobrotus edulis</i> | Freeway iceplant | no |
| ANACARDIACEAE | SUMAC/CASHEW FAMILY | |
| <i>Toxicodendron diversilobum</i> | Poison oak | yes |
| APIACEAE | CARROT FAMILY | |
| <i>Anthriscus caucalis</i> | Bur chervil | no |
| <i>Cicuta douglasii</i> | Western water hemlock | yes |
| <i>Conium maculatum</i> | Poison hemlock | no |
| <i>Daucus pusillus</i> | California carrot | yes |
| <i>Foeniculum vulgare</i> | Fennel | no |
| <i>Sanicula crassicaulis</i> | Pacific sanicle | yes |
| APOCYNACEAE | DOGBANE FAMILY | |
| <i>Vinca major</i> | Periwinkle | no |

| FAMILY/Species Name - scientific | FAMILY/ Common Name | Nativity |
|---|----------------------------|-----------------|
| <i>Nerium oleander</i> | Oleander | no |
| ARALIACEAE | GINSENG FAMILY | |
| <i>Hedera canariensis</i> | Canary Island ivy | no |
| ASPHODELACEAE | ASPHODEL FAMILY | |
| <i>Aloe sp.</i> | Aloe | no |
| ASTERACEAE | SUNFLOWER FAMILY | |
| <i>Achillea millefolium</i> | Yarrow | yes |
| <i>Artemisia californica</i> | California sagebrush | yes |
| <i>Artemisia douglasiana</i> | Mugwort | yes |
| <i>Baccharis glutinosa</i> | Marsh baccharis | yes |
| <i>Baccharis pilularis</i> subsp. <i>consanguinea</i> | Coyote brush | yes |
| <i>Baccharis pilularis</i> subsp. | Coyote brush | yes |
| <i>Calendula arvensis</i> | Field marigold | no |
| <i>Carduus pycnocephalus</i> | Italian thistle | no |
| <i>Cirsium vulgare</i> | Bull thistle | no |
| <i>Erigeron canadensis</i> | Canadian horseweed | yes |
| <i>Corethrogyne filaginifolia</i> | Common aster | yes |
| <i>Eriophyllum staechadifolium</i> | Lizard tail | yes |
| <i>Gamochaeta ustulata</i> | Purple cudweed | yes |
| <i>Helminthotheca echioides</i> | Bristly ox-tongue | no |
| <i>Hieracium albiflorum</i> | Hawkweed | yes |
| <i>Hypochaeris radicata</i> | Rough cat's ears | no |
| <i>Lactuca serriola</i> | Prickly lettuce | no |
| <i>Matricaria discoidea</i> | Pineapple weed | no |
| <i>Pseudognaphalium luteoalbum</i> | Jersey cudweed | no |
| <i>Crepis vesicaria</i> ssp. <i>taraxacifolia</i> | Rough hawksbeard | no |
| <i>Senecio vulgaris</i> | Common groundsel | no |
| <i>Silybum marianum</i> | Milk thistle | no |
| <i>Solidago velutina</i> | Three nerve goldenrod | yes |
| <i>Sonchus asper</i> | Sow thistle | no |
| <i>Sonchus oleraceus</i> | Common sow thistle | no |
| BORAGINACEAE | BORAGE FAMILY | |
| <i>Echium candicans</i> | Pride of Madeira | no |
| <i>Phacelia sp.</i> | Phacelia | yes |
| BRASSICACEAE | MUSTARD FAMILY | |
| <i>Brassica rapa</i> | Field mustard | no |
| <i>Capsella bursa-pastoris</i> | Shepherd's purse | no |
| <i>Cardamine oligosperma</i> | Bittercress | yes |
| <i>Hirschfeldia incana</i> | Shortpod mustard | no |
| <i>Lepidium nitidum</i> | Shining peppergrass | no |
| <i>Lepidium strictum</i> | Upright pepperweed | no |
| <i>Lobularia maritima</i> | Sweet alyssum | no |
| <i>Raphanus sativus</i> | Wild radish | no |
| <i>Rorippa nasturtium-aquaticum</i> | Water cress | yes |

| FAMILY/Species Name - scientific | FAMILY/ Common Name | Nativity |
|---|----------------------------|-----------------|
| CARYOPHYLLACEAE | PINK FAMILY | |
| <i>Cerastium glomeratum</i> | Mouse ears | no |
| <i>Spergularia rubra</i> | Red sandspurry | no |
| <i>Stellaria media</i> | Chickweed | no |
| CONVOLVULACEAE | MORNING GLORY FAMILY | |
| <i>Convolvulus arvensis</i> | Field bindweed | no |
| <i>Calystegia purpurata</i> ssp. <i>purpurata</i> | Pacific false bindweed | yes |
| CORNACEAE | DOGWOOD FAMILY | |
| <i>Cornus sericea</i> | Redosier dogwood | yes |
| CUCURBITACEAE | GOURD FAMILY | |
| <i>Marah fabacea</i> | Wild cucumber | yes |
| CRASSULACEAE | STONECROP FAMILY | |
| <i>Dudleya farinosa</i> | Bluff lettuce | yes |
| DIPSACACEAE | TEASEL FAMILY | |
| <i>Dipsacus sativus</i> | Fuller's teasel | no |
| <i>Scabiosa atropurpurea</i> | Pincushion plant | no |
| ERICACEAE | HEATH FAMILY | |
| <i>Arbutus menziesii</i> | Pacific madrone | yes |
| EUPHORBIACEAE | SPURGE FAMILY | |
| <i>Chamaesyce maculata</i> | Spotted spurge | no |
| <i>Euphorbia dentata</i> | Toothed spurge | no |
| FABACEAE | LEGUME FAMILY | |
| <i>Acacia dealbata</i> | Silver wattle | no |
| <i>Acmispon parviflorus</i> | Small-flowered lotus | yes |
| <i>Genista monspessulana</i> | French broom | no |
| <i>Lathyrus vestitus</i> | Pacific pea | yes |
| <i>Lotus corniculatus</i> | Bird's-foot trefoil | no |
| <i>Lupinus albilfrons</i> | Silver lupine | yes |
| <i>Lupinus bicolor</i> | Miniature lupine | yes |
| <i>Lupinus nanus</i> | Sky lupine | yes |
| <i>Medicago polymorpha</i> | Bur-clover | no |
| <i>Mellilotus indicus</i> | Annual yellow sweetclover | no |
| <i>Trifolium angustifolium</i> | Narrowleaf crimson clover | no |
| <i>Trifolium campestre</i> | Hop clover | no |
| <i>Trifolium dubium</i> | Shamrock clover | no |
| <i>Trifolium glomeratum</i> | Clustered clover | no |
| <i>Trifolium hirtum</i> | Rose clover | no |
| <i>Trifolium subterraneum</i> | Subterranean clover | no |
| <i>Vicia benghalensis</i> | Purple vetch | no |
| <i>Vicia sativa</i> | Spring vetch | no |

| FAMILY/Species Name - scientific | FAMILY/ Common Name | Nativity |
|---|----------------------------|-----------------|
| <i>Vicia villosa</i> | Hairy vetch | no |
| FAGACEAE | OAK FAMILY | |
| <i>Quercus agrifolia</i> | Coast live oak | yes |
| GENTIANACEAE | GENTIAN FAMILY | |
| <i>Zeltnera muehlenbergii</i> | Muhlenberg's centaury | yes |
| GERANIACEAE | GERANIUM FAMILY | |
| <i>Erodium cicutarium</i> | Redstem filaree | no |
| <i>Erodium moschatum</i> | Whitestem filaree | no |
| <i>Erodium texanum</i> | Texas storksbill | yes |
| <i>Geranium dissectum</i> | Cutleaf geranium | no |
| <i>Geranium molle</i> | Woodland geranium | no |
| <i>Pelargonium sp.</i> | Garden geranium | yes |
| GROSSULARIACEAE | GOOSEBERRY FAMILY | |
| <i>Escallonia rubra</i> | Redclaws | no |
| LAMIACEAE | MINT FAMILY | |
| <i>Clinopodium douglasii</i> | Yerba buena | yes |
| <i>Mentha pulegium</i> | Pennyroyal | no |
| <i>Rosmarinus officinalis</i> | Rosemary | no |
| <i>Stachys ajugoides</i> | Hedgenettle | yes |
| <i>Stachys bullata</i> | California hedge nettle | yes |
| LINACEAE | FLAX FAMILY | |
| <i>Linum bienne</i> | Flax | no |
| LYTHRACEAE | LOOSETRIFE FAMILY | |
| <i>Lythrum hyssopifolia</i> | Hyssopp loosetrife | no |
| MALVACEAE | MALLOW FAMILY | |
| <i>Malva arborea</i> | Velvet tree-mallow | no |
| <i>Malva parviflora</i> | Cheeses | no |
| <i>Malva neglecta</i> | Common mallow | no |
| MONTIACEAE | PURSLANE FAMILY | |
| <i>Claytonia perfoliata</i> | Miner's lettuce | yes |
| MYRSINACEAE | MYRSINE FAMILY | |
| <i>Anagallis arvensis</i> | Scarlet pimpernel | no |
| MYRTACEAE | MYRTLE FAMILY | |
| <i>Callistemon citrinus</i> | Crimson bottlebrush | no |
| <i>Eucalyptus globulus</i> | Blue gum eucalyptus | no |
| ONAGRACEAE | EVENING PRIMROSE FAMILY | |
| <i>Epilobium brachycarpum</i> | Annual willow herb | yes |

| FAMILY/Species Name - scientific | FAMILY/ Common Name | Nativity |
|--|----------------------------|-----------------|
| <i>Epilobium ciliatum</i> | Northern willow herb | yes |
| OROBANCHACEAE | BROOMRAPE FAMILY | |
| <i>Castilleja affinis ssp. affinis</i> | Indian paintbrush | yes |
| OXALIDACEAE | OXALIS FAMILY | |
| <i>Oxalis pes-caprae</i> | Bermuda buttercup | no |
| <i>Oxalis pilosa</i> | Hairy wood sorrel | no |
| PAPAVERACEAE | POPPY FAMILY | |
| <i>Eschscholzia californica</i> | California poppy | yes |
| PHRYMACEAE | LOPSEED FAMILY | |
| <i>Mimulus aurantiacus</i> | Sticky monkeyflower | yes |
| PLANTAGINACEAE | PLANTIAN FAMILY | |
| <i>Kickxia spuria</i> | Fluellin | no |
| <i>Plantago coronopus</i> | Buckhorn plantain | no |
| <i>Plantago lanceolata</i> | English plantain | no |
| POACEAE | TRUE GRASSES FAMILY | |
| <i>Polypogon monspeliensis</i> | Rabbitsfoot grass | no |
| POLYGONACEAE | BUCKWHEAT FAMILY | |
| <i>Eriogonum latifolium</i> | Coast buckwheat | yes |
| <i>Eriogonum nudum</i> | California buckwheat | yes |
| <i>Polygonum aviculare</i> subsp. <i>depressum</i> | Prostrate knotweed | no |
| <i>Polygonum paronychia</i> | Smartweed | yes |
| <i>Rumex acetosella</i> | Sheep sorrel | no |
| <i>Rumex crispus</i> | Curly dock | no |
| RANUNCULACEAE | BUTTERCUP FAMILY | |
| <i>Ranunculus aquatilis</i> | Whitewater crowfoot | yes |
| RHAMNACEAE | BUCKTHORN FAMILY | |
| <i>Fragula californica</i> | California coffeeberry | yes |
| ROSACEAE | ROSE FAMILY | |
| <i>Fragaria vesca</i> | Wild strawberry | yes |
| <i>Rosa</i> sp. | Horticultural rose | no |
| <i>Rubus armeniacus</i> | Himalaya blackberry | no |
| <i>Rubus ursinus</i> | California blackberry | yes |
| RUBIACEAE | MADDER FAMILY | |
| <i>Galium aparine</i> | Goose grass | yes |
| SALICACEAE | WILLOW FAMILY | |
| <i>Salix lasiandra</i> | Pacific willow | yes |
| <i>Salix lasiolepis</i> | Arroyo willow | yes |

| FAMILY/Species Name - scientific | FAMILY/ Common Name | Nativity |
|---|----------------------------|-----------------|
| SCROPHULARIACEAE | FIGWORT FAMILY | |
| <i>Scrophularia californica</i> | Bee plant | yes |
| <i>Verbascum thapsus</i> | Woolly mullein | no |
| SOLANACEAE | NIGHTSHADE FAMILY | |
| <i>Solanum umbelliferum</i> | Nightshade | yes |
| TROPAEOLACEAE | NASTURTIUM FAMILY | |
| <i>Tropaeolum majus</i> | Garden nasturtium | no |
| URTICACEAE | NETTLE FAMILY | |
| <i>Soleirolia soleirolii</i> | Baby's tears | no |
| <i>Urtica dioica</i> | Stinging nettle | yes |
| VALERIANACEAE | VALERIAN FAMILY | |
| <i>Centranthus ruber</i> | Red valerian | no |
| VERBENACEAE | VERVAIN FAMILY | |
| <i>Verbena</i> sp. | Verbena | no |
| MONOCOTS | | |
| AGAVACEAE | AGAVE FAMILY | |
| <i>Agave americana</i> | Century plant | no |
| AMARYLLIDACEAE | AMARYLLIS FAMILY | |
| <i>Amaryllis belladonna</i> | Belladonna lily | no |
| ARACEAE | ARUM FAMILY | |
| <i>Lemna</i> sp. | Duckweed | yes |
| <i>Zantedeschia aethiopica</i> | Calla lily | no |
| CYPERACEAE | SEDGE FAMILY | |
| <i>Carex obnupta</i> | Slough sedge | yes |
| <i>Cyperus eragrostis</i> | Tall flatsedge | yes |
| <i>Eleocharis</i> sp. | Spikerush | yes |
| <i>Schoenoplectus acutus</i> | Hardstem bulrush | yes |
| <i>Schoenoplectus californicus</i> | California bulrush | yes |
| IRIDACEAE | IRIS FAMILY | |
| <i>Iris</i> sp. | Iris | unknown |
| <i>Sisyrinchium bellum</i> | Blue-eyed grass | yes |
| JUNCACEAE | RUSH FAMILY | |
| <i>Juncus balticus</i> subsp. <i>ater</i> | Baltic rush | yes |
| <i>Juncus bufonius</i> | Toad rush | yes |
| <i>Juncus effusus</i> | Common rush | yes |
| <i>Juncus patens</i> | Spreading rush | yes |

| FAMILY/Species Name - scientific | FAMILY/ Common Name | Nativity |
|--|----------------------------|-----------------|
| TYPHACEAE | CATTAIL FAMILY | |
| <i>Typha latifolia</i> | Common cattail | yes |
| | | |
| POACEAE | GRASS FAMILY | |
| <i>Avena barbata</i> | Slender wild oat | no |
| <i>Briza maxima</i> | Rattlesnake grass | no |
| <i>Briza minor</i> | Little quaking grass | no |
| <i>Bromus carinatus var. carinatus</i> | California brome | yes |
| <i>Bromus diandrus</i> | Ripgut brome | no |
| <i>Bromus hordeaceus</i> | Soft cheatgrass | no |
| <i>Bromus madritensis</i> | Foxtail chess | no |
| <i>Cortaderia jubata</i> | Pampas grass | no |
| <i>Cynodon dactylon</i> | Bermuda Grass | no |
| <i>Cynosurus echinatus</i> | Dogtail grass | no |
| <i>Dactylis glomerata</i> | Orchardgrass | no |
| <i>Ehrharta erecta</i> | Panic veldtgrass | no |
| <i>Elymus glaucus</i> | Blue wildrye | yes |
| <i>Festuca arundinacea</i> | Tall fescue | no |
| <i>Festuca myuros</i> | Rat's-tail fescue | no |
| <i>Festuca perennis</i> | Italian ryegrass | no |
| <i>Festuca rubra</i> | Red fescue | no |
| <i>Holcus lanatus</i> | Velvet grass | no |
| <i>Hordeum brachyantherum</i> | Meadow barley | yes |
| <i>Hordeum marinum</i> subsp. <i>gussoneanum</i> | Mediterranean barley | no |
| <i>Hordeum murinum</i> subsp. <i>leporinum</i> | Hare barley | no |
| <i>Melica</i> sp. | Oniongrass | yes |
| <i>Paspalum dilatatum</i> | Dallisgrass | no |
| <i>Phalaris aquatica</i> | Harding grass | no |
| <i>Poa annua</i> | Annual bluegrass | no |
| <i>Poa secunda</i> | One-sided bluegrass | yes |
| <i>Stipa pulchra</i> | Purple needlegrass | yes |

Table B: Animal Species Observed in the Vicinity of the Project Alignment

| Common Name | Scientific Name | Native/Introduced |
|---------------------------------|--------------------------------|--------------------------|
| Fish | | |
| Western mosquitofish | <i>Gambusia affinis</i> | I |
| Amphibians | | |
| Sierran treefrog | <i>Pseudacris sierra</i> | N |
| Birds | | |
| American coot | <i>Fulica americana</i> | N |
| California gull | <i>Larus californicus</i> | N |
| Brown pelican | <i>Pelecanus occidentalis</i> | N |
| Red-winged blackbird | <i>Agelaius phoeniceus</i> | N |
| Red-tailed hawk | <i>Buteo jamaicensis</i> | N |
| Red-shouldered hawk | <i>Buteo lineatus</i> | N |
| Turkey vulture | <i>Cathartes aura</i> | N |
| Mourning dove | <i>Zenaida macroura</i> | N |
| American crow | <i>Corvus brachyrhynchos</i> | N |
| Common raven | <i>Corvus corax</i> | N |
| Western scrub-jay | <i>Aphelocoma californica</i> | N |
| Anna's hummingbird | <i>Calypte anna</i> | N |
| Chestnut-backed chickadee | <i>Poecile rufescens</i> | N |
| Black phoebe | <i>Sayornis nigricans</i> | N |
| Ruby-crowned kinglet | <i>Regulus calendula</i> | N |
| Yellow-rumped warbler | <i>Setophaga coronata</i> | N |
| Orange-crowned warbler | <i>Oreothlypis celata</i> | N |
| Song sparrow | <i>Melospiza melodia</i> | N |
| Golden-crowned sparrow | <i>Zonotrichia atricapilla</i> | N |
| White-crowned sparrow | <i>Zonotrichia leucophrys</i> | N |
| House finch | <i>Haemorhous mexicanus</i> | N |
| European starling | <i>Sturnus vulgaris</i> | I |
| Bushtit | <i>Psaltriparus minimus</i> | N |
| Blue-gray gnatcatcher | <i>Polioptila caerulea</i> | N |
| Mammals | | |
| Botta's pocket gopher (burrows) | <i>Thomomys bottae</i> | N |
| Black-tailed deer (scat) | <i>Odocoileus hemionus</i> | N |
| Bobcat* | <i>Lynx rufus</i> | N |

N = Native; I = Introduced

*Observed during cultural resources survey on January 25, 2013.

Table C: Special-Status Species Evaluated for the Project

| Species | Status (Federal/ State/CRPR) | Habitat | Potential for Occurrence ^a |
|---|------------------------------------|--|--|
| Plants | | | |
| Blasdale's bent grass <i>Agrostis blasdalei</i> | 1B | Occurs in coastal bluff scrub, coastal dunes, and coastal prairie; sandy and gravelly soil. Elevation: 5-150 meters. Blooms: May-June | Suitable habitat present. No CNDDDB occurrences within 5 miles. Not observed during protocol level surveys. |
| Bent-flowered fiddleneck <i>Amsinckia lunaris</i> | 1B | Occurs in coastal bluff scrub, cismontane woodland, valley and foothill grassland; openings. Elevation: 3-500 m. Blooms: March-June | Suitable habitat present. No CNDDDB occurrences within 5 miles. Not observed during protocol level surveys. |
| Slender silver moss <i>Anomobryum julaceum</i> | 2 | Occurs on damp rocks and soil, acidic substrates in broadleaf upland, lower montane coniferous, and North Coast coniferous forests; usually seen on roadcuts. Elevation: 100-1000 m. Blooms: N/A | The habitat conditions of the project area are unlike those required for this species. The project site's elevation is below the range associated with this species. Closest CNDDDB occurrence (#12) is approximately 3.7 miles from the alignment. No moss collections were made during LSA's field survey. |
| Santa Cruz (Anderson's) manzanita <i>Arctostaphylos andersonii</i> | 1B | Open sites and edges in broadleaf upland forest, chaparral, and north coast coniferous forest; and redwood forest. Elevation: 60-760 m. Blooms: November-May | Although broadleaf upland forest and coastal scrub is present, this species is mostly known from sites in the Santa Cruz Mountains and occurs at much higher elevations. Closest CNDDDB occurrence (#25) is approximately 2.5 miles from the alignment. No manzanitas observed during LSA's field survey. |
| Schreiber's manzanita <i>Arctostaphylos glutinosa</i> | 1B | Occurs in closed-cone coniferous forest and chaparral; mudstone and diatomaceous shale outcrops. Elevation: 170-685 m. Blooms: November-April | The habitat conditions of the project area are unlike those required for this species. The project site's elevation is below the range associated with this species. Closest CNDDDB occurrence is approximately 2 miles from the alignment. No manzanitas observed during LSA's field survey. |

| Species | Status (Federal/State/CRPR) | Habitat | Potential for Occurrence ^a |
|--|-----------------------------|---|---|
| Hooker's manzanita <i>Arctostaphylos hookeri</i> subsp. <i>Hookeri</i> | 1B | Occurs in closed-cone coniferous forest, chaparral, cismontane woodland and coastal scrub; sandy soil, shales, sandstone outcrops. Elevation: 85-536 m. Blooms: January-June | Cismontane woodland and coastal scrub habitat conditions are present on the site. The project site's elevation is below the range associated with this species, however, there is one occurrence of this species attributed to the Central Coast along Highway 1 at an elevation of 45 m. (Rancho Santa Ana Botanic Garden RSA303435A17) located approximately 2 miles from the alignment. No manzanitas were observed during LSA's field survey. |
| Pajaro manzanita <i>Arctostaphylos pajaroensis</i> | 1B | Occurs in sandy sites and sandstone outcrops in chaparral. Elevation: 30-760 m. Blooms: December-March | The habitat conditions of the project area are unlike those required for this species. Closest CNDDDB occurrence (#11) is approximately 4.7 miles from the alignment. No manzanitas were observed during LSA's field survey. |
| Bonny Doon manzanita <i>Arctostaphylos silvicola</i> | 1B | Occurs in chaparral, ponderosa pine forest, and lower montane coniferous forest; specifically associated with inland marine sands. Elevation: 120-390 m. Blooms: February-March | The habitat conditions of the project area are unlike those required for this species. The project site's elevation is below the range associated with this species. Closest CNDDDB occurrence (#11) is approximately 4.3 miles from the alignment. No manzanitas were observed during LSA's field survey. |
| Marsh sandwort <i>Arenaria paludicola</i> | FE/CE/1B | Occurs in freshwater conditions in bogs, fens, marshes and swamps; sandy, openings. Elevation: 3-170 m. Blooms: May-August | Although freshwater wetland habitats area present at the site, this species is known from only two natural occurrences in Black Lake Canyon and at Oso Flaco Lake. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys. |
| Coastal marsh milk-vetch <i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> | 1B | Occurs in wet hollows of coastal dunes, coastal scrub, and in marshes and swamps of coastal salt marsh and streamsides. Elevation: 0-30 m. Blooms: April-October | The habitat conditions of the project area are unlike those required for this species. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys. |
| Santa Cruz Mountains pussypaws <i>Calyptridium parryi</i> var. <i>hesseae</i> | 3 | Occurs in chaparral and cismontane woodland. Elevation: 700-1100 m. Blooms: May-August | Although cismontane woodland and scrub habitats are present the project site's elevation is below the range associated with this species. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |

¹⁷ Data provided by the participants of the Consortium of California Herbaria (ucjeps.berkeley.edu/consortium/; Wed Oct 2 10:33:09 2013).

| Species | Status (Federal/ State/CRPR) | Habitat | Potential for Occurrence ^a |
|--|------------------------------|--|---|
| Swamp harebell <i>Campanula californica</i> | 1B | Occurs in bogs and fens, closed-cone coniferous forest, coastal prairie, meadows, marshes and swamps; freshwater. Elevation: 1-405 m. Blooms: June-October | Suitable freshwater wetland habitat is present at the site. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Bristly sedge <i>Carex comosa</i> | 2 | Occurs in freshwater wetlands and lake margins in coastal prairie, marshes and swamps, valley and foothill grassland. Elevation: 0-425 m. Blooms: May-September | Suitable freshwater wetland habitat is present at the site. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Deceiving sedge <i>Carex saliniformis</i> | 1B | Occurs in coastal prairie, coastal scrub, meadows, seeps, marshes and swamps; mesic sites with coastal salt. Elevation: 3-230 m. Blooms: June-July | Suitable freshwater wetland habitat is present at the site. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Coyote ceanothus <i>Ceanothus ferrisiae</i> | FE/1B | Occurs in chaparral, coastal scrub, valley and foothill grassland; serpentinite. Elevation: 120-455 m. Blooms: January-May | Suitable coastal scrub habitat present, but there is no serpentinite on the site. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Ben Lomond or Scott's Valley spineflower <i>Chorizanthe pungens</i> var. <i>hartwegii</i> | FE/1B | Occurs in lower montane coniferous forest and maritime ponderosa pine sandhills; restricted mainly to Ben Lomond sand hill area of Santa Cruz County. Elevation: 230-245 m. Blooms: April-July | The habitat conditions of the project area are unlike those required for this species. The project site's elevation is below the range associated with this species. Closest CNDDDB occurrence (#25) is approximately 2.0 miles from the alignment. This species was not observed during protocol level surveys |
| Monterey spineflower <i>Chorizanthe pungens</i> var. <i>pungens</i> | FT/1B | Occurs in sandy soil in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and in valley and foothill grassland. Elevation: 0-150 m. Blooms: April-June | Suitable habitat types are present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Robust spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i> HCP Covered Species | FE/1B | Occurs in sandy or gravelly openings on terraces and bluffs in cismontane woodland, coastal dunes, and coastal scrub. Elevation: 3-300 m. Blooms: April-September | Suitable coastal scrub habitat present. Closest CNDDDB occurrence (#24) is approximately 2.9 miles from the alignment. This species was not observed during protocol level surveys |
| Franciscan thistle <i>Cirsium andrewsii</i> | 1B | Occurs in mesic areas of broadleaf upland forest, coastal bluff scrub, coastal prairie and coastal scrub; sometimes serpentinite. Elevation: 0-150 m. Blooms: March-July | Marginal mesic habitat present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |

| Species | Status (Federal/State/CRPR) | Habitat | Potential for Occurrence ^a |
|--|-----------------------------|--|---|
| San Francisco blue eyed Mary <i>Collinsia multicolor</i> | 1B | Closed-cone coniferous forest, coastal scrub and grassland on decomposed shale (mudstone) mixed with humus; in moist and shady areas and sometimes on serpentinite. Elevation: 30-250 m. Blooms: March-May | Marginal habitat present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Branching beach aster <i>Corethrogyne leucophylla</i> | 3.2 | Occurs in closed-cone coniferous forest, coastal scrub, chaparral, valley and foothill grassland, and coastal dunes; sometimes on serpentinite. Elevation: 3-60 m. Blooms: May-December | Suitable habitat types present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Tear drop moss <i>Dacryophyllum falcifolium</i> | 1B | Occurs on a variety of rock types (rock outcrops and walls) in shady areas coast redwood and north coast coniferous forests. Elevation: 50-275 m. Blooms: N/A | Rock walls occur at the site. Closest CNDDDB occurrence (#9) is approximately 2.4 miles from the alignment. No moss collections were made during LSA's field survey. |
| Ben Lomond buckwheat <i>Eriogonum nudum</i> var. <i>ducurrens</i> | 1B | Ponderosa pine sandhills in Santa Cruz County in chaparral, cismontane woodland, and lower montane coniferous forest. Elevation: 50-800 m. Blooms: June-October | The habitat conditions of the project area are unlike those required for this species. The project site's elevation is below the range associated with this species. Known only to occur in Santa Cruz Sandhills in Santa Cruz County near the towns of Boulder Creek, Ben Lomond, Olympia, Zayante, Felton, Scotts Valley, Glenwood, and Bonny Doon. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Coast wallflower <i>Erysimum ammophilum</i> | 1B | Occurs in maritime chaparral, coastal dunes and coastal scrub; sandy soil, openings; Elevation: 0-130 m. Blooms: February-June | Suitable scrub habitat present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Santa Cruz wallflower <i>Erysimum teretifolium</i> | FE/CE/1B | Occurs on inland and marine sands in chaparral and lower montane coniferous forest; Ponderosa pine sandhills in Santa Cruz County. Elevation: 120-610 m. Blooms: March-July | The habitat conditions of the project area are unlike those required for this species. The project site's elevation is below the range associated with this species. Closest CNDDDB occurrence (#28) is approximately 4.5 miles from the alignment. This species was not observed during protocol level surveys |

| Species | Status (Federal/ State/CRPR) | Habitat | Potential for Occurrence ^a |
|---|------------------------------|--|---|
| Sand gilia <i>Gilia tenuiflora</i> subsp. <i>arenaria</i> | FE/CT/1B | Occurs in coastal dunes, coastal scrub, maritime chaparral, and cismontane woodland, particularly in bare, wind-sheltered areas within the dune complex in Monterey County, known from fewer than 20 occurrences. Elevation: 0-245 m. Blooms: April-June | Marginal habitat present, but species only known to occur south of the alignment in Monterey County. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| San Francisco gumplant <i>Grindelia hirsutula</i> var. <i>maritima</i> | 3.2 | Occurs on sandy or serpentinite soils in coastal bluff scrub, coastal scrub, and valley and foothill grassland. Previously Rank 1B. Can be difficult to identify; as hybridization occurs between more common species. Not in TJM 2. Elevation: 15-400 m. Blooms: June-September | Suitable habitat types are present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Short-leaved evax <i>Hesperovax sparsiflora</i> var. <i>brevifolia</i> | 1B | Occurs in sandy, grassy, or wooded coastal bluff scrub, terraces, coastal dunes. Elevation: 0-215 m. Blooms: May-June. | Suitable scrub habitat present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Santa Cruz Cypress <i>Hesperocyparis abramsiana</i> var. <i>abramsiana</i> | FE/CE/1B | Occurs in closed-cone coniferous forest, chaparral, and lower montane coniferous forest; in sandstone or granitic substrates. Elevation: 280-1,800 m. Blooms: N/A | Although mixed evergreen forest and scrub habitats are present, the project site's elevation is below the range associated with this species and no suitable substrates are present. Closest CNDDDB occurrence (#9) is approximately 3.3 miles from the alignment. This species was not observed during protocol level surveys. |
| Loma Prieta hoita <i>Hoita strobilina</i> | 1B | Chaparral, cismontane woodland, and riparian woodland on mesic serpentine sites. Elevation: 30-860 m. Blooms: May- October | Suitable coastal scrub habitat present, but there is no serpentine on the site. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Santa Cruz tarplant <i>Holocarpha macradenia</i> HCP Covered Species. | FT/CE/1B | Occurs in sandy-clay soil in coastal prairie, coastal scrub, and in valley and foothill grassland. Elevation: 10-220 m. Blooms: June-October. | Although suitable habitat types are present, this species was not observed during protocol level surveys. Closest CNDDDB occurrence (#21) is approximately 4.0 miles from the alignment. |
| Kellogg's horkelia <i>Horkelia cuneata</i> var. <i>sericea</i> | 1B | Occurs in closed-cone coniferous forest, maritime chaparral, coastal scrub, dunes and coastal sandhills; sandy or gravelly openings; Elevation: 10-200 m. Blooms: April-September | Suitable scrub habitat present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |

| Species | Status (Federal/State/CRPR) | Habitat | Potential for Occurrence ^a |
|---|-----------------------------|---|--|
| Point Reyes horkelia <i>Horkelia marinensis</i> | 1B | Occurs in sandy flats and dunes near coast in grassland or scrub plant communities; Elevation: 5-30 m. Blooms: May-September | Suitable scrub habitat present. Closest CNDDDB occurrence (#8) is approximately 3.5 miles from the alignment. This species was not observed during protocol level surveys |
| Woolly-headed lessingia <i>Lessingia hololeuca</i> | 3 | Often found in dry grassy areas such as fields and roadside ditches in broadleaf upland forest, coastal scrub, chaparral, lower montane coniferous forest, and valley and foothill grassland. Plant has an affinity for alkaline clay or serpentine soils Elevation: 15-305 m. Blooms: June-October | Suitable habitat present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Smooth lessingia <i>Lessingia micradenia</i> var. <i>glabrata</i> | 1B | Occurs in chaparral and cismontane woodland; serpentinite, roadsides. Elevation: 120-420 m. Blooms: July-November | The habitat conditions of the project area are unlike those required for this species. The project site's elevation is below the range associated with this species. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Point Reyes meadowfoam <i>Limnanthes douglasii</i> ssp. <i>sulphurea</i> | CE/1B | Occurs in coastal prairie, cismontane woodland, meadows, seeps, marshes, swamps and vernal pools; freshwater, dark clay soil; known from fewer than 15 occurrences Elevation: 0-140 m. Blooms: March-May | Marginal habitat types present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Arcuate bush mallow <i>Malacothamnus arcuatus</i> | 1B | Occurs in chaparral and coastal scrub in gravelly alluvium. Elevation: 15-355 m. Blooms: April-September | Coastal scrub habitat present, but not on gravelly alluvium. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Mt. Diablo cottonweed <i>Micropus amphibolus</i> | 3 | Broadleaf upland forest, Chaparral, Cismontane woodland, Valley and foothill grassland/rocky Elevation: 50-800 m. Blooms: March-May | Suitable habitat types present, but many occurrences of this species may be misidentified. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Marsh microseris <i>Microseris paludosa</i> | 1B | Occurs in moist grassland, openings in closed-cone coniferous forest and cismontane woodland, coastal scrub. Elevation: 5-300 m. Blooms: April-July | Suitable habitat types present. Closest CNDDDB occurrence (#8) is at an unknown location mapped approximately 3.0 miles from the alignment. This species was not observed during protocol level surveys |

| Species | Status (Federal/State/CRPR) | Habitat | Potential for Occurrence ^a |
|---|-----------------------------|---|--|
| Elongate copper moss <i>Mielichhoferia elongata</i> | 2 | Occurs in seasonally mesic sites in cismontane woodland on very acidic, metamorphic rock or other substrates. Elevation: 500-1300 m. Blooms: N/A | Marginal habitat present. No serpentine soils are present. Closest CNDDDB occurrence (#18) is at an unknown location mapped approximately 4.9 miles from the alignment. No moss collections were made during LSA's field survey. |
| Woodland woollythreads <i>Monolopia gracilens</i> | 1B | Openings in broadleaf upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grassland; Serpentine Elevation: 100-1200 m. Blooms: March-July | Marginal habitat present. Closest CNDDDB occurrence (#10) is approximately 2.3 miles from the alignment. This species was not observed during protocol level surveys |
| Dudley's lousewort <i>Pedicularis dudleyi</i> | 1B | Chaparral (maritime), cismontane woodland, north coast coniferous forest, valley and foothill grassland; in deep shade. Elevation: 60-900 m. Blooms: April-June | Although scrub habitat is present, the project site's elevation is below the range associated with this species. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Santa Cruz Mountains beardtongue <i>Penstemon rattanii</i> var. <i>kleei</i> | 1B | Occurs in sandy shale slopes in chaparral and lower montane coniferous forests; sometimes in the transition zone between forest in chaparral; known from fewer than 10 occurrences. Elevation: 400-1100 m. Blooms: May-June | Project alignment is below the elevation range for this species. Closest CNDDDB occurrence (#4) is approximately 5.0 miles from the alignment. This species was not observed during protocol level surveys |
| White-rayed pentachaeta <i>Pentachaeta bellidiflora</i> | FE/CE/1B | Occurs in cismontane woodland, valley and foothill grassland; often in serpentine soils. Elevation: 35-620 m. Blooms: March-May | Although cismontane woodland and grasslands are present, no serpentine soils are present. Closest CNDDDB occurrence (#11) is a 1933 record at an unknown location mapped along beach cliffs in Santa Cruz. This species was not observed during protocol level surveys |
| Monterey pine <i>Pinus radiata</i> | 1B | Occurs in closed-cone coniferous forest and cismontane woodland; dry bluffs and slopes; Elevation: 25-185 m. Blooms: N/A | Suitable cismontane woodland habitat present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Choris's popcorn-flower <i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> | 1B | Occurs in grassy and moist areas (ephemeral drainages) in chaparral, coastal prairie and coastal scrub. Elevation: 15-160 m. Blooms: March-June | Suitable habitat types present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |

| Species | Status (Federal/State/CRPR) | Habitat | Potential for Occurrence ^a |
|--|-----------------------------|--|---|
| San Francisco popcorn-flower <i>Plagiobothrys diffusus</i> HCP Covered Species | CE/1B | Occurs on grassy slopes with marine influence in coastal prairie and in valley and foothill grassland; known from fewer than 10 occurrences. Elevation: 60-360 m. Blooms: March-June | Suitable habitat types present. Closest CNDDDB occurrence (#9) is of a large population located within the Moore Creek Preserve near the end of Meder Road, between Wilder and Moore Creeks, approximately 1.0 mile from the alignment. This species was not observed during protocol level surveys |
| Scotts Valley polygonum <i>Polygonum hickmanii</i> | FE/CE/1B | Occurs in valley and foothill grassland; vernal moist mudstone and sandstone outcrops; known from only two occurrences in Scotts Valley. Elevation: 210-250 m. Blooms: May-August | The habitat conditions of the project area are unlike those required for this species. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Pine rose <i>Rosa pinetorum</i> | 1B | Occurs in closed-cone coniferous forest (pine woodlands); canyons. Elevation: 2-300 m. Blooms: May-July | Suitable pine woodland habitat not present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Chaparral ragwort <i>Senecio aphanactis</i> | 2 | Occurs in alkaline flats and rocky areas in cismontane woodland and coastal scrub. Elevation: 15-800 m. Blooms: January-April | Alkaline flats and rocky habitat required for this species is not present. Closest CNDDDB occurrence (#48) is at the Bonny Doon Ecological Preserve mapped approximately 4.2 miles from the alignment. This species was not observed during protocol level surveys |
| Maple-leaved checkerbloom <i>Sidalcea malachroides</i> | 4.2 | Occurs in broadleaf upland forest, coastal prairie, coastal scrub and North Coast coniferous forest; often in disturbed areas and clearings. Elevation 0-730 m. Blooms: April-August | Suitable habitat types present. Closest CNDDDB occurrence (#4) is approximately 2.3 miles from the alignment. This species was not observed during protocol level surveys |
| San Francisco campion <i>Silene verecunda</i> subsp. <i>verecunda</i> | 1B | Occurs in coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland; sand, mudstone, shale or serpentine. Elevation: 30-645 m. Blooms: March-June | Suitable habitat types present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Santa Cruz microseris <i>Stebbinsoseris decipiens</i> | 1B | Occurs in broadleaf upland forest, closed-cone coniferous forest, chaparral, coastal prairie and coastal scrub; open disturbed areas with sandstone, shale or serpentine derived soils. Elevation: 10-500 m. Blooms: April-May | Although suitable habitat types are present, no serpentine soils are present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |

| Species | Status (Federal/ State/CRPR) | Habitat | Potential for Occurrence ^a |
|--|---------------------------------|---|---|
| Santa Cruz clover <i>Trifolium buckwestiorum</i> | 1B | Occurs in moist grassland, gravelly and marginal areas in coastal prairie, broadleaf upland forest, and cismontane woodland. Elevation: 105-610 m. Blooms: April-October | Suitable habitat types present. Closest CNDDDB occurrence (#5) is approximately 3.7 miles from the alignment. This species was not observed during protocol level surveys |
| Caper-fruited tropidocarpum <i>Tropidocarpum capparideum</i> | 1B | Alkaline clay soils in grasslands and oak woodland. Elevation: 1-455 m. Blooms March-April. | The habitat conditions of the project area are unlike those required for this species. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Long-beard lichen <i>Usnea longissima</i> | None | Occurs in North Coast coniferous forest and broadleaf upland forest; possibly extirpated from Santa Cruz County. Elevation: 0-650 m. Blooms: N/A | No suitable old growth forest/riparian habitat present. No CNDDDB occurrences within 5 miles. This species was not observed during protocol level surveys |
| Invertebrates | | | |
| Smith's blue butterfly <i>Euphilotes enoptes smithi</i> | FE/- | Occurs in coastal dune, coastal scrub, chaparral, and grasslands where its host plants, seacliff buckwheat (<i>Eriogonum parvifolium</i>) and/or coast buckwheat (<i>Eriogonum latifolium</i>) are present. | Suitable habitat may be present. No CNDDDB occurrences within 5 miles. |
| Ohlone tiger beetle <i>Cicindela ohlone</i> HCP Covered Species | FE/- | Occurs in poorly drained clay or sandy clay soil over bedrock of Santa Cruz mudstone within remnant native grasslands with California oatgrass (<i>Danthonia californica</i>) and purple needlegrass (<i>Stipa pulchra</i>) in Santa Cruz County. | Suitable habitat currently not present, but may be present in the future if habitat conditions improve. Closest CNDDDB occurrence is approximately 0.8 mile from the alignment. HCP Covered Species |
| Mount Hermon june beetle <i>Polyphylla barbata</i> HCP Covered Species | FE/- | Occurs in Zayante sands near pine forest and chaparral habitats near Mount Hermon, Scotts Valley, and Ben Lomond in the Santa Cruz County. | No suitable habitat with Zayante sands present. Closest CNDDDB occurrence is approximately 4 miles from the alignment. |
| Monarch butterfly <i>Danaus plexippus</i> | Sensitive Winter Roosting Sites | Winter roosts along the coast from northern Mendocino to Baja California, Mexico in wind-protected tree groves (eucalyptus, Monterey pine, cypress) with nectar and water sources nearby. | Marginal roost sites present. No known roost sites present in close proximity to the project alignment. |
| Zayante band-winged grasshopper <i>Trimerotropis infantilis</i> | FE/- | Restricted to the Zayante sand hills ecosystem. Found in sand parkland habitat on ridges and hills. | Unlikely to occur due to lack of suitable habitat. Closest CNDDDB occurrence is a 1941 record at an unknown location in Santa Cruz. |
| Fish | | | |

| Species | Status (Federal/ State/CRPR) | Habitat | Potential for Occurrence ^a |
|--|------------------------------|---|---|
| Tidewater goby <i>Eucyclogobius newberryi</i> HCP Covered Species | FE/- | Occurs in brackish shallow lagoons and lower stream reaches where water is fairly still but not stagnant | Unlikely to occur but may occur downstream of alignment within Baldwin Creek. Closest CNDDDB occurrence is in close proximity to the alignment in Baldwin Creek, from the mouth to 0.25 mile upstream. |
| Pacific lamprey <i>Entosphenus tridentate</i> HCP Covered Species | FSC/- | Occurs in rivers with continuity with the ocean; prefers low velocity gravel for spawning and soft sand or mud for rearing. | Marginal habitat present but species not known to occur in streams crossed by the North Coast Pipeline (City of Santa Cruz 2012a). |
| Steelhead (Central California coast ESU) <i>Oncorhynchus mykiss irideus</i> HCP Covered Species | FT/- | Found in coastal streams from Russian River south to Aptos Creek (Santa Cruz Co.); includes streams tributary to San Francisco and San Pablo Bays | Suitable habitat present. Known to occur in Baldwin and Majors Creek within the alignment (CNDDDB 2012a). |
| Coho salmon (Central California Coast ESU) <i>Oncorhynchus kisutch</i> HCP Covered Species | FE/- | Found in coastal streams from Punta Gorda in northern California down to and including the San Lorenzo River in central California, as well as tributaries to San Francisco Bay | Marginal habitat present. Closest CNDDDB occurrence is approximately 3.4 miles north of the alignment in San Vicente Creek in Davenport. Although designated critical habitat is present, species not known to occur in streams within the alignment (Chris Berry, pers. comm.). |
| Amphibians | | | |
| California red-legged frog <i>Rana draytonii</i> HCP Covered Species | FT/CSC | Found in lowlands and foothills in or near permanent ponds and streams with dense, shrubby, or emergent riparian vegetation. | Suitable habitat present in freshwater ponds, drainages, and ditches on and adjacent to the alignment. Known to occur in ponds within the Wilder San Quarry at the intersection of Sandy Flat Gulch and Dairy Gulch (CNDDDB Occurrence #622) and in an agricultural run-off ditch, located on the north side of the railroad tracks, 1000 feet west of the sand plant settling ponds, 0.3 mile west of Old Dairy Gulch, and 200 feet south of Highway 1 (CNDDDB Occurrence #324). Known to occur in two irrigation ponds within or immediately south of the project alignment (Hyland 2005a and 2005b). |
| Santa Cruz long-toed salamander <i>Ambystoma macrodactylum croceum</i> | FE/- | Occurs in wet meadows near sea level; use mammal burrows. | Unlikely to occur due to lack of suitable habitat. No CNDDDB occurrences within 5 miles. |
| California tiger salamander <i>Ambystoma californiense</i> | FT/CT | Occurs in annual grass habitat, valley-foothill hardwood habitats and along stream courses; seasonal ponds and vernal pools are crucial for breeding. | Suitable grassland habitat present, but no suitable breeding pools observed in vicinity. No CNDDDB occurrences within 5 miles. |

| Species | Status (Federal/ State/CRPR) | Habitat | Potential for Occurrence ^a |
|---|-------------------------------|--|---|
| Reptiles | | | |
| San Francisco garter snake <i>Thamnophis sirtalis tetrataenia</i> | FE/- | Occurs only in the vicinity of ponds and reservoirs in San Mateo County. | Unlikely to occur due to lack of suitable habitat. No CNDDDB occurrences within 5 miles. |
| Western pond turtle <i>Actinemys marmorata</i> HCP Covered Species | -/CSC | Found in ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and adjacent grasslands or other open habitat for egg-laying. | Suitable habitat present in drainages and ponds on and/or adjacent to the alignment. Closest CNDDDB occurrence is approximately 1.4 miles from the alignment in the uppermost drainage of Moore Creek. Also observed at Wilder Ranch State Park in 2013 (Chris Berry, pers. comm.). |
| Blainville's horned lizard <i>Phrynosoma blainvillii</i> | -/CSC | Found in open sunny habitats including grasslands, scrub, and open woodlands that support native ant populations. | Marginal habitat present. No CNDDDB occurrences within 5 miles. |
| Birds | | | |
| Redhead <i>Aythya americana</i> | -/CSC | Occurs in large, deep bodies of water; nests in freshwater emergent wetlands | No suitable habitat. May forage nearby, but does not nest in region. Rare in County (Suddjian 2009). No CNDDDB occurrences within 5 miles. |
| American white pelican <i>Pelecanus erythrorhynchos</i> | -/CSC | Occurs in shallow inland and coastal marine habitats, marshes, lakes, rivers | Suitable foraging habitat present. May forage nearby, but does not nest in the region. No CNDDDB occurrences within 5 miles. |
| California brown pelican <i>Pelecanus occidentalis californicus</i> HCP Covered Species | Delisted/ Delisted; CFP | Occurs in coastal areas; nests on islands | No Suitable habitat present. Forages nearby, but does not nest in the region. No CNDDDB occurrences within 5 miles. |
| Marbled murrelet <i>Brachyramphus marmoratus</i> | FT/CE | Nests in old growth and mature coniferous forests near the coast | No suitable nesting habitat present. May fly over alignment while moving from foraging habitat within the Pacific Ocean to nesting habitat in forests northeast of alignment. |
| White-tailed kite <i>Elanus leucurus</i> | -/CFP | Nests in shrubs and trees in open areas and forages in adjacent grasslands and agricultural land. | Suitable nesting habitat present in trees and large shrubs on and adjacent to the alignment and suitable foraging habitat present in grasslands on the alignment. Closest CNDDDB occurrence is approximately 3.1 miles from the alignment. Also known to occupy terraces at Wilder Ranch State Park (Chris Berry, pers. comm.). |
| Northern harrier <i>Circus cyaneus</i> | -/CSC | Nests and forages in meadows, grasslands, open rangeland, and fresh or saltwater marshes. | Grasslands provide suitable nesting and foraging habitat. No CNDDDB occurrences within 5 miles. |

| Species | Status (Federal/State/CRPR) | Habitat | Potential for Occurrence ^a |
|---|-----------------------------|--|---|
| Golden eagle <i>Aquila chrysaetos</i> | –/CFP | Forages in rolling foothill or coast-range terrain, with open grassland and scattered large trees. Nests in large trees, on cliffs, and occasionally on power line poles. | Suitable nesting habitat present in cliffs and large trees adjacent to alignment and suitable foraging habitat present in grasslands. No CNDDDB occurrences within 5 miles. |
| Bald eagle <i>Haliaeetus leucocephalus</i> | Delisted/CE; CFP | Winters at lakes, reservoirs, river systems, and some rangelands and coastal wetlands throughout most of California. Breeds in mountainous habitats near reservoirs, lakes and rivers, mainly in the northern two-thirds of the State, in the Central Coast Range, and on Santa Catalina Island. Nests generally built in the upper canopy of large trees. | Unlikely to occur due to lack of suitable habitat. No CNDDDB occurrences within 5 miles. |
| American peregrine falcon <i>Falco peregrinus anatum</i> | Delisted/ Delisted; CFP | Forages in open country, mountains, and sea coasts. Nests on high cliffs, bridges, and buildings. | Suitable nesting habitat present in cliff faces adjacent to alignment; suitable foraging habitat present. Closest CNDDDB occurrence is approximately 1.1 miles from the alignment. |
| Western snowy plover <i>Charadrius alexandrinus nivosus</i> | FT/– | Nesting habitat includes upper areas of sandy beaches (above normal high tide line), barren dikes of salt ponds, and edges of alkali or brackish lakes in inland areas; forages along the water's edge and on exposed mud flats | No suitable habitat present. Suitable habitat present along coastline west of alignment. Closest CNDDDB occurrence is approximately 0.7 mile from the alignment. |
| California clapper rail <i>Rallus longirostris obsoletus</i> | FE/CE; CFP | Wetlands and brackish areas around San Francisco, Monterey, and Morro bays. Forages in higher marsh vegetation, along vegetation and mudflat interface, and along tidal creeks. Nests mostly in lower zones, where cordgrass is abundant and tidal sloughs are nearby. | Unlikely to occur due to lack of suitable habitat. No CNDDDB occurrences within 5 miles. |
| Burrowing owl <i>Athene cunicularia</i> | –/CSC | Nests in burrows in grasslands and woodlands; often associated with ground squirrels. Will also nest in artificial structures (culverts, concrete debris piles, etc.) | May forage, or winter in the grasslands on and adjacent to the alignment, but nesting is rare within the County (Suddjian 2009). Closest CNDDDB occurrence is a wintering owl observed approximately 0.6 mile from the alignment. Also observed near Lombardi Gulch in 1994 (Chris Berry, pers. comm.). |
| Long-eared owl <i>Asio otus</i> | –/CSC | Occurs in woodlands and forests that are open or adjacent to grasslands, meadows, or shrublands. | Suitable nesting habitat present, but species is rare in the County (Suddjian 2009; Shuford and Gardali 2008). No CNDDDB occurrences within 5 miles. |

| Species | Status (Federal/State/CRPR) | Habitat | Potential for Occurrence ^a |
|--|-----------------------------|---|--|
| Short-eared owl <i>Asio flammeus</i> | -/CSC | Occurs in salt- and freshwater marshes, grasslands, open treeless areas with low perches and dense vegetation for roosting and nesting. | May winter or migrate through alignment, but species not known to breed in the region (Suddjian 2009; Shuford and Gardali 2008). No CNDDDB occurrences within 5 miles. |
| Vaux's swift <i>Chaetura vauxi</i> | -/CSC | Occurs in grasslands and agricultural fields; nests in large hollow trees near open water; forages in most habitats but prefers rivers and lakes. | Suitable foraging habitat present and suitable nesting habitat may be present in trees near alignment. No CNDDDB occurrences within 5 miles. |
| Black swift <i>Cypseloides niger</i> | -/CSC | Occurs in the coastal belt of Santa Cruz and Monterey Counties, in the central and southern Sierra Nevada, and in the San Bernadino and San Jacinto Mountains; breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea bluffs above the surf. | Suitable foraging habitat present and suitable nesting habitat present in cliffs adjacent to alignment. Closest CNDDDB record is approximately 0.6 mile from the alignment along the ocean-facing cliffs and caves between Davenport and Santa Cruz, but no recent active nests have been found. |
| Olive-sided flycatcher <i>Contopus cooperi</i> | -/CSC | Occurs in coniferous forests with open canopies. | Suitable nesting and foraging habitat present. No CNDDDB occurrences within 5 miles. |
| Loggerhead shrike <i>Lanius ludovicianus</i> | -/CSC | Found in grasslands and open shrub or woodland communities. Nests in dense shrubs or trees and forages in scrub, open woodlands, grasslands, and croplands. Frequently uses fences, posts, and utility lines as hunting perches. | Suitable nesting and foraging habitat present. No CNDDDB occurrences within 5 miles. |
| Purple martin <i>Progne subis</i> | -/CSC | Occurs in woodlands; nests in tree snags and abandoned woodpecker cavities and human-made structures. | Suitable nesting habitat present, but species is rare in the County (Suddjian 2009). No CNDDDB occurrences within 5 miles. |
| Bank swallow <i>Riparia riparia</i> | -/CT | Occurs in riparian habitat; nests in banks associated with streams, rivers, and lakes. | Suitable nesting habitat present, but species is rare in the County (Suddjian 2009). Closest CNDDDB occurrence is 2.3 miles from the alignment. |
| Yellow warbler <i>Dendroica petechia</i> | -/CSC | Nests in extensive willow riparian woodlands. | Suitable nesting habitat present, but species is a rare breeder in the County (Suddjian 2009). May forage on the alignment during migration. No CNDDDB occurrences within 5 miles. |
| San Francisco common yellowthroat <i>Geothlypis trichas sinuosa</i> | -/CSC | Occurs in fresh- and saltwater marshes; nests in tall grasses, tule patches, and willows. | Suitable nesting and foraging habitat present. No CNDDDB occurrences within 5 miles. |

| Species | Status (Federal/State/CRPR) | Habitat | Potential for Occurrence ^a |
|---|-----------------------------|---|---|
| Yellow-breasted chat <i>Icteria virens</i> | -/CSC | Nests in extensive willow riparian woodlands with dense understory. | Suitable nesting habitat present, but species is rare breeder in the County (Suddjian 2009) and not known to currently breed in the region (Shuford and Gardali 2008). No CNDDDB occurrences within 5 miles. |
| Grasshopper sparrow <i>Ammodramus savannarum</i> | -/CSC | Occurs in moderately open grasslands with scattered shrubs. | Suitable nesting and foraging habitat present. No CNDDDB occurrences within 5 miles. |
| Tricolored blackbird <i>Agelaius tricolor</i> | -/CSC | Nests in dense vegetation near open water, forages in grasslands and agricultural fields. | Suitable nesting and foraging habitat present. Closest CNDDDB occurrence is at Antonelli Pond, approximately 1.4 miles from the alignment. |
| Mammals | | | |
| Townsend's western big-eared bat <i>Corynorhinus townsendii townsendii</i> | -/CSC | Found in wooded areas with caves or old buildings for roost sites. | Could roost in old buildings and cliffs adjacent to alignment and forage within alignment, but no suitable roosting or hibernating habitat present. No CNDDDB occurrences within 5 miles. |
| Pallid bat <i>Antrozous pallidus</i> | -/CSC | Occupies a wide variety of habitats at low elevations. Most commonly found in open, dry habitats with rocky areas for roosting. | Marginal roosting, hibernating, and/or foraging habitat present. No CNDDDB occurrences within 5 miles. |
| Western mastiff bat <i>Eumops perotis californicus</i> | -/CSC | Roosts in crevices in cliff faces, tunnels, and high buildings. | Could roost in old buildings and cliffs adjacent to alignment and forage within alignment, but no suitable roosting or hibernating habitat present. No CNDDDB occurrences within 5 miles. |
| San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i> | -/CSC | Occurs in chaparral, dense stands of northern coastal scrub, oak woodlands. | Suitable habitat present in scrub and woodland habitat. Closest CNDDDB occurrence is approximately 3.2 miles from the alignment. Also known to occur in the vicinity of the alignment (Chris Berry, pers. comm.). |
| American badger <i>Taxidea taxus</i> | -/CSC | Occurs in grassland, scrub, and woodland with loose-textured soils. | Marginal habitat present. Closest CNDDDB occurrence is approximately 2.4 miles from the alignment. Also observed in the region, outside of the project alignment (Chris Berry, pers. comm.). |
| Southern sea otter <i>Enhydra lutris nereis</i> | FT/CFP | Occurs in the near-shore waters along the North Pacific ocean. | Unlikely to occur due to lack of suitable habitat. No CNDDDB occurrences within 5 miles. |

Status Codes:

- FE = Federally-listed as an endangered species.
- FT = Federally-listed as a threatened species.
- FSC = Federal species of special concern.

- CE = State-listed as an endangered species.
- CT = State-listed as a threatened species.
- CFP = State-listed as a fully protected.
- CSC = State Species of Special Concern.
- List 1A = California Rare Plant Rank (CRPR): species presumed extinct.
- List 1B = CRPR: plant considered rare, threatened, or endangered in California and elsewhere.
- List 2 = CRPR: plant considered rare, threatened, or endangered in California but more common elsewhere.
- List 3 = California Native Plant Society: plants for which more information is needed.
- = No status

^a Nearest records are based on CNDDDB (CDFW 2012) occurrences unless otherwise noted.

Source: LSA Associates, Inc., 2014